VOLUME 3

DRAFT
ENVIRONMENTAL IMPACT STATEMENT

GREGORY CANYON LANDFILL

San Diego County, California

APPENDIX D–AESTHETICS

- Gregory Canyon Landfill Visual Technical Study, KTU&A Planning and Landscape Architecture, February 2012
- Gregory Canyon – Visual Impact Analysis Technical Appendices for the Gregory Canyon Landfill EIR, Kawasaki Theilacker Ueno +Associates, December 1998
- Alternative Analysis for the Gregory Canyon Landfill, Aspen Road Alternative, KTU&A Planning and Landscape Architecture, March 2012
- Alternative Analysis for the Gregory Canyon Landfill, Gopher Canyon Alternative, KTU&A Planning and Landscape Architecture, March 2012
- Alternative Analysis for the Gregory Canyon Landfill, Merriam Mountain Alternative, KTU&A Planning and Landscape Architecture, March 2012
- Alternative Analysis for the Gregory Canyon Landfill, East Otay Mesa Alternative, KTU&A Planning and Landscape Architecture, June 2012
- Alternative Analysis for the Gregory Canyon Landfill, Sycamore Canyon Alternative, KTU&A Planning and Landscape Architecture, July 2012

GREGORY CANYON LANDFILL

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PURPOSE OF THE STUDY

This study was initiated to supplement the 2002 Visual Impact Technical Study prepared by KTU&A for the proposed Gregory Canyon Landfill. [1] This study was prepared to answer certain technical questions and to provide impartial information for the U.S. Army Corps of Engineers (USACE) to assess potential visual impacts to specific keyviews of Gregory Canyon Landfill. More specifically, this supplemental study has two purposes. First, the supplemental study will provide information regarding visual effects from two additional vantage points. In addition, the study will provide Input for a separate evaluation of Cultural Resources that is being prepared by the USACE pursuant to Section 106. [2]

In order to help make the decision on appropriate keyviews, an updated viewshed analysis of proposed changes to the local landforms was performed. The USACE coordinated with the Tribe regarding these simulations to get input relative to important locations. In order to update the analysis KTU&A created 3D mass models that integrate existing and proposed landform conditions. The models were used to simulate the changes to views resulting from changes in topography as modified by the proposed landfill project. The mass models and viewshed analyses focus on potential effects on views from locations deemed sacred to the Pala Band of Mission Indians. Two locations identified are: "Medicine Rock" and Chokla."

Medicine Rock is a location that has been documented by the tribe and various ethnographic studies. Medicine Rock can be described as a large boulder at the base of Gregory Mountain containing pictographs that date back thousands of years. The presence of these cultural resources to the Pala Indians deems the site as a sacred cultural resource, intrinsically tied to another sacred site at the upper elevations of Gregory Mountain, known as Chokla.

The exact location of Chokla, the resting place of the Pala Tribe's god Takwic, is unclear. This document will not infer which location is Chokla, rather the study will analyze locations identified by the Tribe as well as a location that would provide the most visibility of the proposed landfill. A location slightly west of the physical high point of Gregory Mountain was used as a simulation location. It will be referred to as the "West Rim" throughout this document (Figure 1). In addition, views from a location on the eastern side of Gregory Mountain, which shall be referred to as the "East Rim" (also see Figure 1), were also evaluated.

In addition to these locations, high elevation locations along the property line between Gregory Canyon Ltd. and Pala Indian Reservation lands were explored. However, as can be seen from Figure 3, the land areas coincident with the property line do not fall within the viewshed of the landfill or its borrow/stockpile areas. Therefore, locations along the site's eastern property line were not considered for simulation since project features are not visible from these locations.

A fourth location was reviewed based on a request by the Tribe. This location was a vantage point in the vicinity just north of Highway 76 near the eastern end of the abandoned dairy farm and can also be seen on Figure 1. Approximately 400 feet away from the location suggested by the Tribe was a keyview used for a simulation from the Visual Impact Analysis in 2002. Because of its proximity, photos were taken and merged with mass models to verify accuracy to determine if the previous simulation could be used as a proxy.

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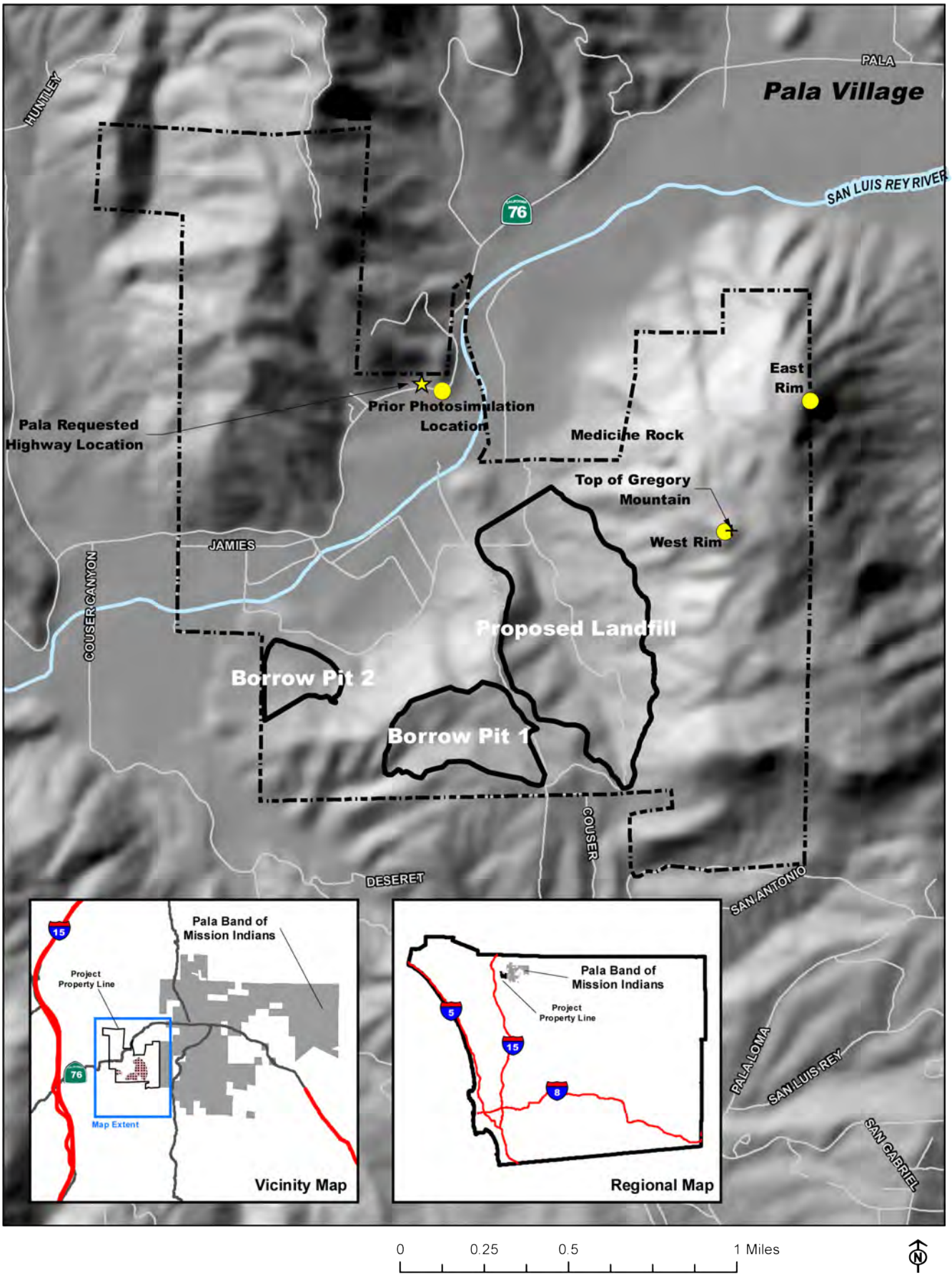
[1] *An aesthetics section was previously prepared as part of Environmental Impact Report (Gregory Canyon Landfill Final EIR - State Clearinghouse No. 1995061007 - 2002). The rationale of the new visual simulations is to supplement the previous Visual Impact Analysis (section 4.13) for the Gregory Canyon Landfill project to address two additional viewsheds.*

[2] *The Section 106 evaluation and its consideration of views will be based on different significance criteria and is not evaluated in this report. This report contains an analysis of the potential aesthetics impacts from the additional locations.*

Figure 1 - Project Setting and Important Vantage Points



PROJECT BACKGROUND AND FEATURES

The proposed Gregory Canyon Landfill site is located in northern San Diego County approximately three miles east of Interstate 15 (I-15) and two miles southwest of the community of Pala. SR 76 and the San Luis Rey River run east-west through the project site. The majority of the project site lies to the south of SR 76 but part of the western portion of the site lies to the north of SR 76. The eastern portion of the project site makes up the western slope of Gregory Mountain. The Canyon itself is located approximately in the center of the project site. The site comprises portions of Sections 4 and 5 of Township 10 South and Sections 32 and 33 of Township 9 South, Range 2 West of USGS 7.5' Pala Quadrangle. The landfill will provide refuse capacity to meet a portion of the total disposal needs of the San Diego County integrated waste management system. The entire 1,770-acre site was identified in Proposition "C" as the site for the proposed Gregory Canyon Landfill. The site is currently owned by Gregory Canyon, Ltd. (GCL), the project applicant. The project was passed by voters in 1994. Eight landfill features comprise 308 acres of the total project site (17%) which will be used for landfill activities. Of those eight, this study will address the three major three features that total 283.2 acres of the 308 acres used for landfill activities. These three features are: Landfill Site, Borrow/Stockpile Area A and Borrow/Stockpile Area B (Figure 1).

VIEWSHED FINDINGS

Prior to fieldwork, topographic viewshed analysis was performed to review the areas that would be impacted by project construction. Figure 3 shows a visual comparison of how each of the 3 project feature viewsheds and the entire project composite viewshed affect the vantage points. Table 3 shows the tabular results of the analysis in the maps. The highest area of impact in terms of visibility is the western face of Gregory Mountain. This area can see virtually the entire landfill mass. It is unobstructed and in close proximity to the landfill, and looks down over it. This area is largely inaccessible due to steep terrain. Also note that the high point suggested by Pala (East Rim) is not within the viewsheds of the project features. The Western Rim, Medicine Rock, and the vantage point of the previous photo simulation location are visible from sample points located inside the project features, so we can deduce that these vantage points can observe project features as well.

SITE OBSERVATIONS

In order to perform new photo simulations, a site visit was necessary to gather photos and GPS coordinates from the keyview locations. The 3D surface model containing the project features could then be precisely merged with the geo-located field photos. One of the photo simulation sites, the West Rim, was located adjacent to the top of Gregory Mountain. A preliminary aerial photo reconnaissance was performed in attempt to locate a trail leading to the top of Gregory Mountain and to the East Rim. A path through vegetation was located using aerial photography to lead to the top of the mountain (Figure 2).

Access to the top of the mountain is very difficult. A staff member of Gregory Canyon Ltd. informed KTUA that the trail observed in the aerial photography was cut through thick brush by a survey crew hired by Gregory Canyon Ltd. with chain saws. It should be noted that the trail leading to the top of the mountain cut by the survey crew is most easily accessed from the terminus of Couser Road up the south side of Gregory Mountain. The path runs in a north-south trajectory across the top of the mountain. The path runs south from the top of Gregory Mountain approximately 3,200 feet, and runs north from the top of the mountain approximately 1,900 feet. An individual with permission to access the property would need to know where to pick up the beginning of the trail as it begins at approximately where brush begins to thicken halfway up the south slope of the mountain. The southern side of the mountain contains brush that is smaller in size and overall thickness as compared with the rest of the mountain.

3 In this analysis, the keyview location with the greatest visibility is located 140 feet west of Top of the Mountain (referred to as the West Rim view). Though the Mountain Top is slightly higher, the convex curve of the landform towards the west, actually blocks views of the landfill itself.

Figure 2 - Gregory Mountain Vantage Point Access

Submitted Under Separate Cover

Despite ease of access from the south, a western approach was utilized for fieldwork to check and make sure ascent was possible from a different direction in less forgiving terrain. To reach this trail, the western slope of Gregory Mountain was traversed to intersect with this survey trail. GPS positions were logged and photographs were taken from a clearing at the West Rim site. The clearing was utilized by the survey crew during trail construction, and remnants of a white "X" approximately 3 feet in length utilized for ground truthing were still present.

The East Rim location was also visited to obtain character photographs of the area. No trail existed connecting the top of Gregory Mountain directly to the East Rim site. The trail cut by the survey crew was utilized for approximately 1,300 feet north of the West Rim site. At this point an east/west track was taken through thick brush to reach the East Rim site. Extremely thick brush separated the East Rim location from the end of the survey trail and was accessed with the aid of a machete. The East Rim site contained evidence of human activity. What appeared to be a fire pit was constructed of stacked rocks in a circular pattern. Empty aluminum cooking pans were present in the middle of the stacked rocks. A rusty shovel and other miscellaneous items were arranged within close proximity to the fire pit. A trail was present leading from the East Rim site north, down towards the San Luis Rey River. The trail is evident on aerial photography and appears to lead down the slope to the vicinity of the old Boys Club structure. GPS coordinates were logged and character photographs taken at the East Rim site. It is not known who this trail was created by, but vegetation appeared to be cut with tools much like the one cut by the survey crew on the top of the mountain.

Following the visit to the East Rim Site, Medicine Rock was then visited. The rock was circled on foot by KTUA staff in attempts to locate the spot with the best vantage of the proposed landfill while staying in somewhat close proximity to the rock. A location on the south side of the rock was chosen so as to maximize the view corridor. Existing vegetation blocked views from the west side of the rock. GPS coordinates were logged just outside the fence that enclosed the rock, and photographs for the photo simulation were taken.

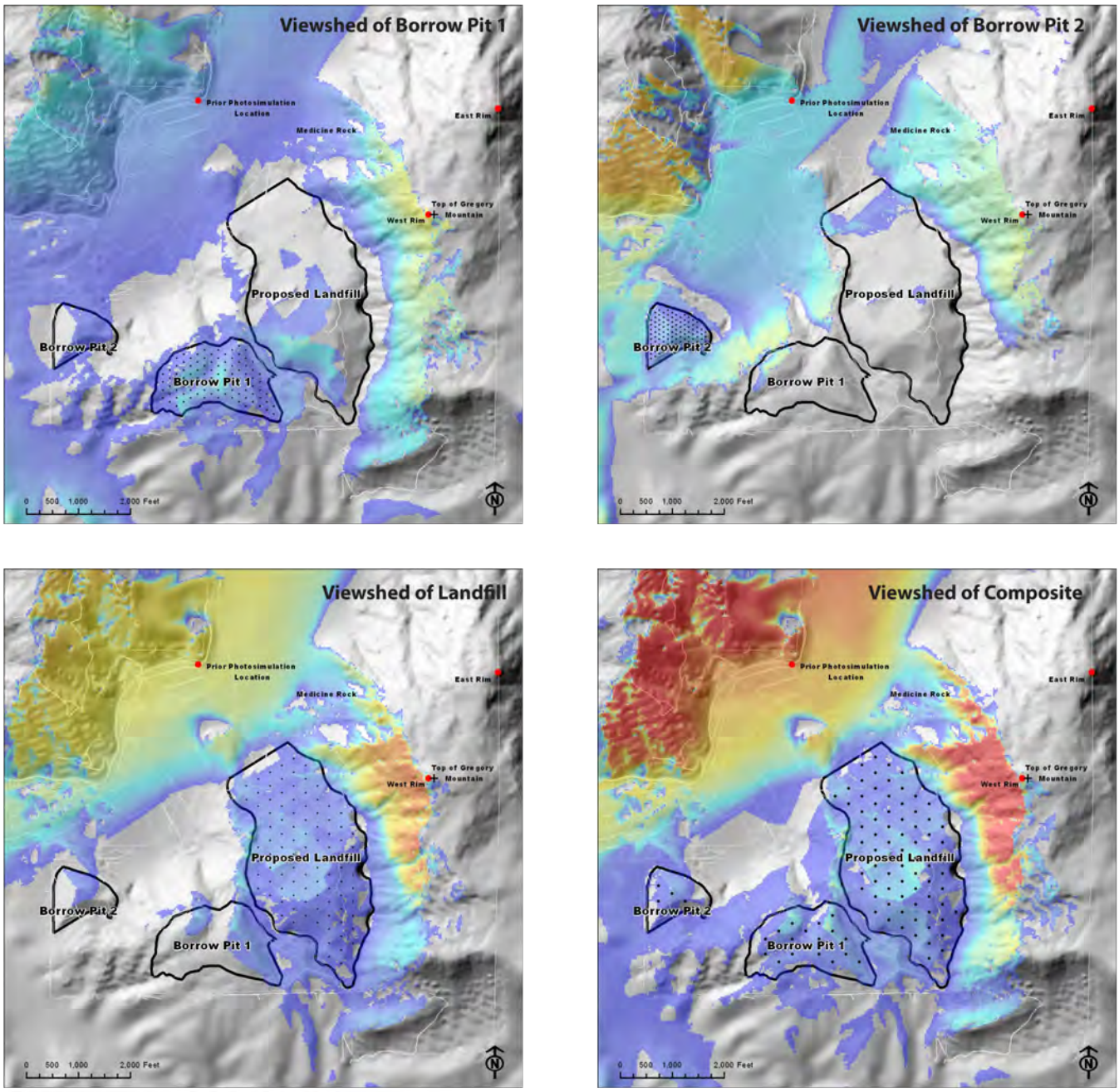
Following Medicine Rock, the location of a previous photo simulation along SR 76 was visited. The purpose was to utilize the location to verify the validity of scale of the landfill for the photo simulation performed for the Visual Impact Study in 2002. The site was on the east bound shoulder of Highway 76 at the eastern end of the old dairy. GPS coordinates were logged and photographs were taken.

SIGNIFICANCE CRITERIA

A significant impact is defined as a change to the visual environment from the project that is visible to a moderate level of viewers (1,000 or more per day) and that contains at least one of the following possible conditions:

- **Landform:** The project would result in a permanent adverse change in the natural landform character of a scenic area. This change must not only be noticeable to a moderate to large number of viewers, but the contrast must dominate other adjacent landforms.
- **Visual quality:** The project would clearly contrast with the existing visual elements of a moderate or high quality landscape assessment unit. This contrast must be clearly visible to a moderate to large number of viewers and the contrast must dominate the visual scene to the point where the character and quality of the immediate area is permanently and significantly degraded.
- **Visual resources:** The project would result in the loss or significant degradation of a substantial amount of the physical resources that make up the local visual character. These physical resources include vegetation, rock structures, naturally appearing water, structures, or landforms that make up the individual visual resources and contribute to the character of the landscape assessment unit.
- **View quality:** The project would block a substantial percentage of an existing view corridor of a regionally or subregionally important view scene, or prevent the physical or visual access to a viewing point from which the viewing scene can be seen. An adverse effect would also occur if an alternative highly contrasts and dominates the viewing scene to the point where the view scene quality is substantially degraded.
- **Neighborhood/community character:** The project would prevent the attainment of a design or other aesthetic goal that is part of an adopted community plan or other County approved document. This visual character type is determined by line, form, color, contrast, texture, cultural features, scale and other elements that contribute to the character of the neighborhood and that are identified as important to the community.

Figure 3 - Viewsheds of project features for Gregory Canyon Landfill



Legend

- Viewshed Observer Points
- Vantage Points
- Grading Area

Visibility Percentage

High : 100

Low : 0

Table 3				
Project Element (as seen from)	Landfill	Borrow Pit 1	Borrow Pit 2	Composite (Total Project Area)
Western Rim	82%	67%	53%	70%
Medicine Rock	16%	2%	3%	9%
Prior Photosimulation Location	65%	19%	31%	50%

VISUAL IMPACT DISCUSSION

West Rim Location:

This location is on Gregory Canyon Ltd. property adjacent to the top of Gregory Mountain. Visibility of the project site from the physical top of Gregory Mountain is almost non-existent as seen by the viewshed model and mass model shown on Figure 4. Only the upper elevations of the project features are visible from the top of Gregory Mountain because the western rim of the mountain is far enough away horizontally to block the angle of view of the project features below from the top of the mountain. The close proximity yet difficult access of the West Rim site (approximately 140 feet west from the top of Gregory Mountain) would allow for a visitor to use this vantage point as a substitute for the physical top of the mountain, which would afford a greater view of the valleys and hills to the west, especially the lower canyon and hillside views blocked by the concave form of Gregory Mountain. Worst case scenarios are preferred in visual studies and as such, the West Rim location will be used in place of the physical top of the mountain. This location is where the majority of the project is visible (70%), also shown on Figure 4. This western vantage point looks over the canyon. Borrow/Stockpile Areas A and B, and the landfill footprint can be seen during the construction phase. Erosion benches, vertical drain pipes, and lateral drainage culverts leading to the drain pipes can be seen as this location as it looks down over the top of the project. The West Rim location is entirely on Gregory Canyon Ltd. property and is therefore, limited to those with permission from Gregory Canyon Ltd. It is conceivable that if no one was given access to the property, then views from this location would not exist and visual impacts would be zero.

East Rim (North Rim) Location:

This location is also on Gregory Canyon Ltd. property. As seen on Figure 3 and on the photo panels below, visibility of the project features from this location is non-existent. The views are dramatic to the northwest, north and north east, but they do not include any of the proposed project. As such no photo simulations were necessary.

Views looking northwest, north and northeast from the west / north rim of Gregory Mountain

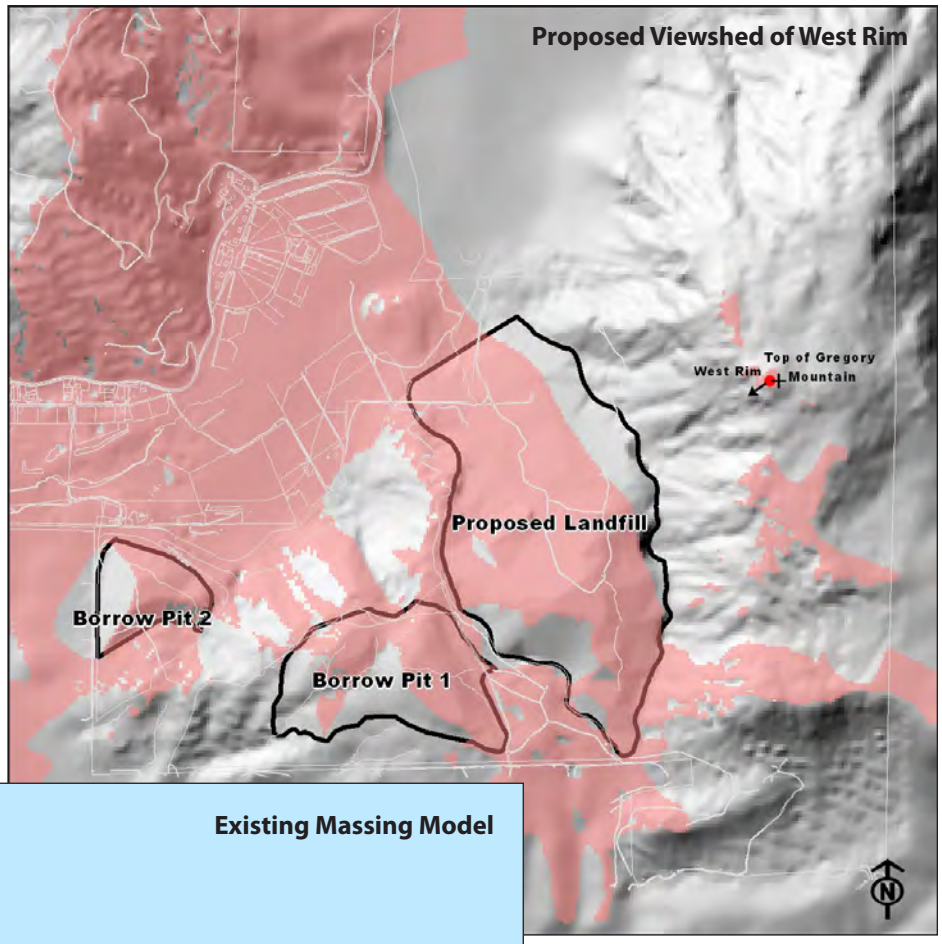
Medicine Rock:

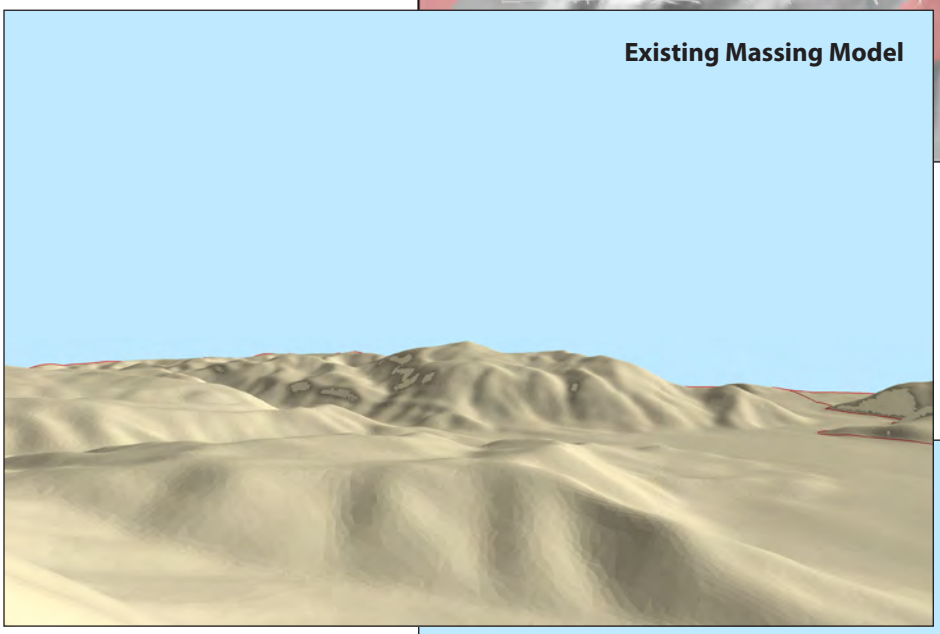
From this location, approximately 20% of the total project area is visible as shown on Figure 5. Although Medicine Rock is in close proximity to the proposed project, there is an interceding ridge that obstructs the borrow/stockpile areas and a majority of the landfill footprint. As seen in the photo simulations, only a portion of the main slope can be seen. More and more of the slope becomes visible as the project progresses through time and the landfill grows in size. Drainage pipes of the landfill can be seen from this location as well. Portions of Borrow/Stockpile Area B may be seen through the existing vegetation. Lateral culverts will not be seen, but the tops of the slopes of the erosion benches will be visible. Because this is a Tribal resource, we can deduce that permission to access the land is restricted to Tribal members and this would represent the total number of visitors able to view the project from this location.

Prior Photo Simulation Location:

This location will serve as a proxy location for a requested photo simulation 400 feet away. The location was requested by the Tribe. Both locations have comparable viewshed scores and are in close enough proximity that the sites could be used interchangeably as a means to assess impacts. The requested location had viewshed scores of: Landfill-64%, Borrow/Stockpile Area _-17%, Borrow Pit 2-29%, Total Composite-49% as compared to the prior location which scored: Landfill-65%, Borrow Pit 1-19%, Borrow Pit 2-31%, Total Composite-50%. In order to accept the previous simulation the mass model had to be compared with the prior simulation to ensure landfill height and mass were correct. Figure 6 shows the previous photo simulation, a photo taken from the same location with a mass model of the proposed landfill. In comparing the previous simulation and the current massing model in Figure 6, the scale and size match, verifying validity of the previous work allowing it to be accepted as a valid simulation. Besides the West Rim, this is the most exposed view in terms of visibility. The main slope of the landfill is in plain view of the travelers along SR 76. Borrow/Stockpile Area A is higher in elevation and as such is not viewed as much as the Landfill or Borrow/Stockpile Area B.

Figure 4a - Viewshed, Mass Model for West Rim Vantage Point





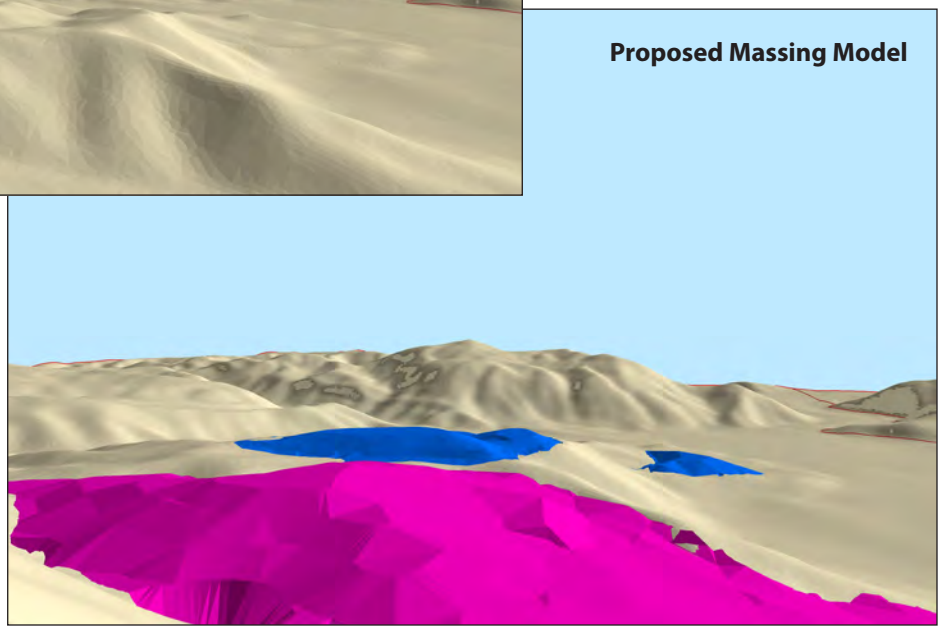
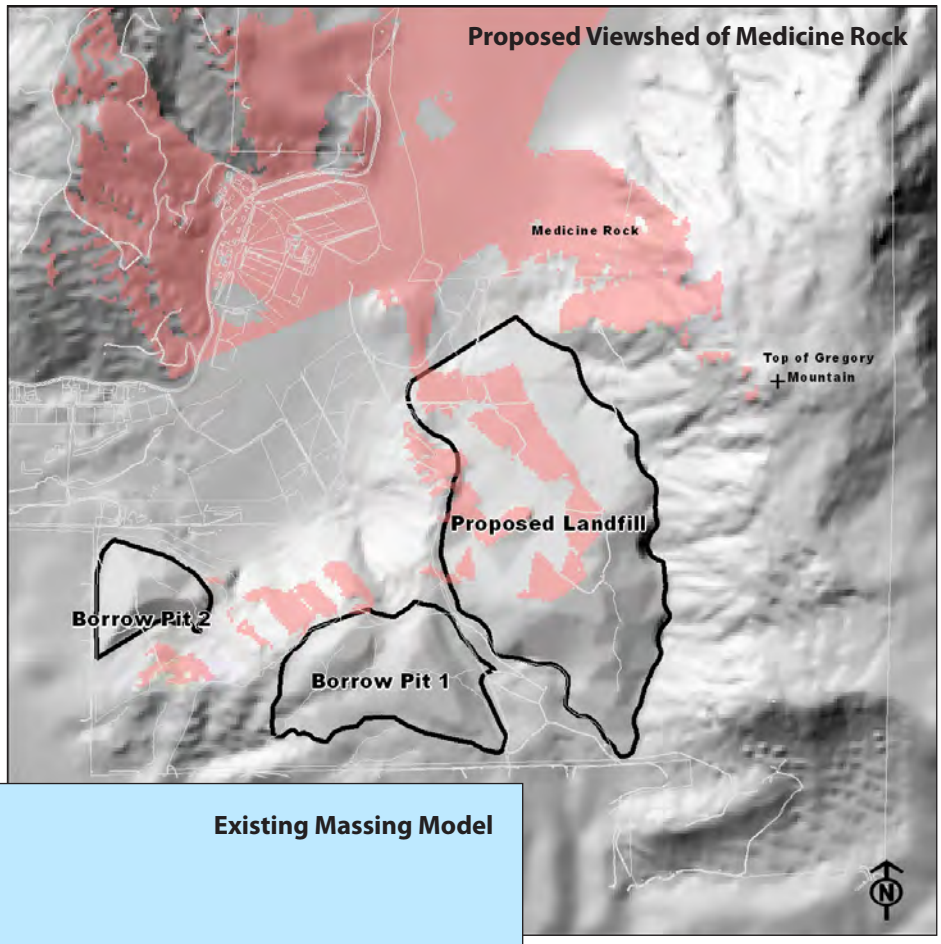


Figure 4b - Existing and Proposed Conditions for West Rim Vantage Point

Figure 5a - Viewshed, Mass Model for Medicine Rock Vantage Point



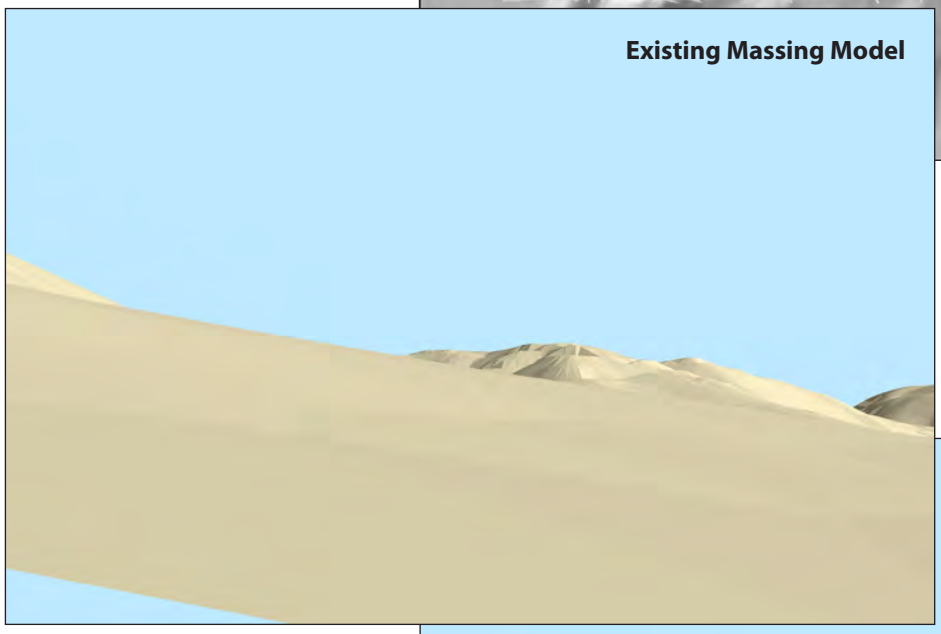
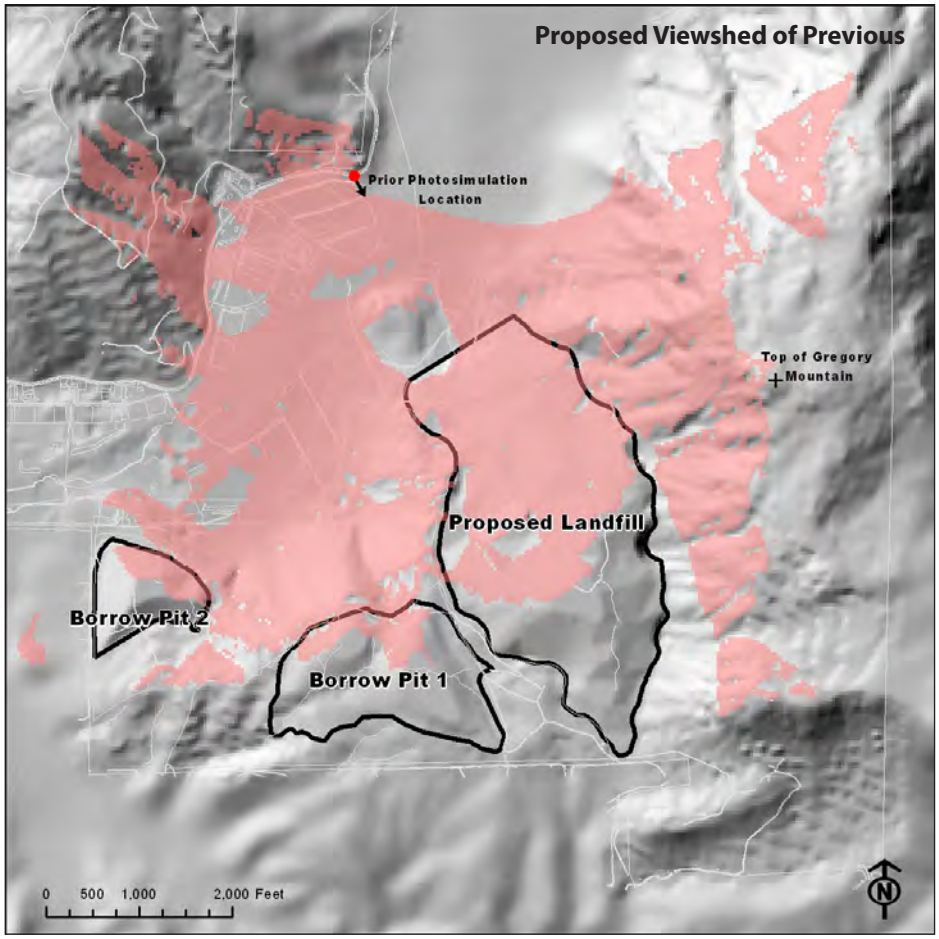
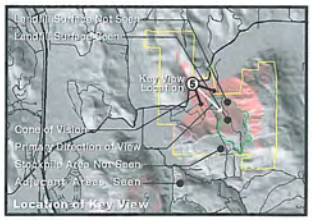


Figure 5b - Existing and Proposed Conditions for Medicine Rock Vantage Point

Figure 6a - Viewshed, Mass Model for Highway Vantage Point





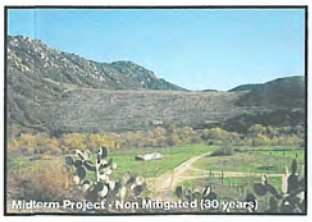
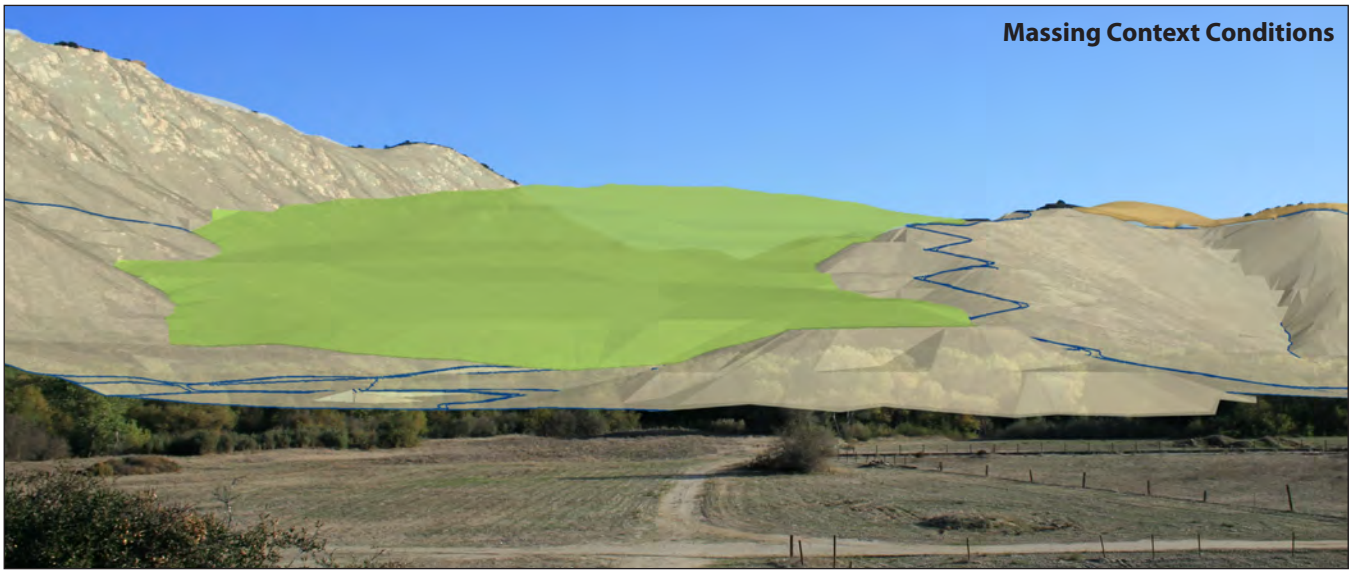


Figure 6b - Existing and Proposed Conditions for Highway Vantage Point



VISUAL IMPACT SUMMARY

The potential impacts to the keyviews in question are varied. The West Rim is the most exposed location among the keyview locations. Potential viewers from this location see a majority of the project and are able to look down upon it from a higher vantage point. The East Rim location was not simulated as it does not lie within the viewshed of the landfill project. Access to each of these sites is problematic due to difficulty of terrain to be traversed to access them, and permission of access. It is unknown if viewers will be able to access the locations legally. Views of the landfill from Medicine Rock will increase with time as the landfill grows in height. One keyview in particular, the site of the previous photo simulation will impact road users. The site is able to see approximately half the project area and will be viewed by potential road users. The effects at this location are detailed in the previous impact analysis prepared in 2002.

1. East Rim Site: The view from the property line (East Rim) would not result in a significant visual impact as a result of the implementation of the Gregory Canyon landfill. This is because this area is completely outside of the viewshed with no chance of a person in this location seeing any part of the landfill. Though the sensitivity of viewers would be extremely high, the actual number of viewers would be very low.

- **Is the view available to 1,000 or more viewers per day?** No, only a handful would access this difficult to reach location at any one time. Even if more than a handful accessed the site, visibility is very limited from this vantage point.
- Would the project result in an adverse change to the natural **Landform?** Only the distant landform changes associated with the borrow / stockpiles can be seen from this location.
- Would the project clearly contrast with existing moderate or high quality landscape units that make up the **Visual quality of the area?** The landscape units in the area are of high quality and the project does contrast with this quality, however the landfill surfaces and the majority of the stockpiles can not be seen from this location.
- Will the project result in the loss of physical **Visual resources?** Yes, the project will result in the loss of some visual resources including rock outcrops, vegetation and natural landforms of the canyon area, however these resources can not be seen from this location.
- Will the project block an existing view corridor, change a regionally important view scene or cause the removal of access to viewing locations for the general public that would effect the overall **View quality or the area?** The project will change some of the character of the sub-regionally important viewing scene which includes Gregory Mountain and the adjacent canyons and valleys. However, from this vantage point, no changes in the viewing scene, view corridor or viewing location are possible.
- Will the project prevent the attainment of adopted design, planning or aesthetic goals found in adopted policies that protect **Neighborhood/community character?** The site is designated Public/Semi-Public Lands with Solid Waste Facility Designator and is zoned Solid Waste Facility. However, some of the adjacent properties in the surrounding valley fall under various overlays including Agricultural Preserve and Scenic Area. The proposed landfill conforms with the General Plan, zoning, and Proposition C. Thus, the project and changes to the visual setting would not conflict with adopted policies and goals. Therefore, no impacts to neighborhood or community character will result from the project in regards to conformance of adopted design, planning or aesthetic goals.

Impact Significance: *No visual quality, visual character or landform quality impact would be seen from this location, therefore* ***no impacts would be considered*** *possible from this East Rim site.*

2. Top of Gregory Mountain: The view from the top of Gregory Mountain is nearly the same as the West Rim site, though slightly more outside of the viewshed. ***Therefore, evaluation of this site would be the same as the West Rim site.***

3. West Rim Site: The West Rim site has a very high degree of visibility of the proposed landfill and its stockpiles. The proposed changes are dramatic in terms of landform, color, texture, as well as levels of disturbance and contrasts with the current natural setting of the site. These changes would be noticed, especially in the mid-term of the project. Based on the implementation of the mitigation measures documented in the 2002 visual study, the long-term visual contrast would be much less. The proposed changes would normally be considered a significant visual impact, however, due to the very limited number of individuals with the potential to get to this site, and the fact that access needs to be obtained, this view would not be considered a public view.

- **Is the view available to 1,000 or more viewers per day?** No, only a handful would access this difficult to reach location at any one time.
- Would the project result in an adverse change to the natural **Landform?** Adjacent landform changes associated with the borrow / stockpiles can be seen from this location as can a significant portion of the proposed landfill. These changes would be noticed and would contrast with the existing setting. However, only a limited number of individuals would see these changes and the general public does not have legal access to this portion of Gregory Mountain.
- Would the project clearly contrast with existing moderate or high quality landscape units that make up the **Visual quality of the area?** The landscape units in the area are of high quality and the project does contrast with this quality.
- Will the project result in the loss of physical **Visual resources?** Yes, the project will result in the loss of some visual resources including rock outcrops, vegetation and natural landforms of the canyon area that could be seen from the West Rim site.
- Will the project block an existing view corridor, change a regionally important view scene or cause the removal of access to viewing locations for the general public that would effect the overall **View quality or the area?** The project will change some of the character of the sub-regionally important viewing scene which includes Gregory Mountain and the adjacent canyons and valleys.
- Will the project prevent the attainment of adopted design, planning or aesthetic goals found in adopted policies that protect **Neighborhood/community character?** The site is designated Public/Semi-Public Lands with Solid Waste Facility Designator and is zoned Solid Waste Facility. However, some of the adjacent properties in the surrounding valley fall under various overlays including Agricultural Preserve and Scenic Area. The proposed landfill conforms with the General Plan, zoning, and Proposition C. Thus, the project and changes to the visual setting would not conflict with adopted policies and goals. Therefore, no impacts to neighborhood or community character will result from the project in regards to conformance of adopted design, planning or aesthetic goals.

Impact Significance: *A very limited number of individuals are ever likely to access this portion of the site and those that do, must be with the permission of Gregory Canyon limited, and would then by definition not be considered public view. If more than 1,000 or more viewers a day could publicly access this site, then the contrasts listed above would need to be considered significant. However, since this key view location fails on the first criteria listed above, these adverse changes could* ***not be considered significant.***

4. Medicine Rock Site: The view from Medicine Rock, does represent a contrast to the landform compared to the current views from the site. The short term and mid term views will be unaffected. However, at about 75% of the landfill maximum height, the view from Medicine Rock will include a view of the landfill. The uphill view will not see the detail of the grading benches nor the active areas of the actual trash debris handling areas. However, the slightly unnatural form of the benching and the appearance of drainage pipes and gunite channels will contrast with the current setting. Though only a few individuals access this site, their sensitivity is extremely high.

- **Is the view available to 1,000 or more viewers per day?** No, only a handful would access this location at any time.
- Would the project result in an adverse change to the natural **Landform?** The project landform changes would not be seen until the project is at least 50-75% complete. The landform changes that can be seen would contrast with the existing landform since it would contain constructed benches, slopes and gunite swales that are not consistent with the landform character of the area.
- Would the project clearly contrast with existing moderate or high quality landscape units that make up the **Visual quality of the area?** The landscape units in the area are of high quality and the project does contrast with this quality.
- Will the project result in the loss of physical **Visual resources?** Yes, the project will result in the loss of visual resources including rock outcrops, vegetation and natural landforms of the canyon but these can not be seen from this location.
- Will the project block an existing view corridor, change a regionally important view scene or cause the removal of access to viewing locations for the general public that would effect the overall **View quality or the area?** From this vantage point, changes in the view quality are not possible.
- Will the project prevent the attainment of adopted design, planning or aesthetic goals found in adopted policies that protect **Neighborhood/community character?** The site is designated Public/Semi-Public Lands with Solid Waste Facility Designator and is zoned Solid Waste Facility. However, some of the adjacent properties in the surrounding valley fall under various overlays including Agricultural Preserve and Scenic Area. The proposed landfill conforms with the General Plan, zoning, and Proposition C Thus, the project and changes to the visual setting would not conflict with adopted policies and goals. Therefore, no impacts to neighborhood or community character will result from the project in regards to conformance of adopted design, planning or aesthetic goals.

Impact Significance: *A limited number of individuals are ever likely to access this area although it is not under the control of Gregory Canyon Limited and it should be considered a public viewing location. If more than 1,000 or more viewers a day were possible, then the first criteria would be met and contrasts with the landform, and visual quality of the area would then be considered significant. However, since the first criteria is not met, then the adverse impacts would* ***not be considered significant.***

5. Highway View: The view from across the highway is very similar to the view already found in the 2002 visual impact study. The accuracy of the visual simulation as seen from this location has been established and therefore ***the original impact assessment would be the same.*** The reader should reference the original study for any discussion on the impacts from this other keyview. This keyview does meet the first criteria of more than 1,000 persons per day and will be highly visible and will contrast highly with the landform and the visual quality of the area. This key view also would show changes and losses in the visual resources found on site and would also make it difficult to meet neighborhood and community character goals and policies.

APPENDIX

BASIC VIEWSHED ANALYSIS DEFINITIONS AND PROCESSES

The definition of a viewshed in a modern dictionary is simple enough to give the layperson a basic idea of what a viewshed is:

Viewshed: the natural environment that is visible from one or more viewing points.(Merriam-Webster)

Compared to the definition, how a viewshed is visualized and measured is a different story. Geographic information systems (GIS) are used to calculate viewsheds. In GIS, Viewshed Analysis can be described as the determination of visibility of a surface DEM (digital elevation model) by one or more observer points located on that surface. The visibility of each surface cell center is determined by comparing the altitude angle of the cell center (surface) with the altitude angle to the local horizon of each observer point. The local horizon is computed by considering the intervening terrain between the point of observation and the current cell center. If the point lies above the local horizon, it is considered visible (Figure A). The landform surface model was obtained from an existing digital elevation model for San Diego County that was combined with elevation values from proposed contours of the landfill project, obtained from the project's Civil Engineer. The resolution of each surface cell analyzed in the model is 10 meters by 10 meters, or approximately 1,076 square feet.

Viewshed Processes: A viewshed for a single vantage point may be run across a surface in order to predict what can be seen from that single vantage point. This is valuable in validating whether areas across the surface are visible or not from that specific location. This does not, however, give us quantitative information about the degree visibility of a given area. To simulate how many project features, or how much project area can be seen, a viewshed can be run from the project features (or area) using this surface. Many visual test points are used in these modes and the visible points can be added up to give an idea of the overall extent of the Viewshed.

DEM Accuracy: Accuracy of DEM data depends on the source and resolution of the data samples. DEM data accuracy is derived by comparing linear interpolation elevations in the DEM with corresponding map location elevations and computing the statistical standard deviation or root-mean-square error (RMSE). The RMSE is used to describe the DEM accuracy. In terms of vertical accuracy of the measurements of the digital elevation model, 90 percent have a vertical accuracy of 7-meters (21 feet) RMSE or better and 10 percent are in the 8-to 15-meter range (24-45 feet).

To gauge the impact of the separate project features, and for the entire project as a whole, four separate viewsheds were generated. For the purposes of this study and ease of analysis, 100 equally spaced observer points were generated inside project area boundaries. The visibility of these project points across the surface was used to determine total visibility of the project features across the surface of the project area. The viewsheds of the project points located within the project area then serve as a guide to show the extent (percentage of the 100 observation points) of the project area is visible. The viewsheds serve to predict which preselected vantage points (Medicine Rock, Top of the Mountain, East Rim, or locations along property line) will be able to see project features. The process also allows the discovery of other potential vantage points from which the project is most readily observable. In this analysis, the keyview location with the greatest visibility is located 140 feet west of Top of the Mountain. Though Mountain Top is slightly higher, the convex curve of the landform towards the west, actually blocks views of the landfill itself.

The same digital elevation model used in calculating the visibility of the proposed project was used to construct a 3D landform model of the terrain. This landform model is referred to as a TIN or Triangular Irregular Network. A TIN surface is more detailed and faceted than a DEM of similar resolution and thus more appropriate for use in visualizing surface features. The TIN surface is brought into programs that can view data in three dimensions. This way, existing surface conditions and proposed changes to the surface by the proposed project are able to be accurately contrasted in a three dimensional environment.

Figure A
How a viewshed works

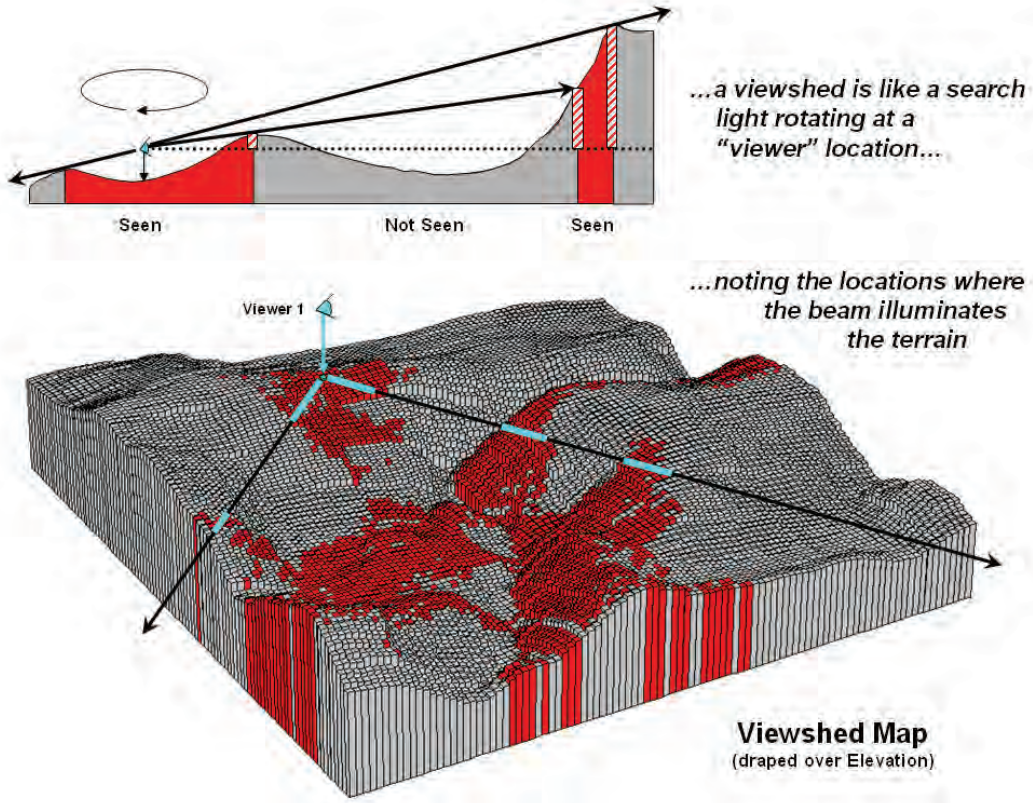
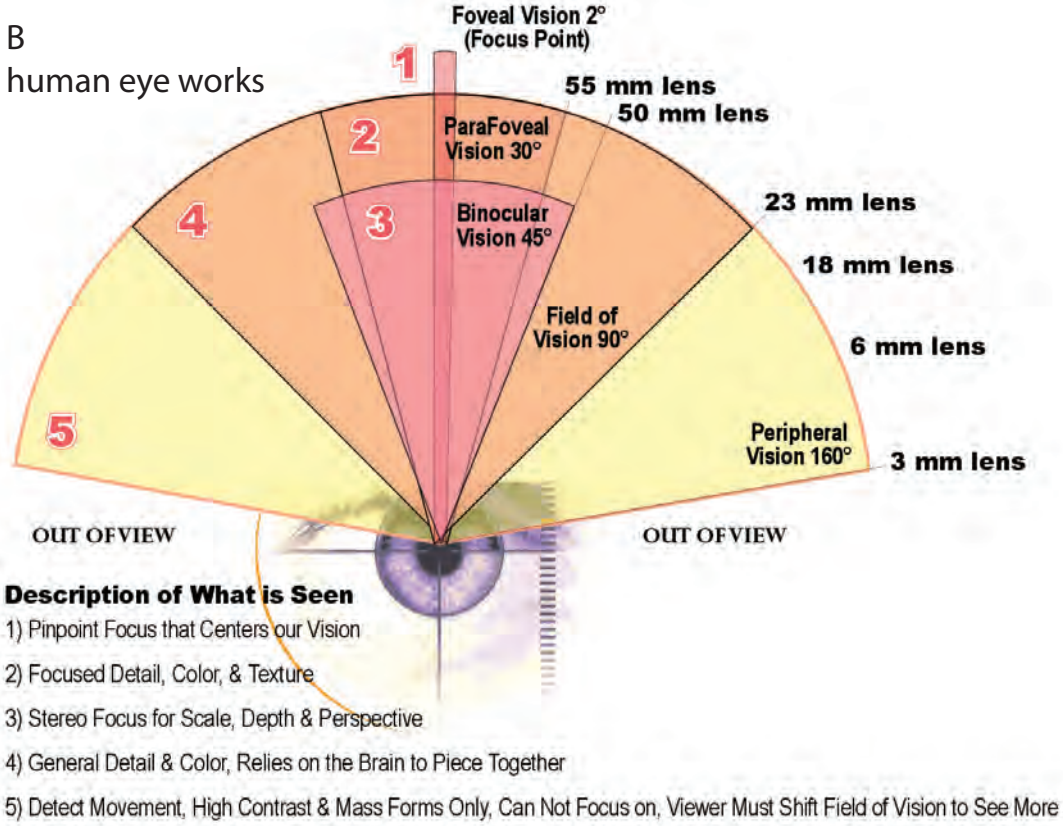


Figure B
How a human eye works



Vantage Points: Vantage Points are unique locations that can be navigated to within a 3D model. A photograph can be mimicked in a three dimensional model so that surface features in the 3D model lineup with surface features in the photograph. A photograph with a known location and direction of view is a replication of a vantage point on earth captured at a specific point in time. Photographs are, however, perspectives of a vantage point. The perspective of a photograph can be distorted by the angle of the lens taking the picture. A narrow focus will bring far objects closer in perspective and a wide angle will incorporate a larger field of view and make elements seem further away, based on perspective.

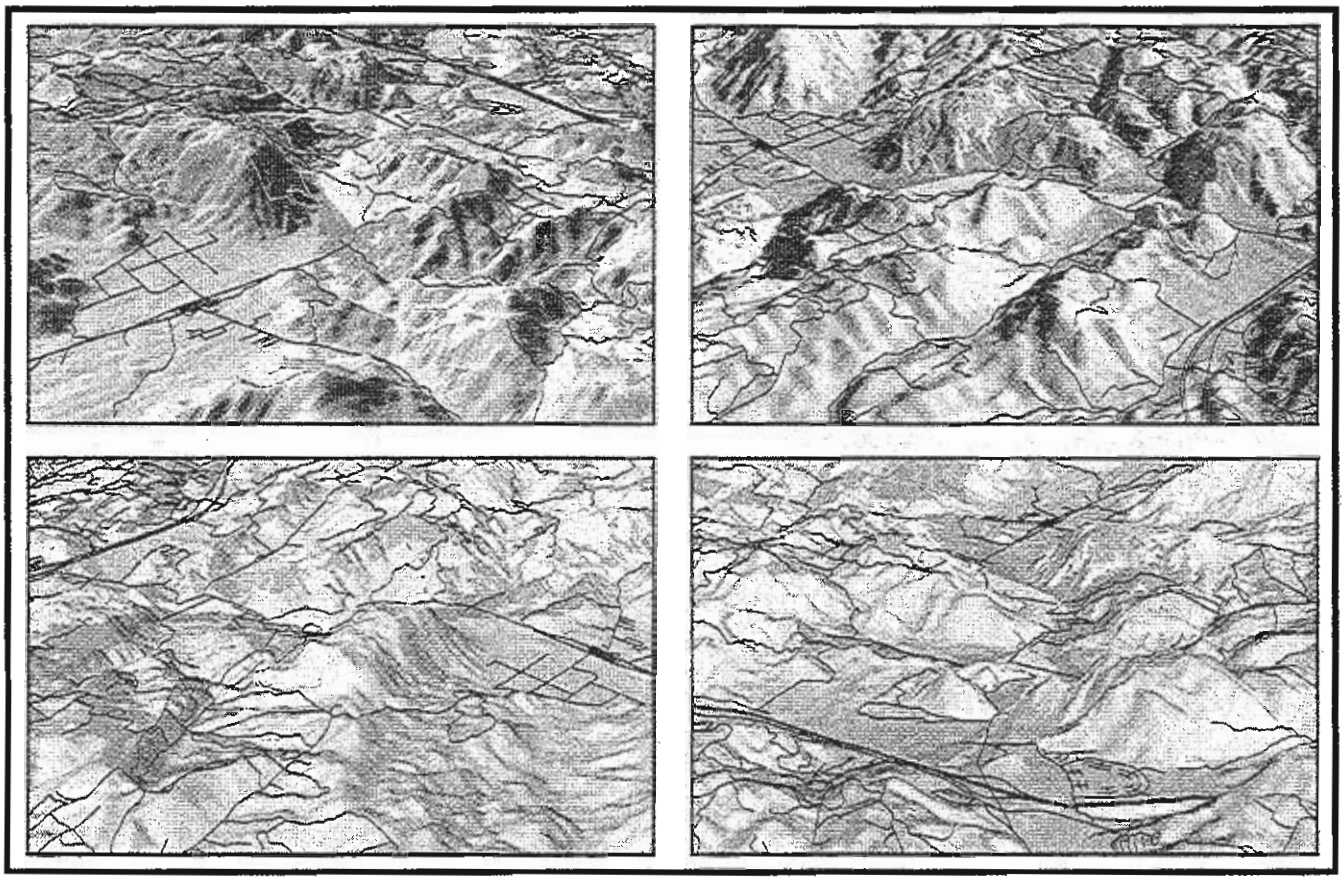
Dynamics of Human Sight: The human eye behaves in the same way as a camera lens. However, the eye functions like six camera lenses at once, with the human brain stitching the images together as one continuous perceived image. The perspective of a human being depends on what the human eye is attempting to focus on. When reading or focusing on a foreground image, the eye limits its focus on a 2-degree view, similar to what a view through a microscope or telescope views (see Figure B). When viewing something in the foreground several feet away, the eye functions like a 55mm camera lens and takes in a 30-degree view. When each eye combines images in parallax or binocular vision, it takes in about a 45-degree view. A middleground view where perception of shape, detail, scale and texture is fully perceived, is known as field of vision, which is approximately 90-degrees. The normal field of vision is similar to a wide angle lens of about 23mm. Finally, the human eye is able to perceive movement, texture and tone out to 160-degrees or more. A fisheye lens of 3mm can image a similar view. The biggest difference between the human eye and the camera imaging lens mentioned above, is that the human eye can stitch these images together into one perceived image, without the viewer perceiving that they are from several sources of the eye and iris focus levels. The human eye cannot be duplicated in flat two dimensional images. However, the most accurate size and perspective is derived from producing images taken through a 50 to 55 mm lens. If extent of view blockage or context is important, then a second simulation should be produced that more closely matches a wide-angle lens of about 18 to 23 mm.

Visual Simulation Methodology: The visual simulations constructed for this study are performed with a camera lens that most approximates a human perspective (35mm lens converted through a formula that is approximately 50mm) focus of about 45 degrees. Since many cameras these days are digital, digital cameras gather information such as the degree of focus used when the photo was shot. With a known lens size (35mm) and distance of focus (18mm-55mm), and digital multiplier (1.6 for the camera used on this study), one is able to compute the field of view angle for any photo taken in the field. When replicating the vantage point locations in the 3D model, the field of view angle value is applied to the 3D application so that output from the models matches the exact perspective from the field photo, depending on what the length of focus was used when the photo was taken. It is also important to photograph the image in the field, holding the camera horizontally. Often people will keep the camera level to the ground, even though the ground may be sloping away. Perspective is dramatically affected by viewing angles that are not horizontal.

GREGORY CANYON

VISUAL IMPACT ANALYSIS

Technical Appendices for the Gregory Canyon Landfill EIR



FINAL TECHNICAL STUDY
December 1998

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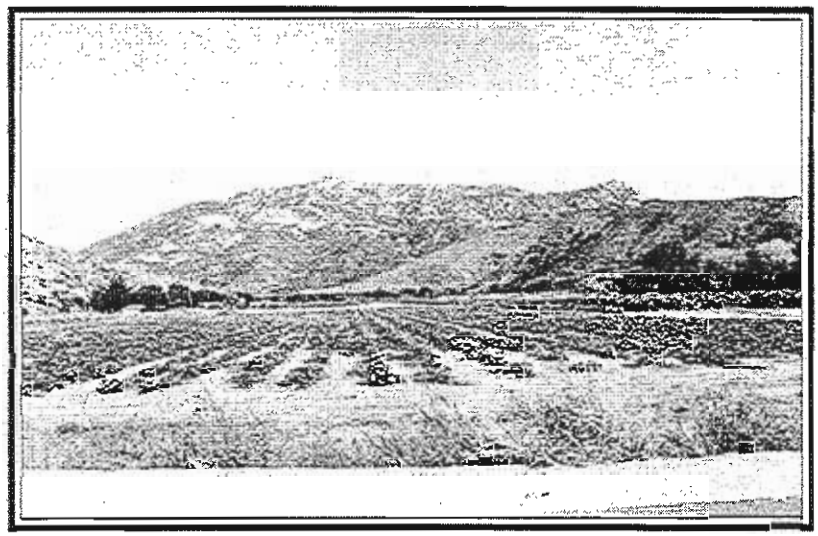
1. INTRODUCTION



1. INTRODUCTION

This technical report analyzes the potential visual impacts of a proposed Class III Sanitary Landfill at Gregory Canyon. The proposed Gregory Canyon Landfill site is located in northern San Diego County, on State Route 76 (SR-76), approximately three miles east of Interstate 15 (I-15) and two miles southwest of the community of Pala. The site is adjacent to the San Luis Rey River and lies along the western slope of Gregory Mountain. The site consists of 1,770 acres, though the majority of the site will remain undisturbed and left in open space.

Under this project scenario, the Sanitary Landfill would be owned and operated by Gregory Canyon, Limited. The landfill will consist of several components, including the construction of an access road and bridge; construction of ancillary support facilities such as a scalehouse, maintenance building, siltation basin and a water tank; excavation and filling of the landfill; creation of stockpiles for landfill cover material; realignment of a SDG&E high tension powerline; and other minor facilities needed for the operation and maintenance of the facility. Several project alternative components are considered under this study including the widening of SR-76 at a hairpin curve west of the site and the realignment of the San Diego County Water Authority's First Aqueduct underground water pipeline.

It is anticipated that an average of approximately 3,200 tons per day (tpd), or 1.0 million tons annually, of waste will be deposited at the landfill over its site life with maximum peaks of 5,000 tpd experienced occasionally. Accounting for the volume occupied by the containment system, daily, intermediate, and final covers, the estimated site life is approximately 29 years. Assuming a start year of 1999, the projected closure year would be 2027, depending on waste disposal rates. The ultimate height of the landfill surface at the completion of the three phase program, would be 1,100' Mean Sea Level (MSL.)

1.1 Scope of Study

The scope of this study includes the assessment of visual quality, visual resources, view quality, neighborhood character and landform quality impacts to the site or the visual setting. Five categories of visual issues have been used in assessing visual impacts for the proposed project including:

- **Landform Quality** - The existing natural or man-made landforms that are prominent in a landscape (visual assessment) unit.

- **Visual Quality** - A composite of the intactness, unity and vividness of the project site setting given the context of the site along with adjacent landscape units.

- **Visual Resources** - The physical resources that include native vegetation, introduced landscaping and the built environment that contribute to the aesthetics and character of the project site's landscape unit.

- **View Quality** - An area or corridor that is considered to have regionally and subregionally significant scenic qualities and the corridors that are needed to remain unobstructed for continued public views of these scenic areas.

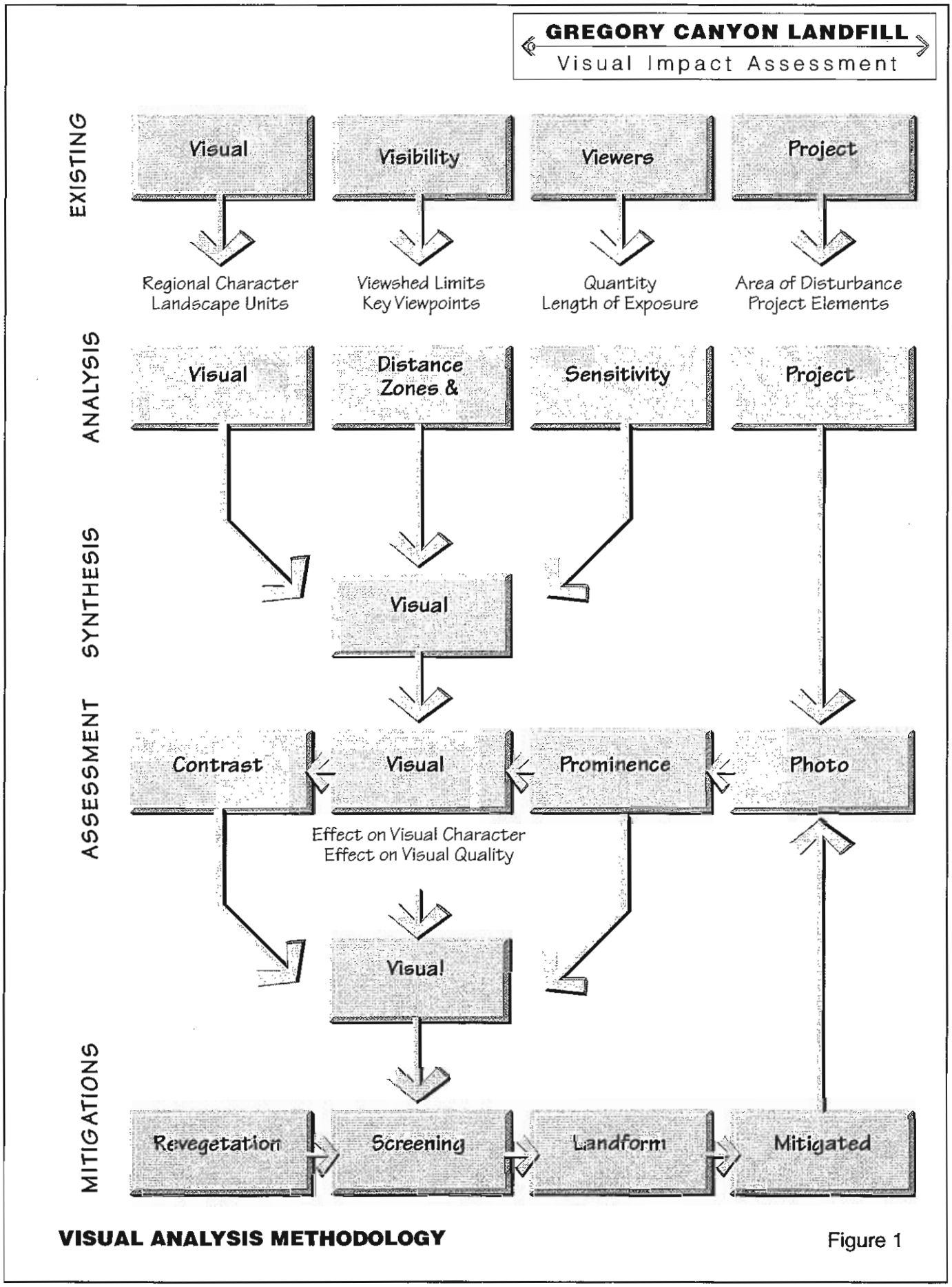
- **Neighborhood Character** - The existing visual character of an area that is determined by line, form, color, contrast, texture, cultural features, scale and other elements that contribute to the character of the neighborhood and that are identified as important to the community. These characteristics may already exist or they can include community goals for aesthetics if they are a part of an approved community plan.

Major tasks conducted for this study included: the identification of the visual character; description of visually prominent project descriptions; determination of project visibility; quantification and qualification of viewer groups; preparation of special landform models; creation of visual simulations; and the determination of visual impacts. The study also documents the process and the effects of various mitigation measures and discusses alternative project design where appropriate.

1.2 Method of Visual Analysis

The State of California Environmental Quality Act **(CEQA)** Guidelines includes assessment of impacts related to objects of aesthetic significance. A project will have a significant impact on the environment if it has a substantial demonstrable negative visual effect.

Results of visual impact assessments can vary dramatically. This is partially due to the subjectivity of aesthetics. It is also partly due to the lack of a well defined process and the difficulty for analyzing and simulating the proposed project. As such, most visual impacts are generally perceived by regulatory agencies and reviewers as difficult to prove and quantify. The approach used for this study attempts to remedy these problems by using a comprehensive process, quantitative techniques, and accurate simulations.



VISUAL ANALYSIS METHODOLOGY

Figure 1

Several visual impact methodologies have been developed by Federal Agencies. The Bureau of Land Management **(BLM)** utilizes the Visual Resource Management Program and the U.S. Forest Service **(USFS)** utilizes a similar program known as the Visual Management System. These approaches were developed for the protection and management of rural, natural, and scenic areas. They are very appropriate for the majority of impact assessments but do not take into account viewing conditions and the dynamics of highway oriented views. The Federal Highway Administration **(FHWA)** has developed a process that focuses on views "of" and "from" the highway. This process is documented in a field guide known as "Visual Impact Assessment for Highway Projects". This process however, is not completely applicable to a major project such as a landfill. The County has developed guidelines for the implementation of CEQA. These guidelines were used to help identify appropriate thresholds of significance.

The methodology chart, as shown on Figure 1, is a combination of the BLM / Forest Service / FHWA and County processes. In addition, KTU+A has developed visual sensitivity and contrast rating methodologies based on a combination of the processes listed above. The primary steps used in this study include;

- Identification of the **Visual Character** and **Quality** of the site and subregion
- Determination of the **Visibility** of the site within the subregion
- Quantification of the primary **Viewers** and determination of the probable **Sensitivity** to change of the subregion
- Synthesis of the above steps into a **Visual Resource** Zone Summary
- Descriptions and simulations of the **Project Appearance**
- Development of a subjective rating of the **Contrast** of the Project Appearance and effects on the Visual Resources
- Suggestion of **Mitigations**, Revised Simulations, and Assessments after Mitigations

Photographs were taken from a number of points within approximately three miles of the proposed project site. From these photographs, key views of the project site were selected by weighing a combination of factors including the greatest number of potential viewers, the sensitivity of those viewers, the highest scenic quality found within the project vicinity, any existing view corridors and the most sensitive areas subject to change.

Specific methodologies used for analysis and simulation included the use of computers and visualization software. Landform analysis was completed utilizing USGS Digital Elevation Models and supplemented by updated survey data and design data of the proposed project. The digital information has an accuracy of approximately 5-10%. Information was processed on a Unix Workstation and a Windows NT computer. The primary Geographic Information System (GIS) and Computer Aided Design (CAD) software used includes ArcInfo, Microstation, AutoCad, and Arcview. ArcInfo utilized TIN and GRID modules. ArcView was supplemented by 3D Analyst, Network Analyst and Spatial Analyst modules. Project elements were digitized and a 3 dimensional computer model was developed. Based on the coordinates of the various key views, computer models with existing and proposed landforms were generated. These images were then dropped into computer scanned photographs of the key views. Textures, colors, and details were then added into Adobe Photoshop and combined with overlay notes in Macromedia Freehand.

1.3 Applicable Plans and Policies

The project site comes under the jurisdictional land use review of the County of San Diego. A variety of plans, policies, and previous studies were reviewed in order to determine conformance with visual goals and policies.

1.3.1 Guidelines for the Implementation of CEQA

A variety of guidelines have been developed by the County of San Diego for implementing CEQA. These guidelines were prepared by County Department of Planning and Land Use staff to help provide further clarification and direction as to the expectations of the County in the preparation of adequate environmental documents. Below is a summary of relevant issues and how the Gregory Canyon Landfill conforms to these guidelines.

The Guideline Booklet indicates that visual and aesthetic issues are potentially significant if the following characteristics are present (Note that answers to these questions have been provided in italics)

- Does the project site contain steep slopes greater than 25%?- *Yes*

- Is the project within or adjacent to an identified scenic area or highway?-*Scenic Area-Yes; Scenic Highway-not officially designated with route markings, but is shown on county scenic highway maps.*

- Does the project site or surrounding area have existing open space easements to protect visual resources?- *No*

- Does the project propose cut and fill slopes that exceed 15 feet in height?- *Yes*

- Does the project propose excessive volumes of grading ?- *Yes*

According to the Guideline Booklet, significance of a visual impact is directly proportional to the number of people who view the impact. Scenic corridors are especially important because of the large number of people that might enjoy the scenic characteristics of a particular road. Visibility from any public roadway is potentially more significant than visibility from a private road. Views from other important public places, such as public parks, also deserve special consideration when determining the potential for visual impacts. Other criteria in the booklet that indicates potentially significant view and visual quality impacts includes:

- Is the proposed development visible from public vantage points?-*Yes*

- Does the project demonstrate an attempt to minimize detrimental visual impacts at the most visible locations (i.e., at the project perimeter, at edges along public roads, roofscape if the site is viewed from above)?-*Yes*

- Does the proposed grading conform to the Grading Guidelines outlined in the Guideline Booklet?-*No*

- Would the proposed grading result in the loss of other significant scenic resources (oak trees, rock outcrops, etc)?-*Yes*

1.3.2 County General Plan

Certain elements of the General Plan contain goals and objectives relevant to visual and aesthetic issues. For the purposes of this study, these are generally limited to the Scenic Highway Element and the Conservation Element.

1.3.3 County Scenic Highway Element

The County of San Diego has established a Scenic Highway Element (May 18, 1983) as part of the General Plan. This element of the plan is intended to enhance scenic, historic and recreation resources within both rural and urban scenic highway corridors. The four criteria listed in the General Plan for establishing the Scenic Highway System Priority List are as follows:

- Routes traversing and providing access to major recreation, scenic, or historic resources;
- Routes traversing lands under the jurisdiction of public agencies;
- Routes supported by significant local community interest; and
- Routes offering unique opportunities for the protection and enhancement of scenic recreational and historical resources.

Highways that meet three or more of the above criteria are classified by the General Plan as first priority. Routes that meet only two of the above criteria are classified as second priority. Projects and routes that meet only one of the criteria are classified as third priority. Highways that meet at least one of the criteria are identified in the General Plan, and categorized by priority ranking.

State Route 76 (Pala Road) where it passes through the property, is identified on the Scenic Highway System Map as part of the San Diego County Scenic Highway System. Though shown on this map, this segment of highway adjacent to the proposed project site has not been designated nor has it been prioritized. An extensive system of scenic highways is shown on the Scenic Highway System Map, however many segments throughout the system are commonly not included on the priority lists. Two separate segments of SR 76 are among the First Priority Scenic Routes in the Scenic Highway System Priority List. One segment runs from El Camino Real, near the coast, east to Interstate 15 (I-15), excluding that portion within the City of Oceanside. The other segment is from East Grade Road, east of Pauma Valley and Rincon, east past Lake Henshaw to SR 79 at Morettis.

Even though the Highway segment adjacent to the site is not listed specifically on the priority lists (though it does appear on the map) it would qualify for a third priority rating. It is important to regard the intent of the Scenic Highway Element. The property is within the "view from the road" and therefore within the scenic corridor which can be subjected to protective measures. Gregory Canyon, the slopes of Gregory Mountain to one side, and a prominent

ridge to the other, as well as the river valley below fit the definition of scenic resources by providing rewarding views of diverse topography, steep rocky slopes, and natural vegetation. As such, this visual impact study assumes that SR-76 (as shown on the Scenic Highway map from the County), may eventually receive prioritization and official designation at some time. Therefore, the SR-76 should be assessed using the scenic highway design standards and regulations.

The County has established design standards that regulate the visual quality of development within designated scenic highway corridors. The Environmental Review Board is directed to evaluate potential impacts on scenic highway corridors as part of environmental impact review. Even though not currently applicable to this project, a liberal interpretation of corridor protection measures that could potentially be applied to Gregory Canyon include:

- Land use controls such as building heights and setbacks and screening of offensive uses;
- Subdivision regulations relating to cut and fill slopes, tree preservation, limited access onto scenic highways, utility undergrounding, and roadway design;
- Maintenance or fire prevention, litter control programs, weed and insect control, native vegetation replanting, and water pollution control;
- Grading standards to include vegetative cover and screening, erosion control, and limited movement of natural terrain; and
- Development design resulting in an attractive appearance and harmonious relationship to the scenic setting.

1.3.4 County Pala - Pauma Subregional Plan

Visual quality is defined in general for the County of San Diego by certain policies and ordinances, and defined specifically for each community planning area by the respective planning groups. Specific objectives for visual quality are closely tied to the character of the community as identified by the members of the community. The Gregory Canyon site is located within the Pala/ Pauma Subregional Planning Area. No specific goals relative to visual and aesthetic elements are included in this element. However, the plan does indicate that Mount Gregory is a resource conservation area and as such, it is the goal of the County to protect the visual character resources of these conservation areas. The plan also indicates that the provision of commercially designated land should not affect the scenic or rural character of the community.

1.3.5 Fallbrook Community Plan

The general goal of the Fallbrook Community Plan is to perpetuate the existing rural charm and village atmosphere while accommodating growth in such a manner that it will complement the environment of the community. Other goals include:

- to encourage the preservation of areas unsuitable for intense development as permanent open space;
- to encourage sensitive design for all new development within Fallbrook, as well as to encourage the upgrading and beautification of existing development;
- mature trees and significant land forms should be preserved;
- grading impacts should be minimized through wise grading practices;
- landscape areas which are disturbed by grading should be revegetated;
- development which impacts the ridgeline silhouettes should be discouraged;
- and; development of steep slopes should be limited to agriculture and very low residential densities, with clustering promoted in flatter areas.

1.3.6 San Diego County Zoning Ordinance

As it applies to visual impacts, the portions of the County Zoning Ordinance that may affect assessment of visual impacts, are generally zoning overlay designators. Certain designators may require visual analysis through Site Plan review. The relevant designators include:

- "A"- Agricultural Preserve
- "B" - Community Design Review Area
- "D" - Design Review Area
- "G" - Sensitive Resource Area
- "H" - Historical Landmark/District
- "S" - Scenic Area

The Resource Protection Ordinance (RPO) and the Hillside Development Policy (Board of Supervisors Policy I-73) is concerned about aspects of the visual environment. Conformance with these policies and ordinances will be reviewed as part of other technical studies completed for the Gregory Canyon EIR. The purpose of the RPO is to protect and preserve the following five specific

types of environmentally sensitive lands: wetlands, floodplains, steep slopes, sensitive habitat lands, and significant prehistoric and historic sites. The RPO supplements CEQA but does not replace it.

Gregory Canyon is identified as a Resource Conservation Area as part of the Pala / Pauma Subregional Plan. Resources in this steep rocky area include large old growth mixed chaparral, which serves as wildlife habitat and oak woodlands in canyon bottoms, and north facing slopes. No specific mention of visual assets are included, however the intent of this designation can include visual elements such as landforms and vegetative cover. The RCA does not prohibit development and states that "appropriate implementation actions in Resource Conservation Areas will vary depending upon the conservation objectives of each resource."

The most relevant zoning ordinance to Gregory Canyon would be the Scenic Area Designator. Though as mentioned earlier, the Highway is not designated nor are there any scenic overlays that would affect the property, these criteria should still be considered as part of the review of this project.

The provisions of Section 5200 through 5299, inclusive are known as the Scenic Area Regulations. The purpose of these provisions is to regulate development in areas of high scenic value both to assure exclusion of incompatible uses and structures and to preserve and enhance the scenic resources present in adjacent areas.

A. Site Plan Review
The general criterion of site plan review is that the proposed development shall not, to the maximum extent feasible, interfere with or degrade those visual features, natural or man-made, of the site or adjacent sites which contribute to its scenic attractiveness, as viewed from either the scenic highway or the adjacent scenic, historic, or recreational resource.

B. Building Characteristics.
All development shall be compatible with the topography, vegetation and colors of the natural environment and with the scenic, historic and recreational resources of the designated area. The placement of buildings and structures shall not detract from the visual setting or obstruct significant views, and shall be compatible with the topography of the site and adjacent areas.

C. Landscaping.
The removal of native vegetation, especially timber, shall be minimized and the replacement vegetation and landscaping shall be compatible with the vegetation of the designated area. Landscaping and plantings shall be used to the maximum extent practicable to screen those features listed in subsections "D", "E", and "F" of this section.

D. Roads, Walkways, Parking and Storage Areas.
Any development involving more than one building or structure shall provide common access roads and pedestrian walkways. Parking and outside storage areas shall be screened from view, to the maximum extent feasible, from either the scenic highway to the adjacent scenic, historic, or recreational resource by existing topography, by the placement of buildings and structures, or by landscaping and plantings which harmonize with the natural landscape of the designated area.

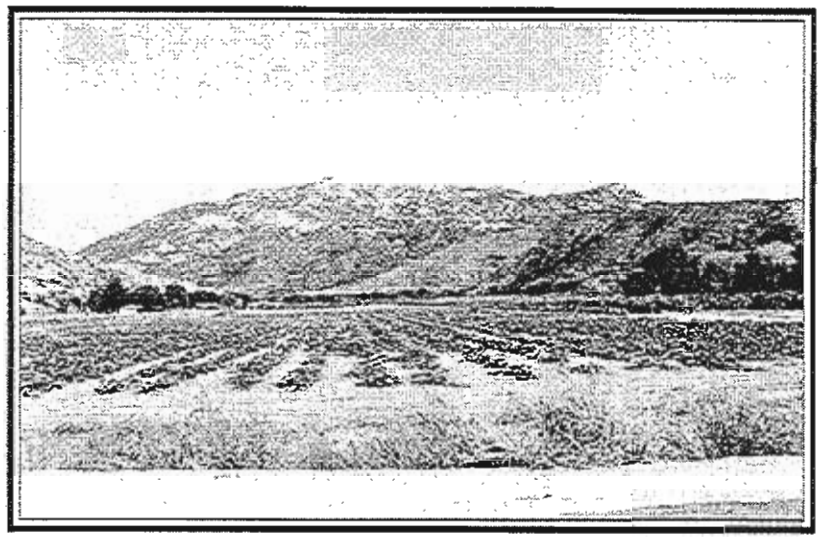
E. Above ground Utilities.
Utilities shall be constructed and routed underground except in those situations where natural features prevent undergrounding or where safety considerations necessitate above ground construction and routing. Above ground utilities shall be constructed and routed to minimize detrimental effects on the visual setting of the designated area. Where it is practical, above ground utilities shall be screened from view from either the scenic highway or the adjacent scenic, historic, or recreational resource by existing topography, by the placement of buildings and structures, or by landscaping and plantings which harmonize with the natural landscape of the designated area.

F. Grading.
The alteration of the natural topography of the site shall be minimized and shall avoid detrimental effects to the visual setting of the designated area and the existing natural drainage system. Alterations of the natural topography shall be screened from view from either the scenic highway or the adjacent scenic, historic, or recreational resource by landscaping and plantings which harmonize with the natural landscape of the designated area, except when such alterations add variety to or otherwise enhance the visual setting of the designated area.

G. Signs.
Off-site signs shall be prohibited in areas subject to the Scenic Area Regulations. The number, size, location, and design of all other signs shall not detract from the visual setting of the designated area or obstruct significant views. Subsequent to the site plan review and approval, any alteration to signs other than general maintenance shall be subject to an administrative permit.

H. Lighting.
The interior and exterior lighting of the buildings and structures and the lighting of signs, roads and parking areas shall be compatible with the lighting employed in the designated area.

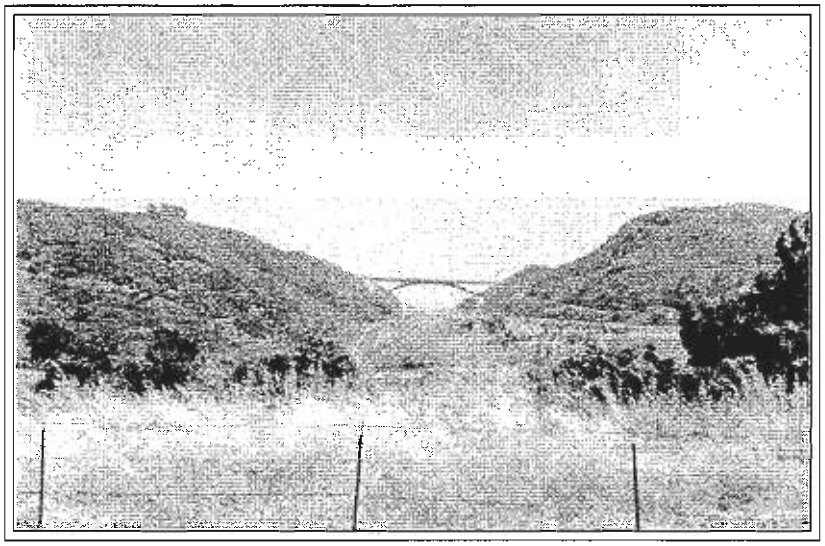
2. VISUAL CHARACTER



2. VISUAL CHARACTER

2.1 Study Area

The Gregory Canyon site is located in inland North County on the south side of the San Luis Rey River and along State Route 76. The proposed landfill is approximately 3 miles east of the intersection of I-15 and SR 76. The community of Pala is approximately 2.4 miles to the northeast (Figure 2).



Regional Character offers dramatic views and major landforms

2.2 Character Units

To adequately describe the visual setting of the proposed project site, an understanding of the regional and subregional setting is required. This section discusses individual units starting with the regional scale, the local subregional scale, and the site specific landscape units.

2.2.1 Regional Character

The identifiable region of the project study area is best described as the North County Inland Mountain Region. This area is generally to the north of Escondido and to the east of San Marcos (Figure 2). It is defined by inland hilly terrain with large valleys and canyons. The region is generally rural in nature with concentrated pockets of small communities. Topography is dramatically different than the coastal areas of the county. Vegetative cover is generally native with a strong influence from orchard development.

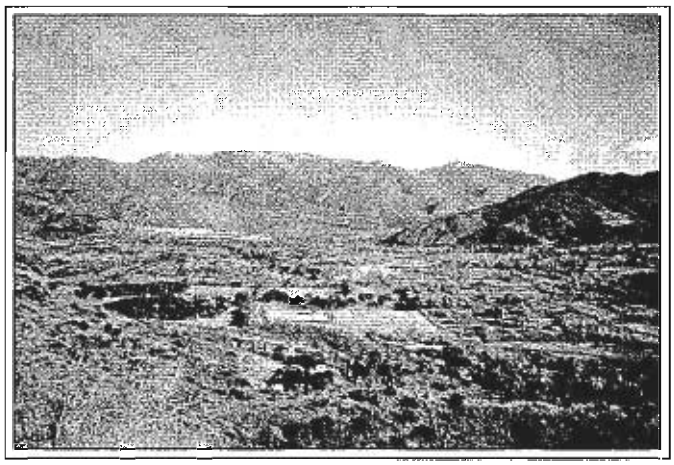
2.2.2 Subregional Character

The subregion is generally defined by the viewshed limits of the San Luis Rey River Valley. The viewshed is focused on the river bottom, with its edges defined by the upper ridgelines on either side of the river (Figure 2). The character of this canyon is both natural and disturbed. The natural areas are well defined by the river bottom and are characterized by riparian tree growth. Floodplain lowlands are generally grasslands and hillsides are generally native sage and chaparral. Though this subregion is primarily natural in its appearance, significant disturbances to this Subregional unit are very evident. These disturbances include sand and gravel mining in the floodplain, pasture and cropland in the upland areas, and orchard development on the hillsides.

Existing land uses in the valley include sand mining, agriculture (field and orchard), and dairy farming in the San Luis Rey River Valley. Single-family residences have recently been constructed on the hills north of the San Luis Rey River. To the south of the site, within Couser Canyon, are rural-residential uses. This area consists of single-family residences on parcels ranging from 4 to 20 acres. Many of the parcels contain active agricultural orchards, consisting primarily of avocado and citrus trees.

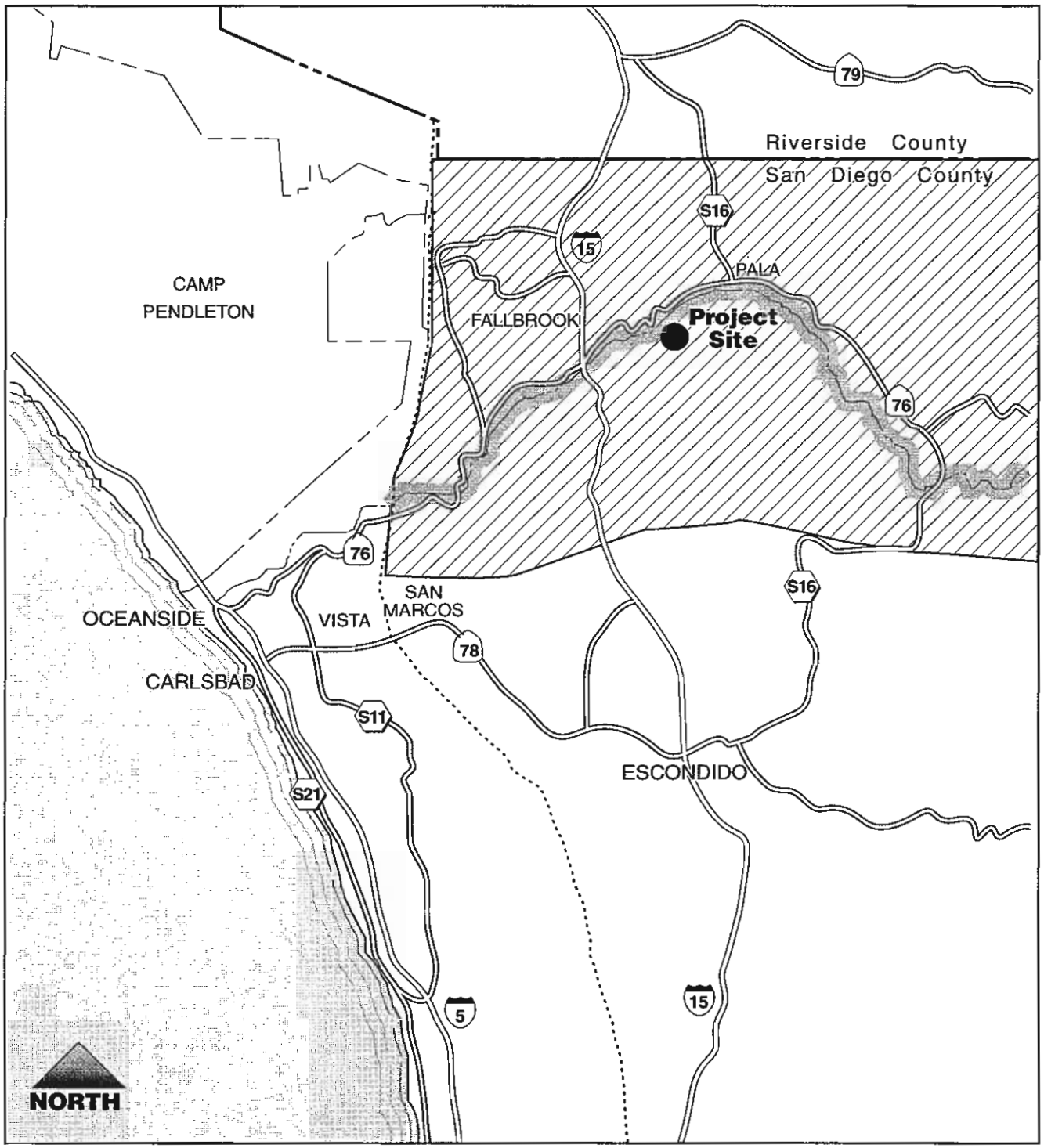
The steep, undeveloped slopes of Gregory Mountain abut the site to the east. Visually prominent rock outcrops exist on the higher slopes of Gregory Mountain and throughout the Subregional area.

Further east are more undeveloped hills with agricultural uses along the San Luis Rey River Valley. The residential community of Pala is located about 2 1/2 miles northeast of Gregory Canyon. Adjacent to the site on the west is the easement of the First San Diego Aqueduct.



The Pauma Valley area is agriculturally based

GREGORY CANYON LANDFILL
Visual Impact Assessment



Project Location Figure 2

North County Inland Mountain Region

Upper San Luis Rey Sub-Region

2.3 Landscape Unit Character and Rating Summary

The visual characteristics of the San Luis Rey River Valley are very diverse and sometimes contradictory. This subregional area has been divided into 21 distinct landscape units (Figure 3). A landscape unit is a definable area that contains a consistent visual and perceptual character, making it distinctive enough to be visually discernible from surrounding areas. Each unit has a definable edge and character. The units were determined by three topographic elements (lowland, upland, and hillside) and by their level of disturbance (undisturbed and disturbed).

Each unit was rated in the field by two design professionals who noted physical properties and rated the capacity of the unit to absorb visual changes. The visual quality of any particular unit is most important for those units adjacent to the site, since they make up the visual setting. Views from a landscape unit are not necessarily affected based on the visual quality of that unit, but upon the visual quality of the areas viewed from that unit. The Quality and Sensitivity worksheets were established using "Scenic Quality Inventory and Sensitivity Evaluation Charts" derived from Federal Highway Administration (FHWA) and Bureau of Land Management prototypes (see Appendix 1). These worksheets list various levels of scenic quality and sensitivity factors along with related numeric values. The numeric values for scenic quality and sensitivity were derived from field observations by design professionals using these forms and were then totaled to define final scenic quality and sensitivity scores for each landscape unit. Factors analyzed included texture, line, variety, contrast, intactness and unity. Each unit was categorized into one of three categories; highly sensitive, moderately sensitive and low sensitivity. Units may range from high (A), moderate (B), to low (C) visual quality (Figure 4).

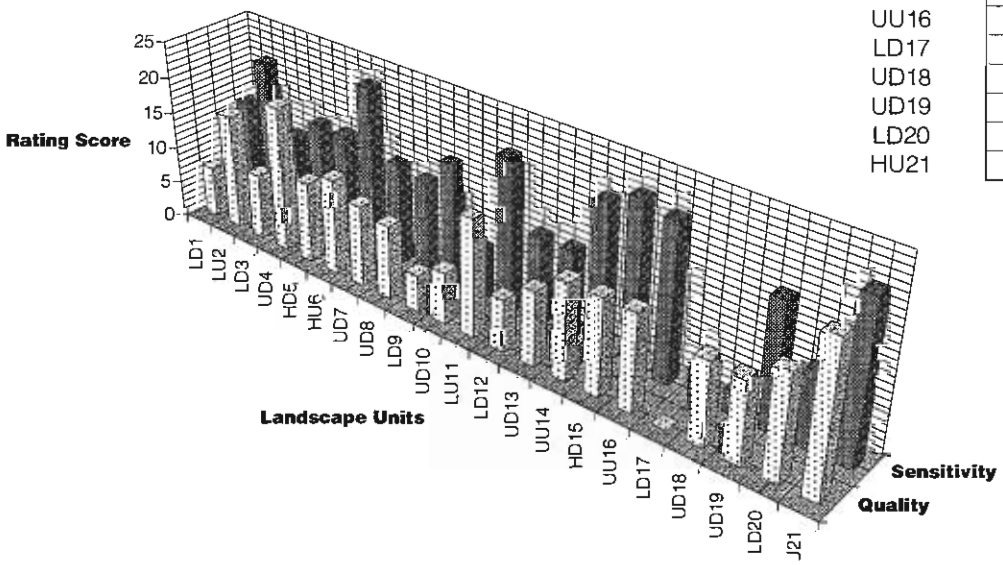
A summary of the quality and sensitivity ratings is shown on Figure 3 and 4 and on Table 2. The worksheets used to develop these ratings are found in Appendix 1. The abbreviations listed in the following discussion are defined as; the first letter indicates the general elevation of the area - L=lowland, U=upland, and H=hillside; and the second letter indicates the relative disturbance of the area -U= undisturbed, and D=disturbed. Generally, the hillside areas have both a higher visual quality based on landform and are high in sensitivity to change. The upland areas are usually intact or represent a cohesive rural character. The lowland areas have been the most disturbed and therefore are generally ranked lower than the other two topographic categories.

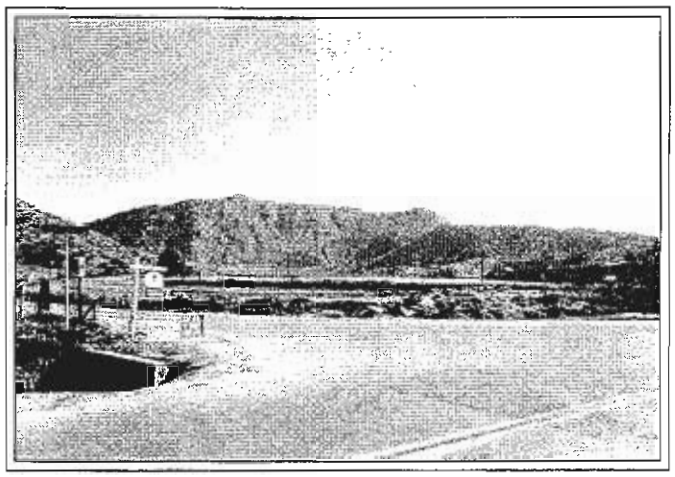
Table 2- Quality and Sensitivity Summary

Landscape Unit ID#	Quality	Ouality Category*	Sensitivity	Sensitivity Level **
LD1	7	**C**	14	**M**
LU2	16	**B**	21	**H**
LD3	9	**C**	12	**M**
UD4	20	**A**	15	**M**
HD5	11	**C**	15	**M**
HU6	13	**B**	23	**H**
UD7	11	**C**	14	**M**
UD8	10	**C**	13	**M**
LD9	5	**C**	17	**M**
UD10	7	**C**	7	**L**
LU11	16	**B**	21	**H**
LD12	7	**C**	12	**M**
UD13	10	**C**	12	**M**
UU14	13	**B**	20	**H**
HD15	13	**B**	22	**H**
UU16	13	**B**	21	**H**
LD17	0	**C**	0	**L**
UD18	11	**C**	3	**L**
UD19	11	**C**	17	**M**
LD20	14	**B**	10	**L**
HU21	20	**A**	21	**H**

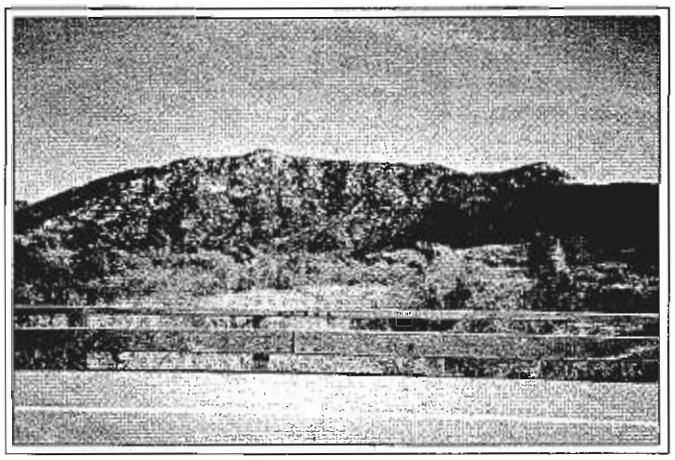
***Quality Description**
A (high)=19 or more
B (moderate)=12-18
C (low)=11 or less

****Sensitivity Description**
H (high)=19 or more
M (moderate)=12-18
L(low)=11 or less

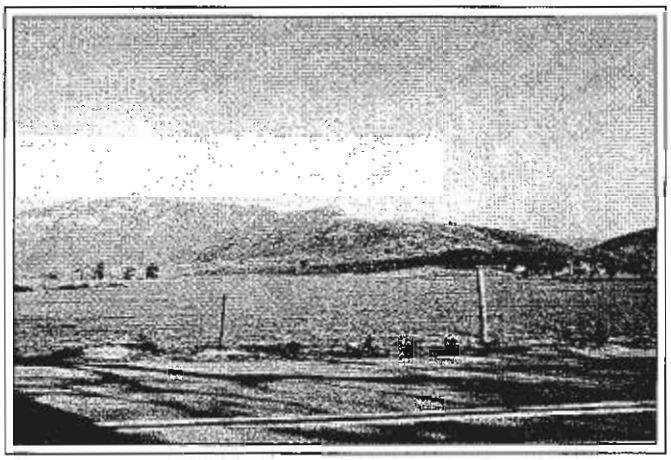




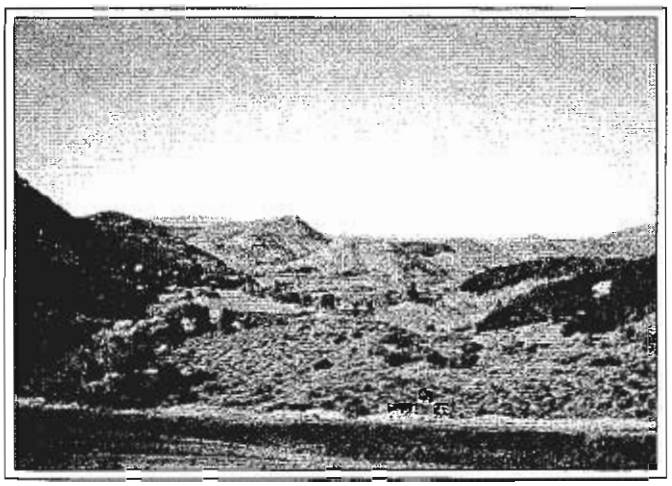
Landscape Unit LD1
This unit is an upland floodplain that has been disturbed by agricultural development. Typically this area is cultivated with field crops. The scenic quality rating is low and the sensitivity to change is moderate. The edges are defined by the highway and the riparian corridor.



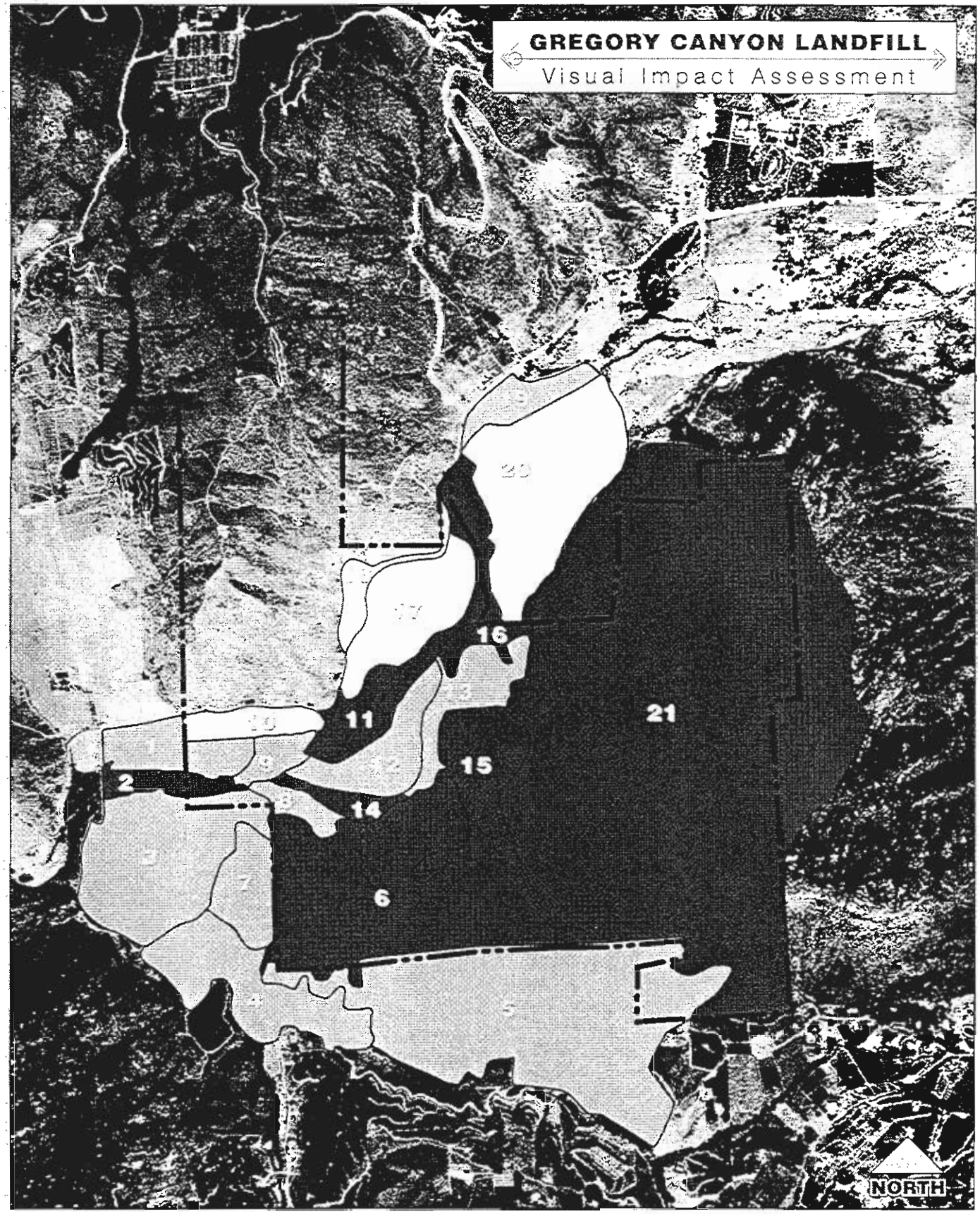
Landscape Unit LU2
This unit is a lowland floodplain and is in a generally undisturbed condition. A thick riparian growth occurs in this area and is made up of willows, cottonwoods, sycamores, and some alder. The edges are well defined by the tree canopy. The visual quality of this unit is moderate and the sensitivity to change is high.



Landscape Unit LD3
This unit is also heavily modified by agriculture. A more formalized field crop exists and a more cohesive rural image is a result. The unit is classified as an lowland disturbed area and the edges are defined by the riparian corridor and hillside areas. The quality is rated as low, and the sensitivity to change is moderate.



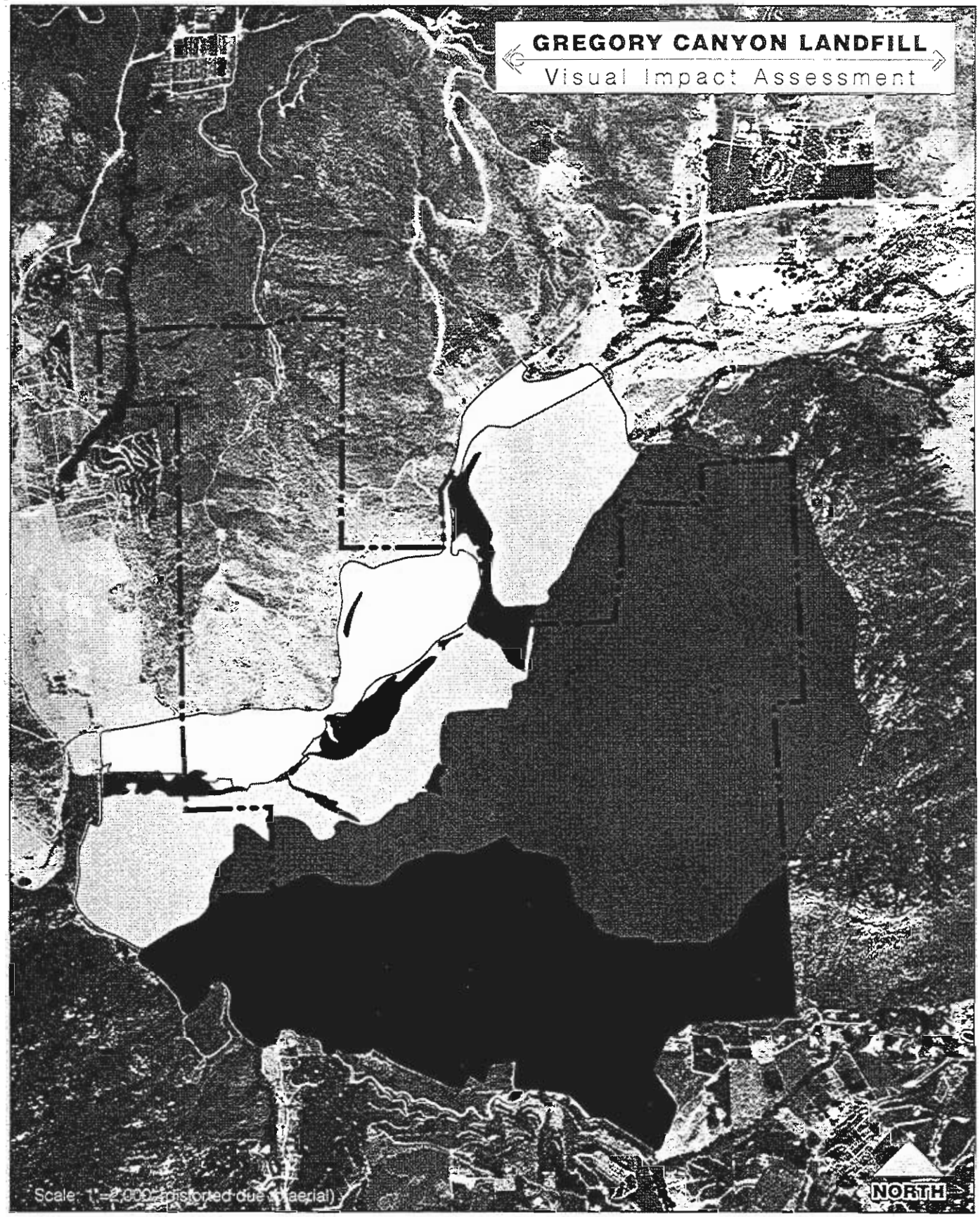
Landscape Unit UD4
Because of the presence of water and several groupings of large oak groves, this unit has been rated as having a high visual quality. Even though this area has been disturbed by agricultural uses, its unity with the adjacent units and the general variety of elements is positive. The sensitivity to change is moderate.



Landscape Units and Sensitivity Classifications Figure 3

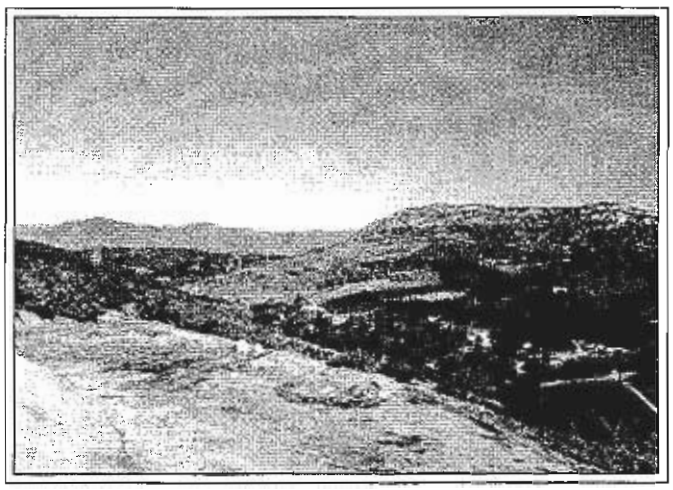
Low Sensitivity | Moderate Sensitivity | High Sensitivity

Scale: 1"=2,000' (distorted due to aerial)

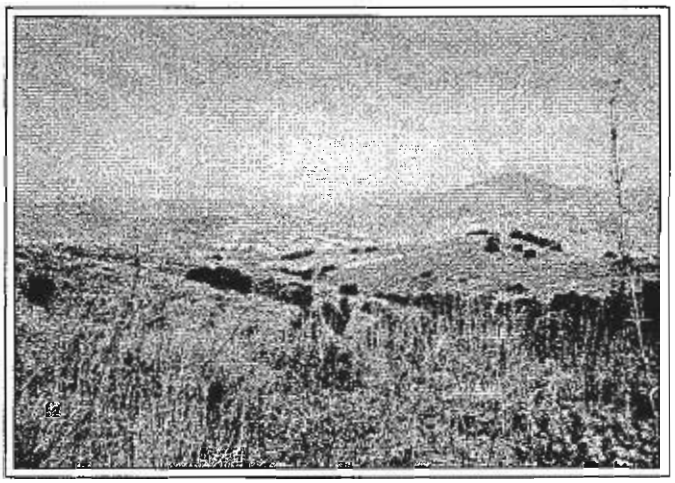


Distance Zones (as seen from SR 76) Figure 4

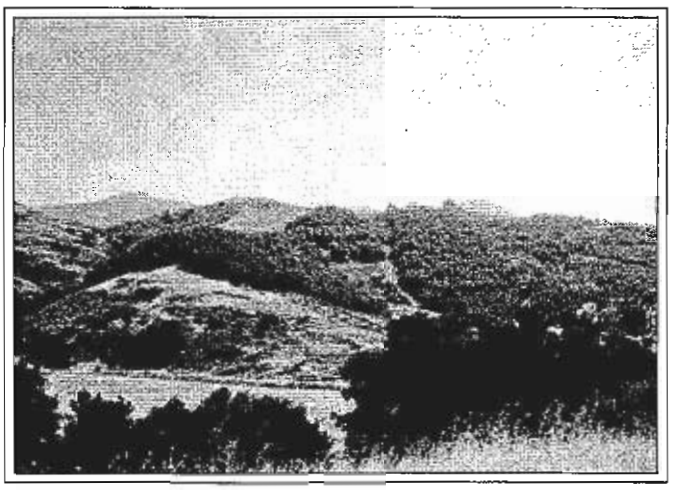
Foreground | Middleground | Background | Seldom Seen



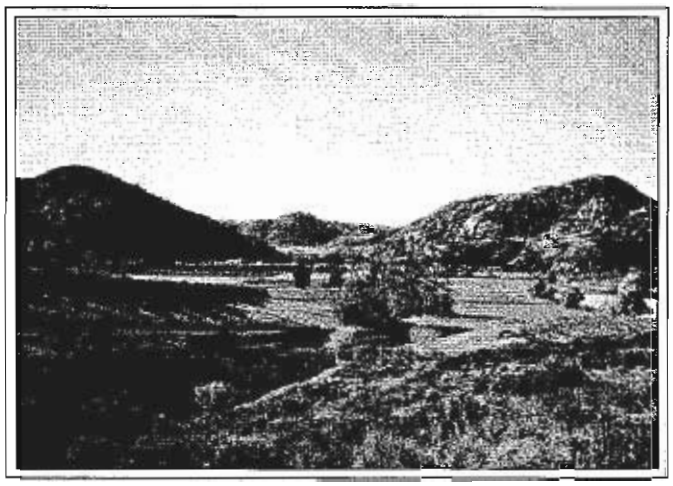
Landscape Unit HD5
This hillside unit is primarily covered with avocado and citrus orchards with a scattering of residences and estates. Because of the lack of variety, the visual quality is rated as low and the visual sensitivity is moderate.



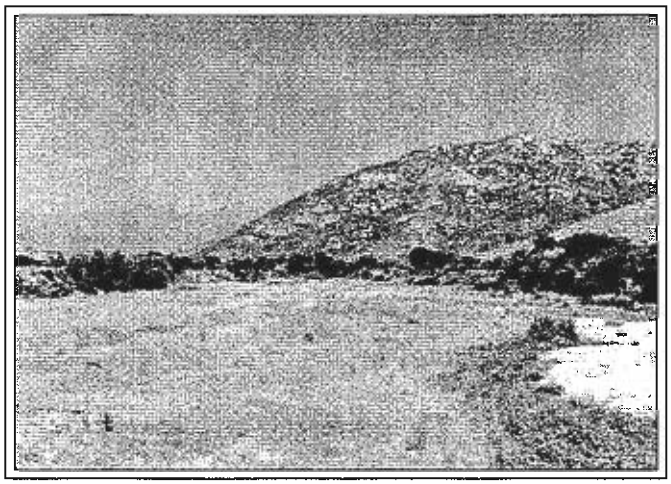
Landscape Unit HU6
This large unit is characterized by gentle to steep slopes and is covered by native Diegan Sage Scrub with Oak Woodland areas found in the drainage swales. This area has a moderate visual quality and is highly sensitive to change.



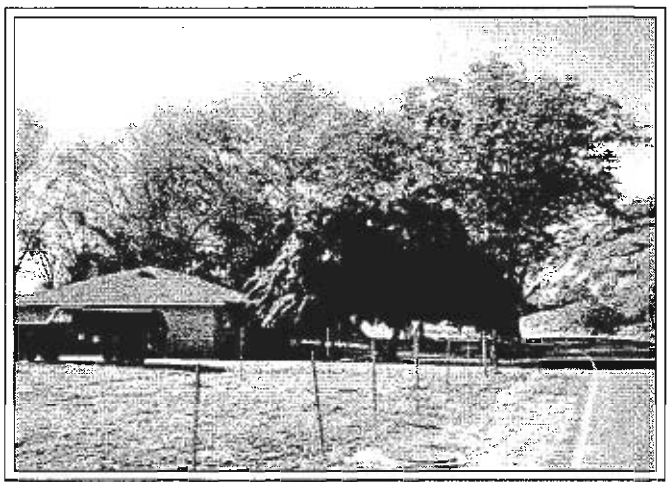
Landscape Unit UD 7
A small knoll covered with avocado groves is the focal point of this unit. Agricultural uses and structures dominate the visual setting. The rated quality is low and the sensitivity to change is moderate.



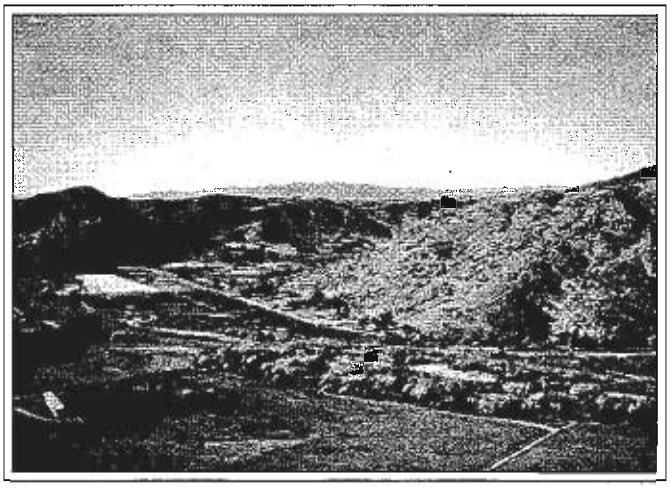
Landscape Unit UD 8
A small canyon defined by adjacent low ridges is classified as unit 8. The area is covered with native scrub and grasslands. The visual variety is lacking and therefore receives a low quality rating and a moderate sensitivity to change.



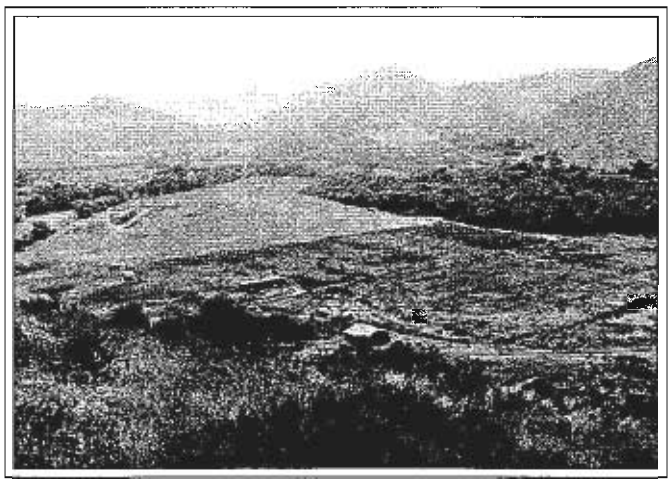
Landscape Unit LD 9
This lowland floodplain area has been dramatically disturbed in the recent past. The area would normally support a dense canopy of willows. Though somewhat natural in appearance, it is clear that a gap has been created in the riparian corridor. The visual quality is low and the sensitivity to change is moderate.



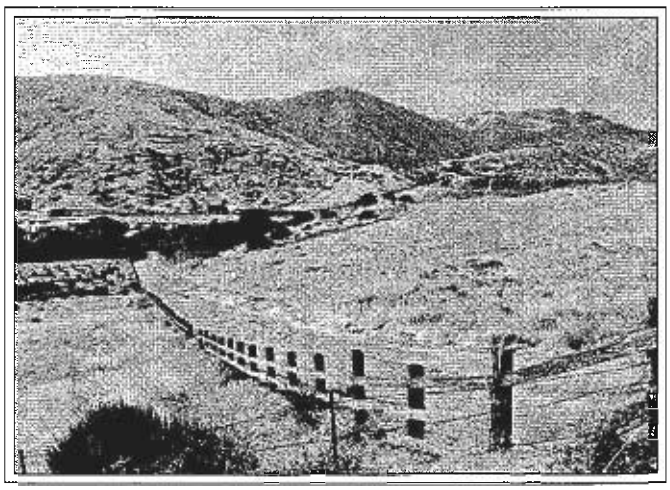
Landscape Unit UD 10
The stockyards, pastures, and structures of the operating Verboom dairy are the central elements of this unit. Though generally rural in character, the intensity of the stockyards makes the visual quality low and the variety of disturbances makes the sensitivity to change also low.



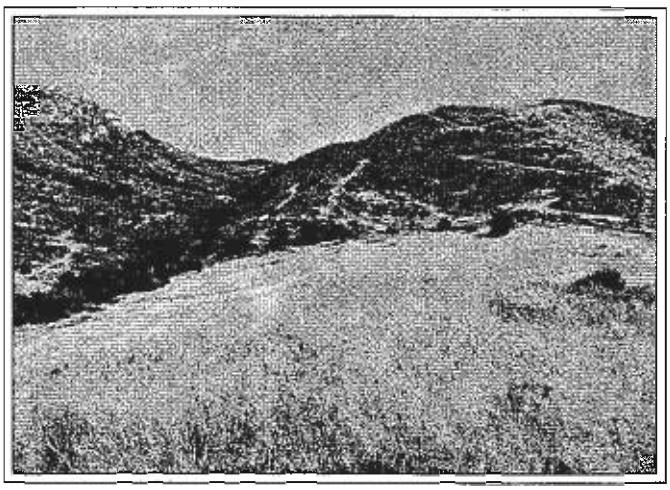
Landscape Unit LU 11
This large unit covers the intact riparian corridor running through the project site. Thick tree canopy of willows, sycamores, and cottonwood are the primary elements of the unit. The visual quality is moderate and the sensitivity to change is high.



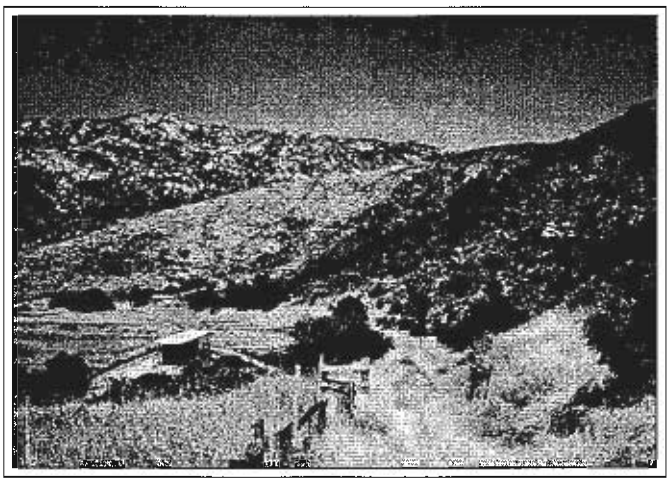
Landscape Unit LD 12
This unit consists of a large open pasture that has been utilized for grazing. It has a distinctive rural character that is punctuated by several farm structures. The area is within the floodplain and was probably part of the riparian corridor at one time. The visual quality is low and the sensitivity to change is moderate.



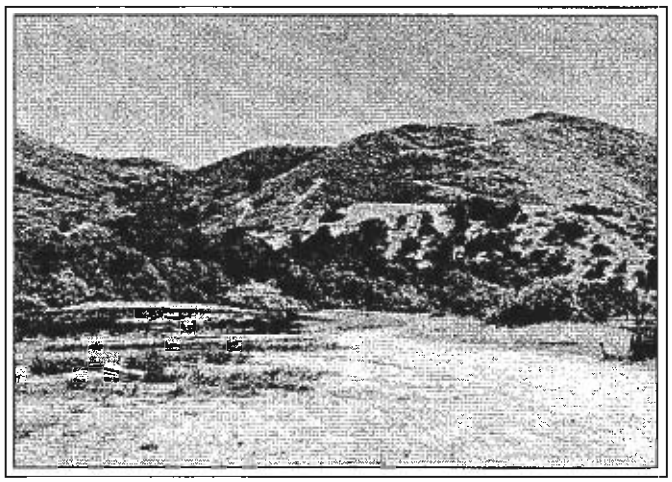
Landscape Unit UD 13
This slightly rolling area adjacent to the river is generally covered with grasslands with several oak trees. The grasslands probably resulted from past disturbances such as grazing and orchard production. The unit is rated has having a low visual quality with moderate sensitivity to change.



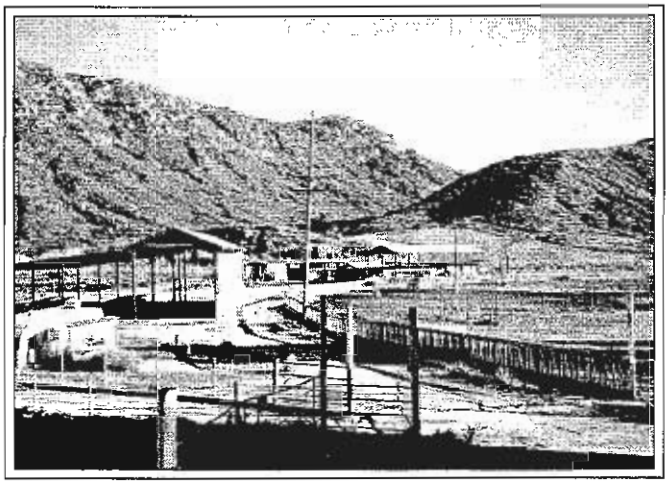
Landscape Unit HD 15
This hillside area has been disturbed by the construction of the San Diego aqueduct and contains several small scale structures and access roads. The hillside is visually prominent and the landform is intact. The unit has received a moderate visual quality that is highly sensitive to change.



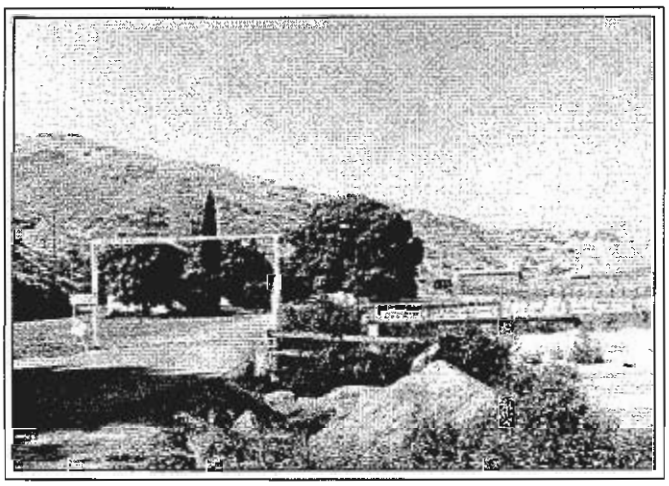
Landscape Unit UU 14
This upland undisturbed area generally exists along the bottom slopes of the larger hillside discussed in unit 6. The area is vegetated with large oak and sycamores with significant undergrowth. The visual quality is moderate due to these large trees, and the sensitivity to change is high.



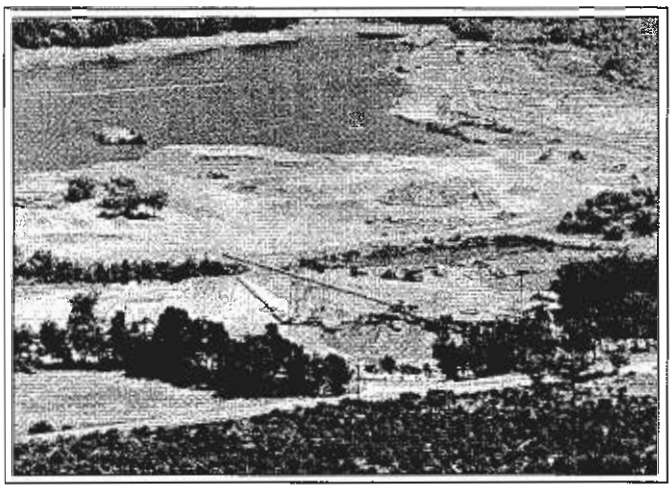
Landscape Unit UU 16
A small oak woodland exists between the river corridor to the north and the knoll to the south. Several rock outcrops, oaks, and understory create the appearance of a natural area. The visual quality is moderate and the sensitivity to change is high.



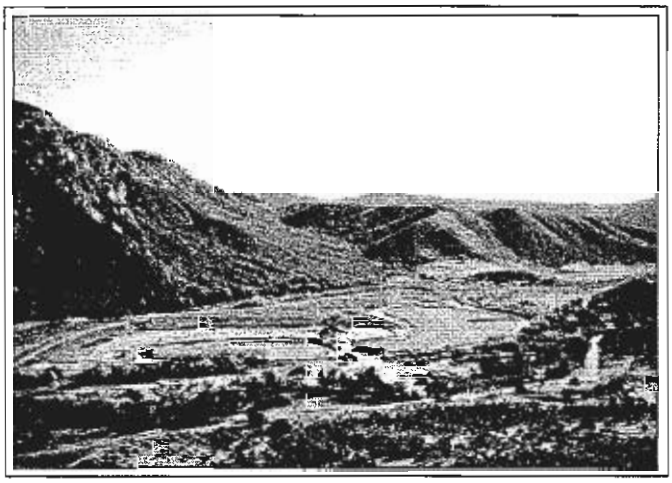
Landscape Unit LD 17
This unit is the site of the abandoned Lucio Family Dairy. Because of the state of abandonment and level of disturbance of the floodplain, the area has received a low visual quality rating and a low sensitivity to change.



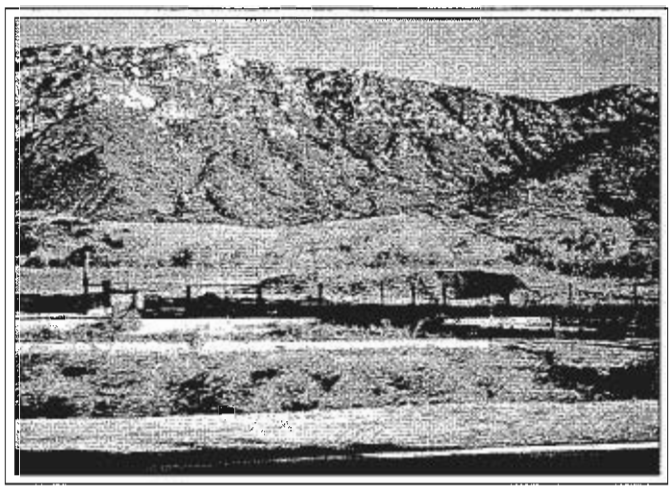
Landscape Unit UD 18
This upland area is associated with the Lucio Dairy site. It contains several residences and other structures on each side of the highway. It is also in a state of disrepair and as such has received a low quality rating and low sensitivity to change.



Landscape Unit UD 19
This highly disturbed upland area consists of mining operations and processing plant areas. Several smaller water bodies exist as part of the river corridor through the area. However, due to the level of disturbance, the unit is rated as having a low visual quality with a moderate sensitivity to change.



Landscape Unit LD 20
This lowland unit is made up almost entirely of an open water body area. The water body was created as part of the sand and gravel mining area. Generally speaking, the presence of any water body regardless of origin, is considered to be positive. Because of this, the unit is considered to have a moderate visual quality with low sensitivity to change.



Landscape Unit HU21
This unit is the largest unit found on site. It is made up of Gregory Mountain itself. The area is generally steep and covered with major rock outcrops, oak woodland, coastal sage, and mixed chaparral. The intactness of this unit along with the variety of textures and the scale of the landform, combines to give the unit a high quality rating with high sensitivity to change.

2.4 Distance Zones

Distance can play an important part in any visual impact study. Generally the further the distance, the smaller the project element appears, the less definition of detail is discernible, texture and color changes are subdued by atmospheric conditions, and the portion of the cone of vision that the element occupies becomes insignificant. The visual quality of a landscape (and user reaction) may be magnified or diminished by the visibility of the landscape from major viewing routes and key viewpoints. According to the Visual Resource Management Program of the BLM, a landscape scene can be divided into four groups: foreground, middleground, background, and seldom seen. Even though the definition of these elements are clear, little agreement exists on where one zone starts and the other ends. This is partly due to the specific characteristics of both viewing conditions and the viewer activity.

For this study, the primary location of the majority of viewers is SR-76. The foreground is defined as the area seen from the road to the riparian corridor (Figure 5). The middleground is defined as the area from the riparian corridor to the base of the hillside. The background is mostly considered to be hillsides up to the ridgeline of Gregory Mountain. Several areas are not seen from the highway due to intervening topography or vegetation.

2.5 Composite Ratings and Resource Classifications

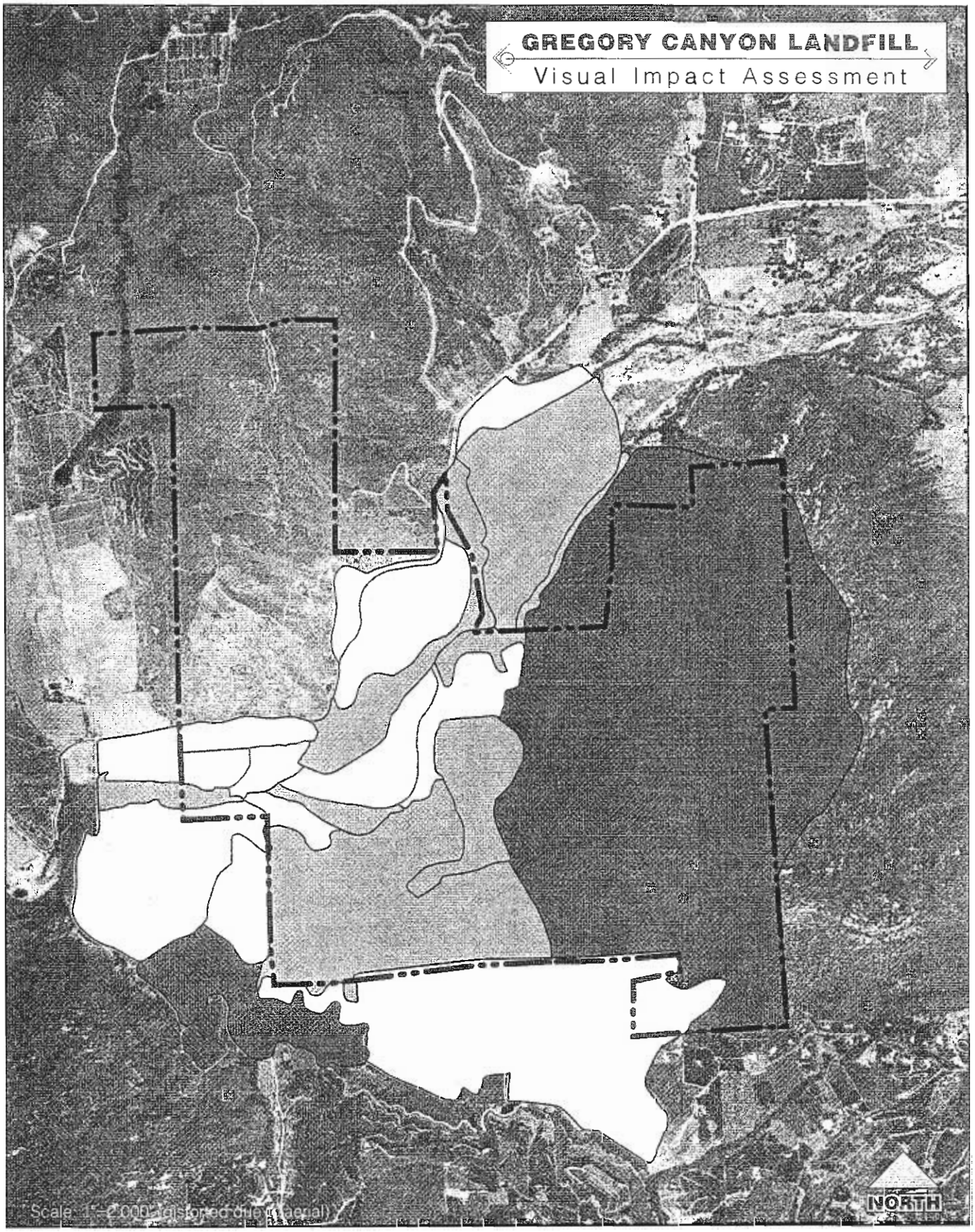
Resource classifications result from overlaying the visual quality, sensitivity, and distance zones. Each area of overlap is rated based on a combination of these three characteristics. Figure 6 delineates the three resource classifications for the site. These classifications utilize the BLM Visual Resource Management definitions of management classification. Each management class describes the different degrees of modification allowed to the basic elements of the landscape. This system identifies 5 management classes. Class 1 is not used in this study, since it represents unique conditions to regionally significant visual resources that do not exist at Gregory Canyon. Also, class 5 is not used since it is reserved for drastically disturbed areas which require rehabilitation to be placed within the other 4 classes.

Based on BLM terminology, class 2 management goals allow for some changes in basic elements (form, line, color, texture) caused by a project element. These changes however, must not be evident within the view. Contrasts are allowed but must not attract attention.

Class 3 management goals allow for contrasts to basic elements. These contrast can be evident to the viewer but should remain subordinate to the existing landscape.

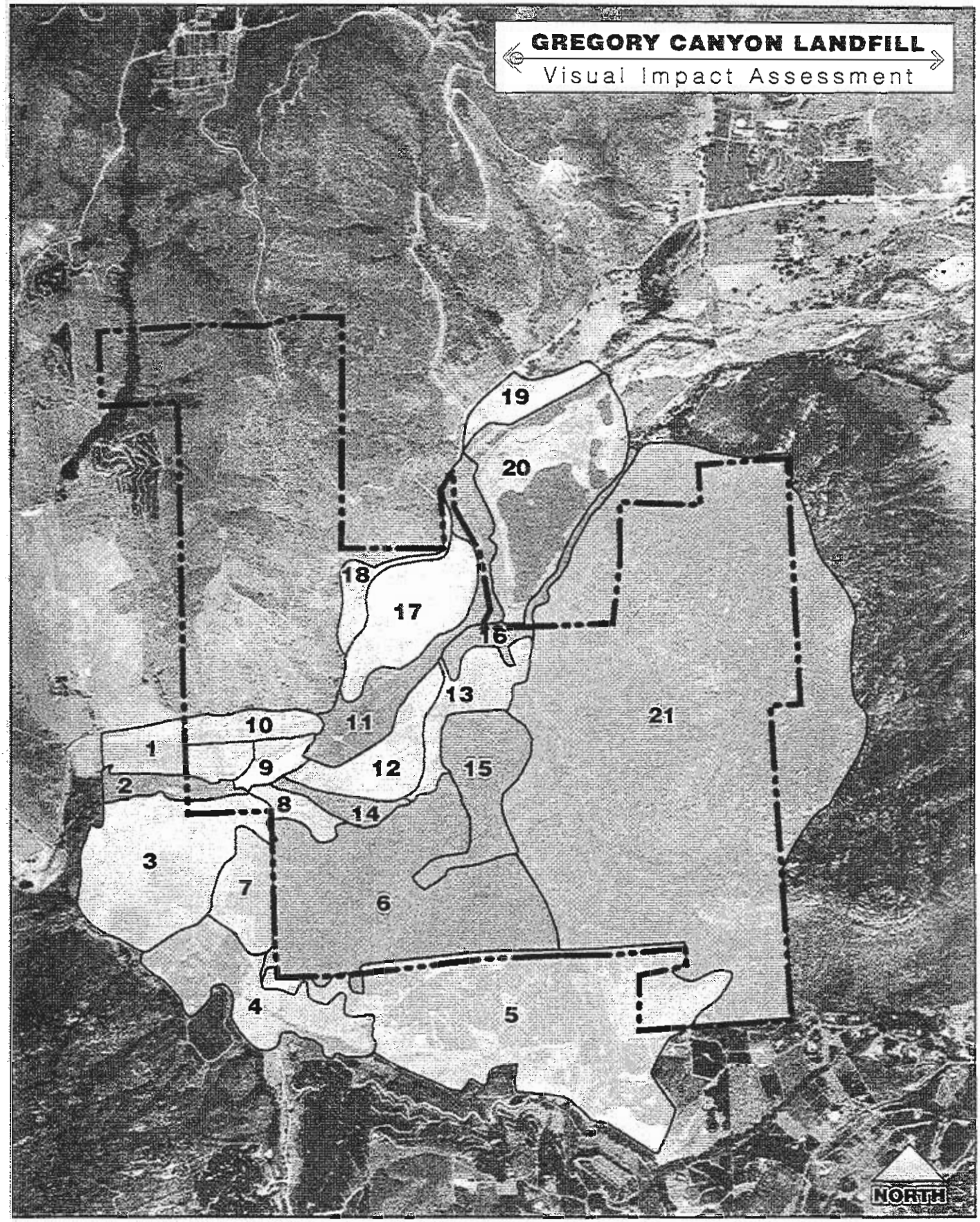
Class 4 management goals allow for elements to attract attention by contrast and can become dominant elements in the landscape. However, the element should repeat the form, line, color, and texture of the characteristic landscape.

The majority of Gregory Mountain is within Resource Class 2 (Figure 6). If major elements and contrasts occur in this area, a significant impact would occur and could only be mitigated by extensive screening, landform grading, revegetation and rehabilitation. Some smaller areas of the project site (and directly adjacent areas) have been grouped in the Class 3 category. This area can be disturbed but must new project elements must be visually subordinate to the existing elements of the setting. The remaining areas are grouped into Class 4, where disturbances can be visible and even dominant, without severe contrasts. Efforts should still be made to match the line, texture, form, and color of the adjacent landscape units.



Visual Quality Classifications Figure 5

Low Quality (Category C) Medium Quality (Category B) High Quality (Category A)



Visual Resource Classifications Figure 6

Class IV (Slight Sensitivity, Visibility, & Quality)

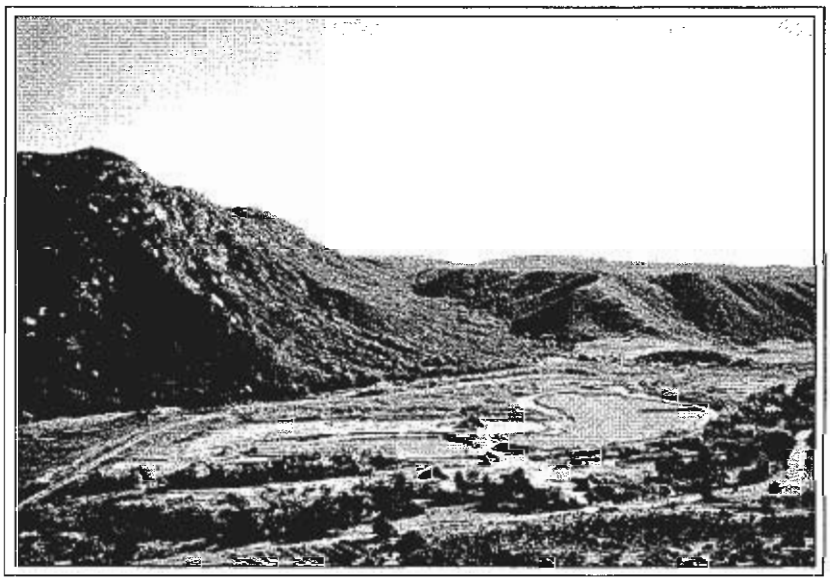
Class III (Moderate Sensitivity, Visibility, & Quality)

Class II (High Sensitivity, Visibility, & Quality)

Scale: 1"=2,000' (distorted due to aerial)

2.6 Existing Adjacent Site Character

This section discusses the general predominant characteristics of the subregional San Luis Rey Unit and individual Landscape Units. A summary of visual characteristics is shown on Figure 7.



A harmonious diversity of character exists in the area

2.6.1 Pattern Elements

Pattern elements usually include form, spatial position relative to the viewer, line, color, texture and detail.

The overall landforms of the area are generally large scale and dominant. The typical angle of slope is between 15 and 20 degrees with slopes ranging from 10 -35%. The bottom of slopes are generally concave and gentle and convex toward the tops. A strong contrast between these slopes and the ground-plane exists. The abrupt change in slope at the floodplain level is very apparent. The primary ridgelines of Gregory Mountain dominate the view while secondary ridgelines occur perpendicular to the primary (Figure 8).

The spatial positioning of the majority of observation points is low, with all elements at eye level or above.

Line characteristics are not readily apparent in undisturbed areas, with the exception of ridgelines. Road disturbances and pasture edges represent the majority of lines seen in the landscape.

Color of the area is dominated by native chaparral and sage cover, rock outcrops, oaks, willows, and sycamores. Grasslands do make up a significant portion of the color scheme in the area.

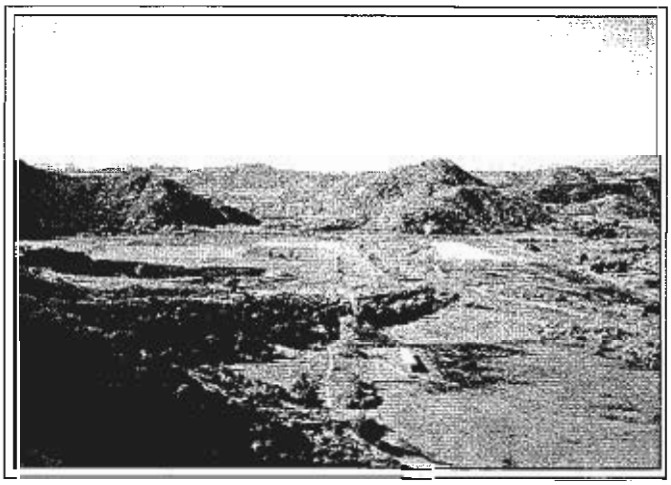
Texture and detail are primarily created by the contrast of rock outcrops and larger shrub massing against a typically mono-texture native cover.

2.6.2 Pattern Character

The character of patterns in the area are classified under topics of harmony, variety, contrast, and scale.

The natural elements of the hillsides and the floodplain are considered to be strongly harmonious. Likewise, the agricultural uses of pastures, orchards, and row crops are also harmonious with each other and the natural environment. Non-harmonious elements include the mining operations, roadway cuts, and intensive dairy operations.

Variety and contrast in the area exists, creating interest in the view. Though the majority of the area is harmonious, enough visual contrast exists between elements to create a dynamic visual character.



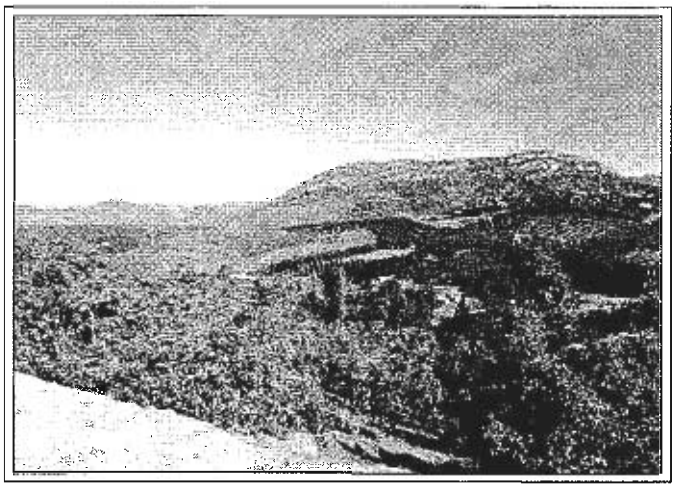
Mining operations in the area contrast sharply with the character

The scale of the area varies from the large landforms of Gregory Mountain to detail of the riparian corridor. Most cultural elements are in scale with the natural elements, with the exception of the mining operations.

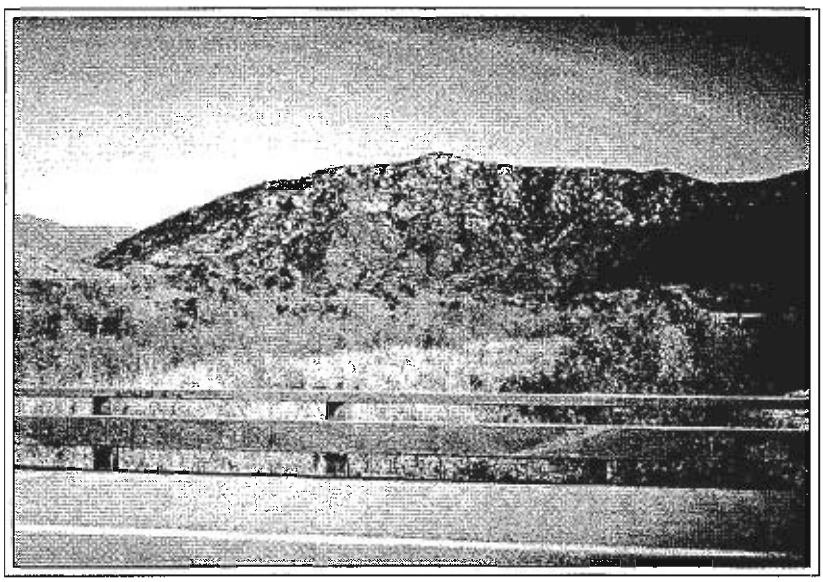
2.6.3 Visual Quality Characteristics

The visual quality of the area is summarized by the vividness, intactness, and scarcity of the specific visual elements.

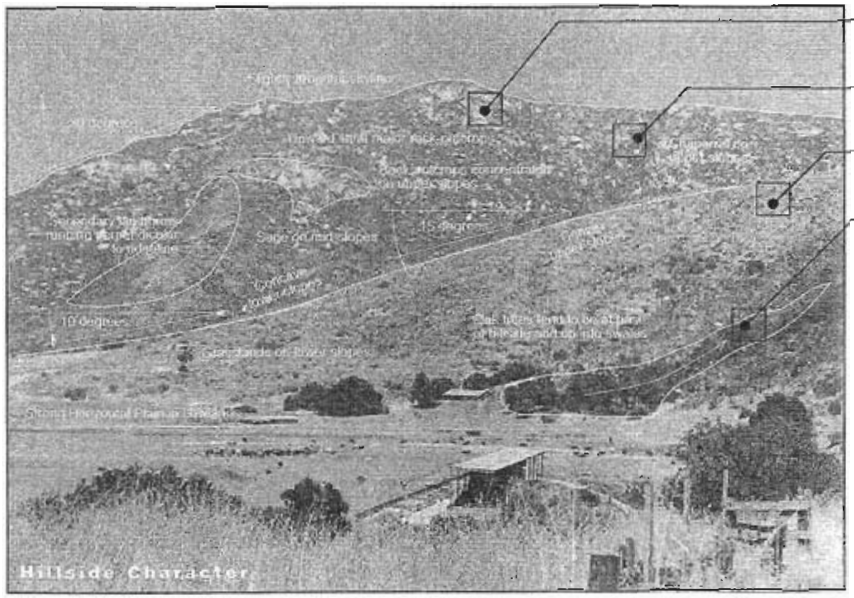
Because of contrasting texture, scale, and color, a vivid view does exist in the area. Atmospheric haze common in this region however, detracts from this vividness once a distance of over 1 mile occurs. The relative intactness of the natural areas and the relationship between the built and natural environment contributes to the visual quality of the area. This intactness helps to make this area unique within the county. The availability of this visual quality increases to the east and decreases towards the coast line.



Agricultural orchard development contrasts with the area but is harmonious



Gregory Mountain is a dominant element of visual character for the area



Rock Outcrop Color (Pantone 16-8)

Chaparral Color (Pantone 261-2)

Grassland Color (Pantone 307-5)

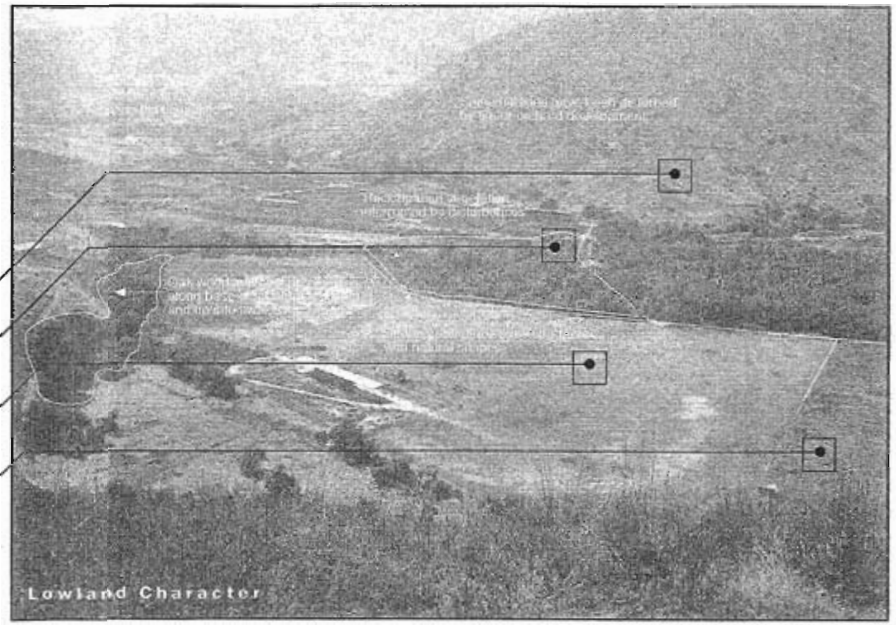
Oak Tree Color (Pantone 273-1)

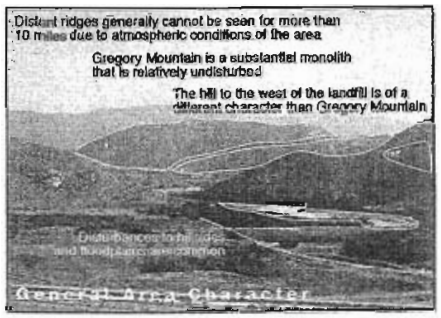
Disturbed Sage Scrub (Pantone 52-6)

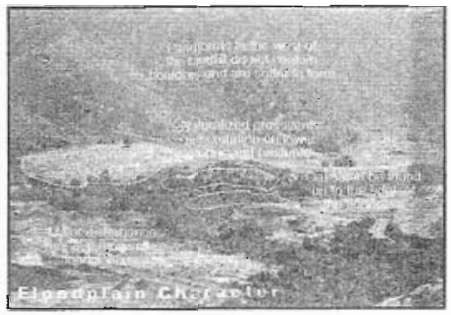
Willow Riparian Woodland (Pantone 269-2)

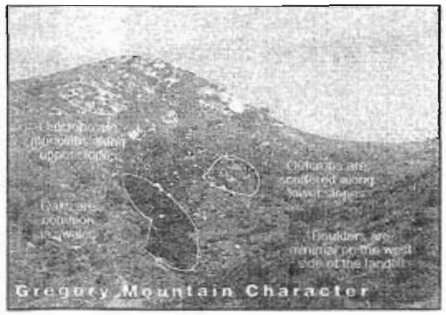
Non-irrigated Pasture (Pantone 14-6)

Irrigated Pasture (Pantone 281-3)









GREGORY CANYON LANDFILL
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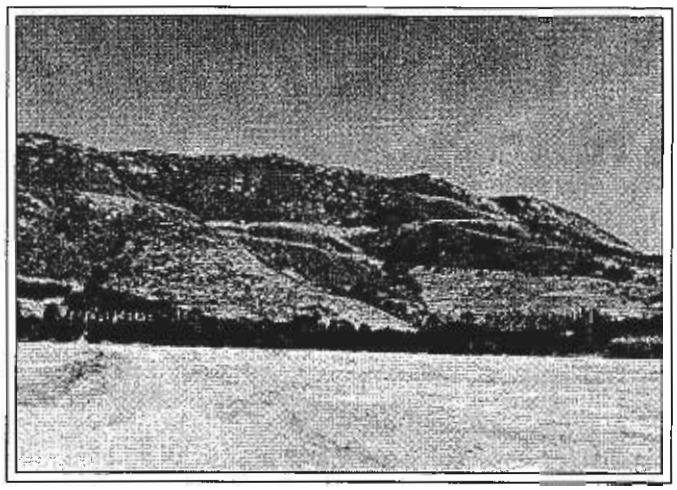
Color studies are computer generated and the final colors printed on this page may vary. Pantone colors have been used to key the actual colors.

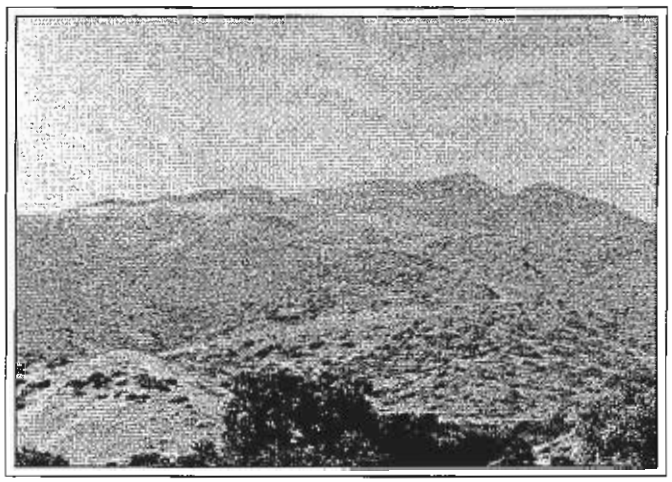
Figure 7
Character Studies

2.7 Adjacent Examples of Visual Resource Damage

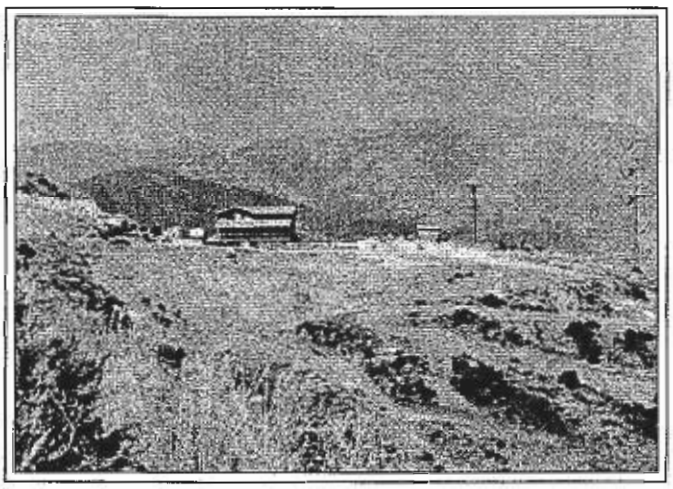
Though the area is considered to be intact, a variety of visual damages have occurred in the area. These damages generally stand out due to differences in the contrast value, scale, or form of the disturbance. Hillside cuts for roadways stand out primarily due to contrasts in value and color as well as line. Mining disturbances are noticeable due to color, value, form, texture, and line contrasts with surrounding areas. Development of some hillside residences has been damaging to the visual environment primarily due to form, scale, texture, and color. Agricultural orchard development of hillsides contrasts mostly in texture but is generally not perceived negatively.



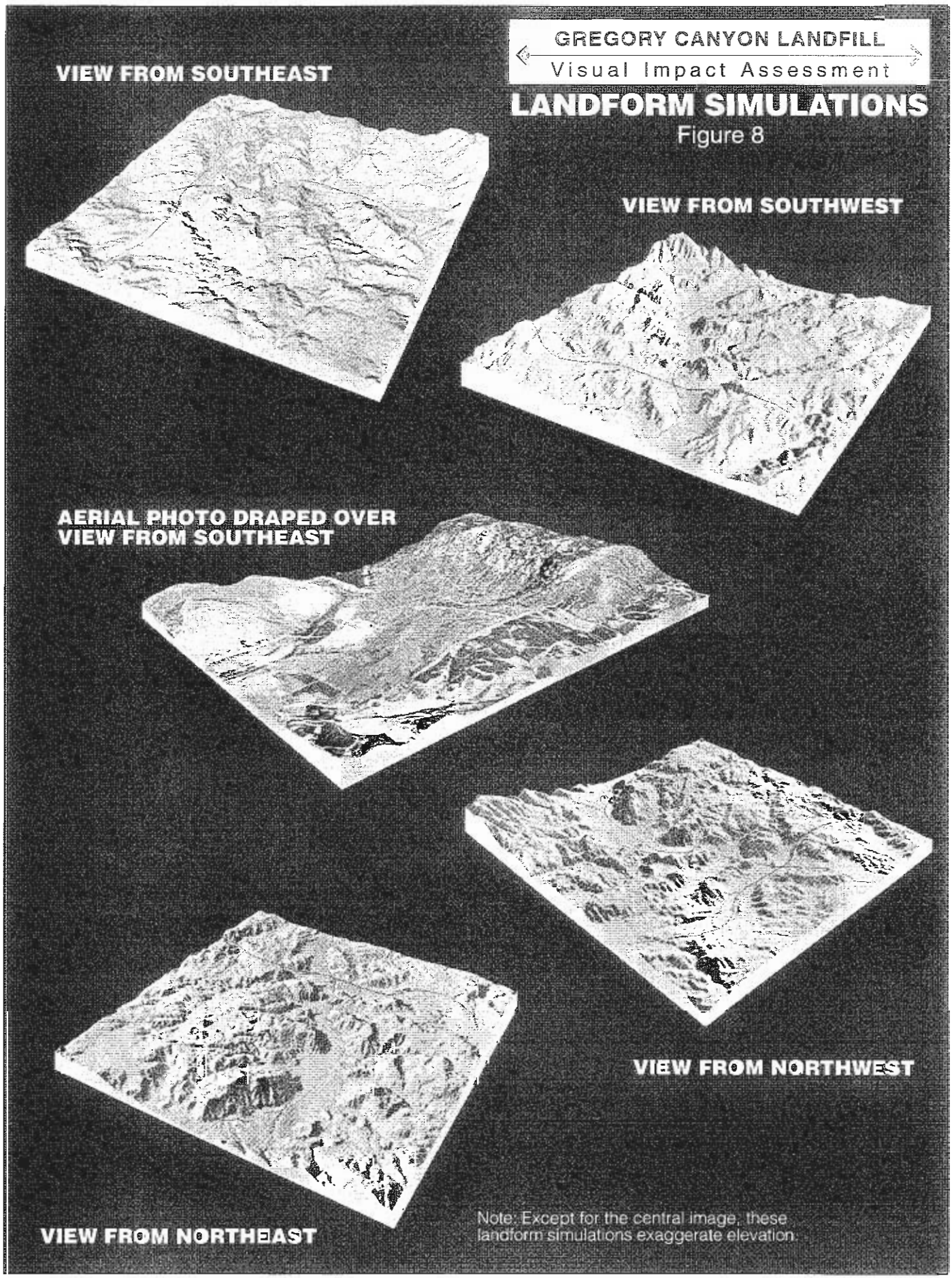
Mining operations and hillside agricultural development do create visual scars in the area



Roadways are clearly visible along most hillsides



Hillside housing is limited but does have an impact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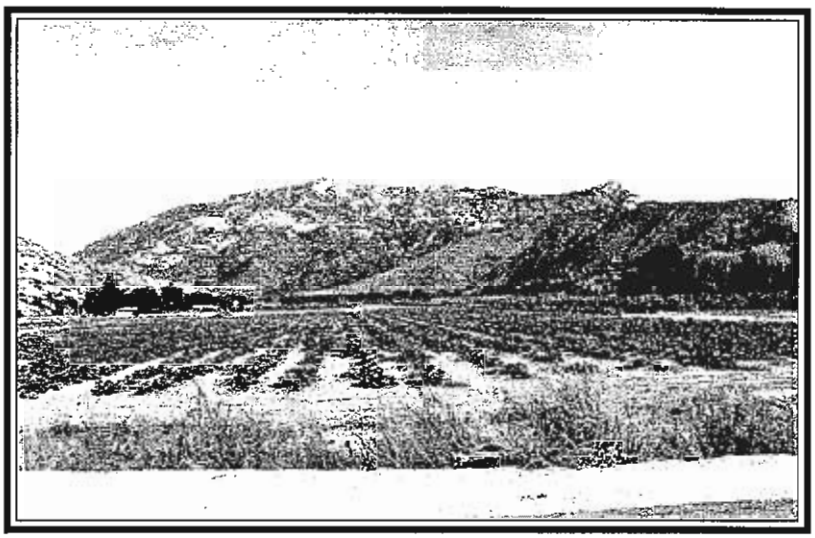
Visual Impact Assessment
LANDFORM SIMULATIONS
Figure 8
VIEW FROM SOUTHEAST
VIEW FROM SOUTHWEST
AERIAL PHOTO DRAPED OVER
VIEW FROM SOUTHEAST
VIEW FROM NORTHWEST
VIEW FROM NORTHEAST
Note: Except for the central image, these landform simulations exaggerate elevation.

3. PROJECT DESCRIPTION



3. PROJECT ELEMENTS

The Gregory Canyon Landfill Project consists of many physical components. This chapter does not attempt to describe all of the components of the project, just those that are considered to have a high degree of visual prominence. The reader should reference the main body of the EIR for more detail on the various components of this project. Figure 9 delineates the major project elements that may affect the visual environment. These elements are considered to have visual prominence due to their relative size, contrast with the visual setting or the location relative to major viewing groups. In some cases, the location of the project element will be within the footprint of the landfill or the support area, and is therefore dominated by the other visually prominent elements of the footprint.

Though the project study property area is 1,770 acres, the actual focus is on the 185 acres of the landfill footprint along with the 160 acres of borrow / stockpile and the various support areas needed for the ongoing operations of the landfill. Discussions of physical changes outside of the project footprint are limited to the removal of abandoned structures and livestock pens associated with the non-operating Lucio dairy farm. The removal of these dilapidated structures and the replacement of livestock pens and pastures by naturalized revegetation would be considered a positive impact to the local visual setting.

The reader should be aware that the exact configurations and sizes of the project elements discussed below are not completely defined. However, enough detail does exist to accurately assess visual impacts. All major project elements have been numbered for reference in the impact assessment and shown on Figure 9.

3.1 SR-76 Highway Horizontal Curve Realignment (Element 1)

Caltrans is in the process of studying various realignment alternatives on SR-76 between I-15 and Couser Canyon Road. If these proposed realignments of SR-76 do not occur, the tight curve associated with the roadway just west of Couser Canyon, will need to be adjusted. This adjustment will consist of a wider horizontal curve, requiring substantial fill south and west of this curve. This project element is considered as a project alternative since it may or may not be completed as part of the landfill project.

3.2 Access Road and Bridge (Element 2)

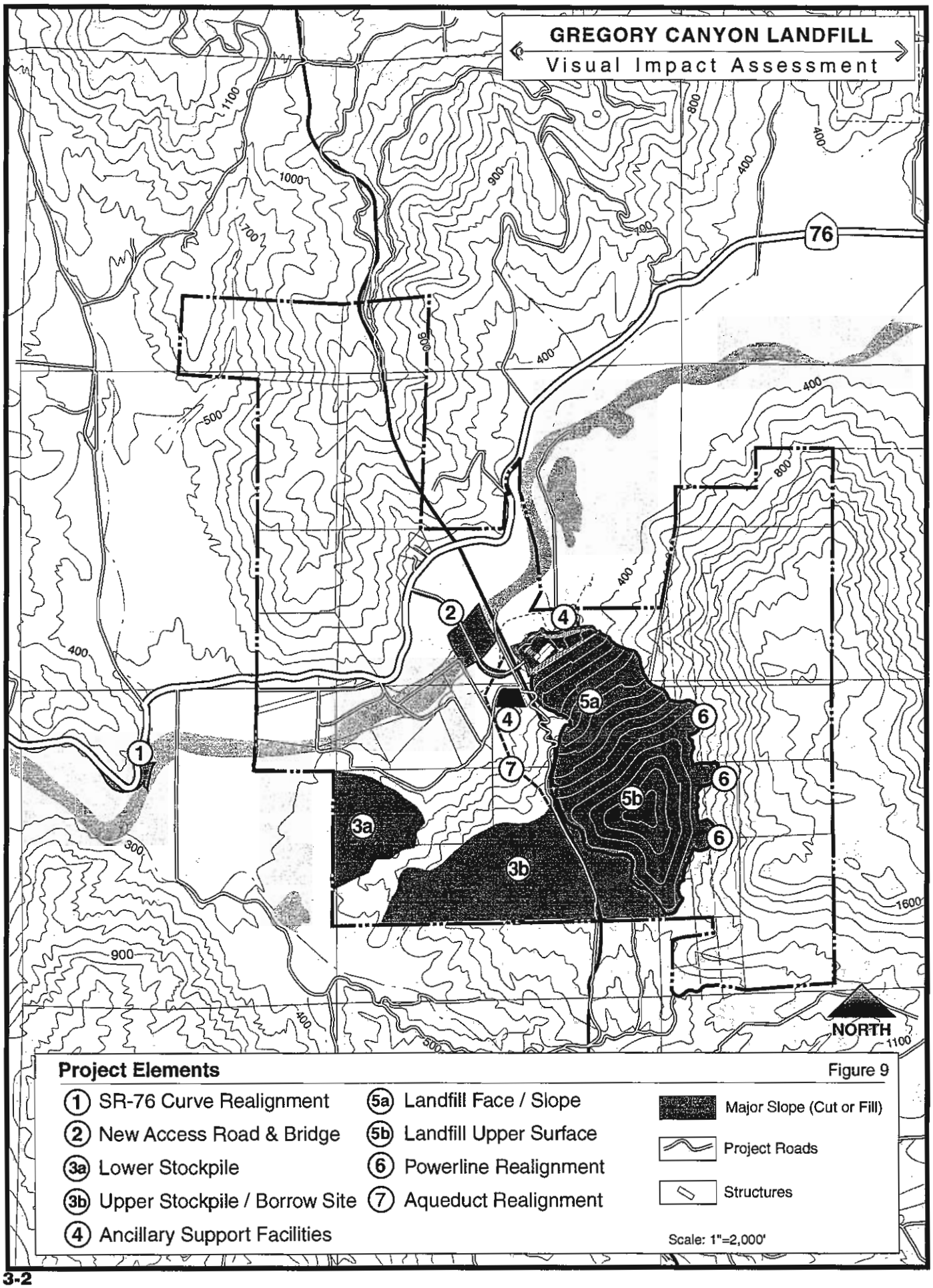
The project will include some modifications to SR-76 at the access road entrance. These modifications are being completed to improve sight distance and to facilitate truck movements. The proposed access road from SR-76 is a two to three lane paved road, 32 to 44 feet wide. The road will enter the property through the abandoned Lucio dairy and travel south to the San Luis Rey River. The access road will be two-12 foot travel lanes with a four foot shoulder on each side. A bridge will be constructed across the river. The bridge will be approximately 31 feet wide and 575 feet in length. The bridge construction will include some rechannelization of the river and the removal of a substantial amount of riparian habitat. After crossing the river, the access road will widen to three-12 foot travel lanes, with four foot shoulders on each side, and curve to the east, leading to the entrance area. These elements are considered permanent.

3.3 Borrow/Stockpiles (Element 3a & 3b)

Approximately 160 acres of borrow / stockpile area will be provided in two locations in the southern portions of the site, to the west of the proposed landfill footprint. Stockpiling and borrow operations will be conducted so as not to interfere with disposal and other ancillary operations. The lower stockpile area will consist of approximately 38.5 acres and the upper stockpile will be approximately 120.6 acres. These elements are considered temporary, though they will be in use during the entire active life of the landfill. An access road will be constructed to connect the upper and lower stockpiles. Another access road will be created to connect the lower stockpile with the lower portions of the landfill and support area.

3.4 Ancillary Facilities (Element 4)

Several facilities, yards, and structures are required to support the landfill operations. It is anticipated that the ancillary facilities area will include scales and a maintenance building. The maintenance building is proposed to be a tilt up concrete structure, approximately 30 feet in height. Other facilities in the entrance area include a recycling center, parking lot, administrative office, portable toilet, water tank and a flare station. Although hazardous materials will not be collected at the site, a hazardous materials storage area will be maintained for use if such materials are found in the refuse during active operations. Though not currently designed in detail, below is a general estimate of the size and shape of these facilities.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76
1
2
3a
3b
4
5a
5b
6
7
NORTH
Project Elements
Figure 9
1 SR-76 Curve Realignment
2 New Access Road & Bridge
3a Lower Stockpile
3b Upper Stockpile / Borrow Site
4 Ancillary Support Facilities
5a Landfill Face / Slope
5b Landfill Upper Surface
6 Powerline Realignment
7 Aqueduct Realignment
Major Slope (Cut or Fill)
Project Roads
Structures
Scale: 1"=2,000'

- The maintenance shop, office, and yard may cover as much as 100,000 square feet. Related facilities in this area include a shop office, truck wash, and wash water treatment area. The maintenance building is typically a two story structure of about 7,000 square feet.

- The site administration and office building are typically about 10,000 square feet and are usually one story.

- The methane gas recovery system, flare station, and condensate tank typically cover approximately 50,000 square feet.

- A fueling station and fuel storage area is needed and is typically about 10,000 square feet.

- A leachate collection tank and pond are generally 50 feet by 50 feet.

- A water tank is proposed within the operations area to satisfy all general water requirements including fire control, construction , site operation and maintenance. Typical site water tanks have a volume of 250,000 gallons and are generally 55 feet in diameter and 20 feet high.

- The conceptual engineering design proposes two areas for detention basins, one for the east edge of the landfill and one for the west edge. Because the conceptual design envelope for the east detention basin is at a low elevation and directly adjacent the landfill footprint, it is considered to have a low visual prominence. The west detention basin is adjacent to a steep slope and grading required to accommodate the detention basin will be highly visible from highway 76.

With the exception of the detention basins, leachate collection system, gas recovery, and possibly the water tank (depending on use of water for irrigation systems), all of these elements are considered temporary and would be removed after the landfill is closed.

3.5 Landfill Face/Surface (Element 5)

Excavation of the footprint involves the removal of native material to generate a northerly sloping bottom area with interior side slopes on the west, south and east. The bottom area will be graded to drain northerly at a minimum gradient of three percent. The interior side slopes will be cut at a gradient no steeper than 1:1. The elevations of the bottom subgrade for the overall excavation range between approximately 370 feet msl at the lowest elevation to 440 msl along the southern boundary.

The total amount of excavation for the landfill is estimated to be approximately 12.7 million cubic yards (mcy.) The landfill slope and face are discussed as Element 5a. The landfill top or surface is discussed as Element 5b.

After the site is cleared and subgrade soils are recompacted, a composite liner and containment system will be constructed before trash is accepted. The containment system will underlie the entire landfill. The containment system will consist of the following components: the subdrain system, the composite liner, a Leachate Collection and Removal System (LCRS) and a protective sand / soil cover. None of these elements, except the final protective cover, will be visible once landfill operations begin accepting trash.

The landfill site will utilize the canyon and area fill methodology for trash placement. The refuse is typically placed in lifts up to 25 feet high. Each lift is made up of numerous cells of a designated width placed across the lift. The lifts are constructed in this manner up to the desired grade, both intermediate and final. The final elevation of the last phase of the landfill will be 1,100 feet msl. The total estimated refuse volume, based on a refuse to daily and intermediate soil cover volume ratio of 4:1, is approximately 51.04 million cubic yards or 30.6 million tons based on an in-place density of 1,200 lbs per cubic yard.

Another highly visible component of the final landfill will be the use of downdrains. A berm will be built around the upper deck perimeter to intercept stormwater flows and direct them into the downdrains which will convey the flows to the perimeter channels. The downdrains are laid perpendicular to slope contours and located atop, and anchored into, the final landfill surface. They are extended up completed side slopes of the landfill as the filling progresses. The downdrains also have inlets at each bench to accommodate flows along the inside edge of the benches resulting from stormwater from the landfill side slopes. These pipes will be visible at close to moderate viewing distances

Facilities to collect and destroy landfill gas emitted from the landfill are planned for installation. The system will consist of a series of collection wells interconnected by above-ground laterals and a main header pipe connected to a flare station. These pipes will be visible at close to moderate viewing distances.

3.6 Powerline Realignment (Element 6)

After the initial construction of the landfill, two existing SDG & E high tension powerline towers will need to be relocated uphill on the east edge of the landfill footprint. One additional high tension power line tower will need to be constructed halfway between the two towers to be relocated. The new structures will be the same open lattice structure as existing. A 300-foot wide corridor will remain as an easement for the existing and future SDG & E lines. The pads needed to support the existing and proposed powerlines are approximately 300' x 400'. Tower access roads are typically 20 feet wide and generally less than 12 % steepness of slope. New roads will initially be cut to provide access to the relocated towers. This roadbed will be absorbed by the filling of the canyon at later stages of the project. These elements are considered to be permanent.

3.7 Aqueduct Protection (Element 7)

Proposition C also requires the protection, if necessary, of the San Diego County Water Authority (SDCWA) existing pipelines. The First Aqueduct is not anticipated to be impacted by the proposed landfill construction and operation. However, an alternative project component that may need to be analyzed in this technical study is the potential relocation of the existing pipelines if adequate protection cannot be provided through project design. Of the two realignment options considered, the most westerly option is currently preferred and was used in subsequent simulations and analysis efforts. This option will run the pipeline west of the project footprint initially through cattle grazing fields and then up an approximately 500 foot high hill. The realignment provides for the protection of a large collection of native Oak trees living in the adjacent canyon. As the aqueduct will be relocated before any project construction begins, the pipe relocation will be one of the first visual disturbances evident. The most evident area to be cleared of vegetation (potentially a 275 foot wide area) will run 500 feet up the face of the hill directly west of the project footprint. This land disturbance will be visually evident for up to 5-10 years after the completion of the relocation of the Aqueduct, after which time the exposed soil is likely to have been revegetated by natural plant materials. The access road servicing the aqueduct will be visually evident for an indefinite time. While the visual disturbance from the pipe realignment will be temporary (5-10 years), the access road will be considered a permanent visual impact.

3.8 Project Phasing

The conceptual engineering design proposes four excavation and three fill phases. Each excavation / fill phase may be broken down into smaller stages depending on site conditions and capital expenditure scheduling. The conceptual design proposes that the initial waste disposal should commence in the lower portions of the main canyon in the Phase I refuse area.

The initial development of the landfill will be to excavate a portion of the Phase I area. It is anticipated that this excavation, and all subsequent staged excavations, will be completed in a sequential manner within each phase, to minimize ground surface disturbance. It is anticipated that the initial development area will be approximately 20 to 40 acres in size, depending on the projected waste quantities received and fill volume created by the initial cell development.

Upon completion of the first stage excavation in Phase I, the required base liner system will be constructed and fill operations initiated. Subsequent filling of the Phase I area will create a deck area with an approximate elevation of 600 msl and provide 8.2 million cubic yards of gross fill. When completed, the north facing slope of Phase I will be at final grade.

The total Phase II excavation is approximately 6.9 mcy. Upon completion of landfilling in Phase I, landfill operations will move to Phase II. When completed, Phase II will extend the fill up canyon. Phase II gross fill is approximately 12.4 mcy but will only increase the height of the landfill up approximately 75 feet to 675 msl. During filling of Phase II, excavation of Phases III and IV will be completed.

Once the Phase II excavation is complete, two small final phases of excavation (Phases III and IV) are proposed prior to and in conjunction with the Phase III fill operations. Phase III excavation is the final area in the uppermost limits of the canyon and involves approximately 504,000 cubic yards. Finally, Phase IV excavation involves a small area along the west side of the refuse footprint about half way up the canyon.

After completion of Phase II, Phase III fill operations will commence. The filling operations will complete the landfill to the final grading configuration. Phase III will provide approximately 45.8 mcy of gross fill. This will take the landfill up to 1,100 feet msl.

For the purposes of this visual technical study, the project is considered to have five periods of time. The initial construction (0-2 years), initial project (3-14 years), midterm project (15-24 years), final project (25-30 years), and final revegetated closed project (30+ years). Phased closure of portions of the landfill may be implemented throughout the development.

3.9 Final Landform

Under the current scenario, the final form of the landfill is likely to consist of a landfill deck (slightly sloping and crested) and a landfill face with moderate 3:1 slopes, benched every 50 feet. A computer generated model of this final landform along with the final form of the stockpiles, are shown on Figure 10. Major landform adjustments are not likely due to cost, lack of availability of excess material, and difficulties in stabilizing slopes. Some of the areas on the landfill face, may be able to accept moderate landform additions, to help blend them back into the natural topography.

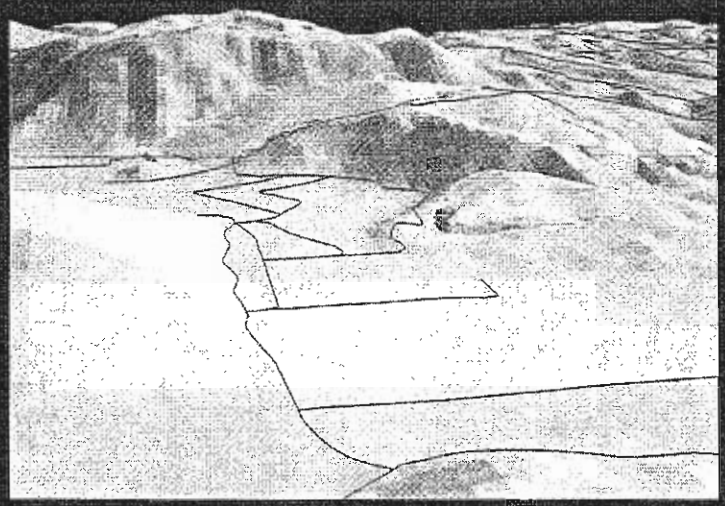
3.10 Summary of Project Appearance

The overall appearance of these project elements are shown on the simulations for each key view in Chapter 5. In general, the major elements affecting the visual environment include the landfill face, landfill surface, operation area structures, the stockpile surfaces, the access road and associated bridge, and slopes associated with the expansion and realignment of SR 76. All other elements will be visually insignificant and will not be noticed or perceived as substantial by the general viewer.

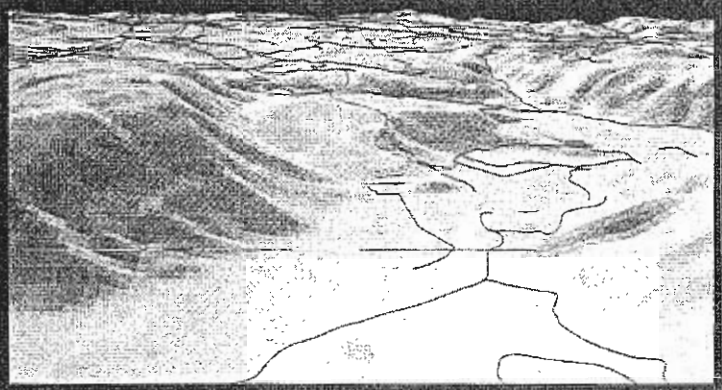
GREGORY CANYON LANDFILL
Visual Impact Assessment

LANDFORM SIMULATIONS

Figure 10



Shaded Computer Model of Landfill and Stockpile as seen from the West

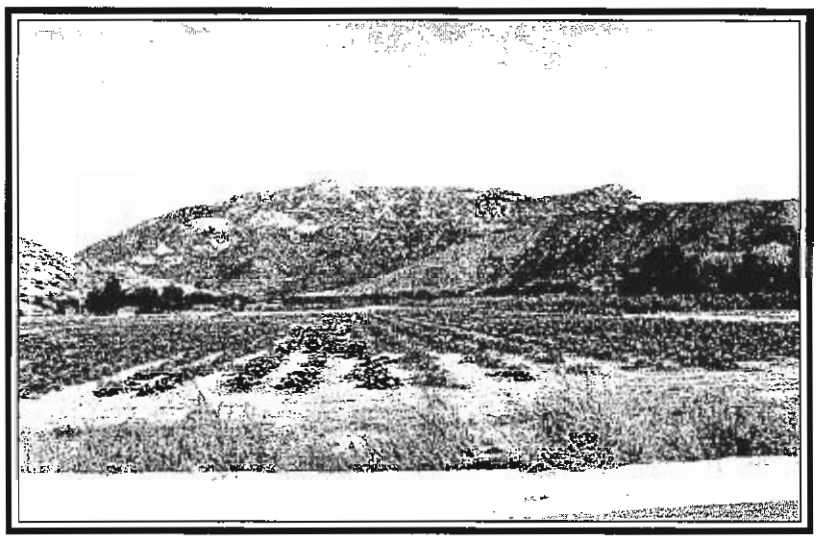


Shaded Computer Model of Landfill and Stockpile as seen from the Northeast

Shaded Isometric of Landfill and Surrounding Landform as seen from the Northwest

Note: This image exaggerates elevation.

4. VIEWS & VIEWERS



4. VIEWS & VIEWERS

This section identifies the visibility of the project elements and the sensitive viewer groups that can see these elements. Distance from the project, frequency of view, length of view, viewer activity, viewer perception, and viewing conditions all determine the significance of the visual impact. The physical limits of views are objective as are the quantity of viewers. However, viewer perception and reaction to visual changes are not objective. This chapter concentrates on the objective elements, while the next chapter will discuss the subjective elements of probable viewer response and assessment of contrasts and changes in the visual environment.

4.1 Viewsheds Defined

Viewsheds are those areas that can see unobstructed views of project elements. An analysis of topographic elements was completed utilizing the software program called ArcView along with two of its modules known as Spatial Analyst and 3-D Analyst. This program analyzes USGS Digital Elevation Models that have been modified to include the stockpile and landfill landforms. An individual point is identified for analysis and then the program determines all points within the digital map that can see the site. Additional points representing the perimeter of the project element were also analyzed. A composite map is then generated, indicating all those areas that can see one or more points. The lower the number of points seen, the more peripheral the view of the project is. An area that is within a high visibility zone is one that can see several of the points located on the project element.

The reader should note that a significant percentage of the viewsheds shown on the various viewshed maps in this chapter, are on the subject property and as such should not be considered impacted by any change in the visual environment. The public highway (SR-76) travelling through the site, however, is counted as a public viewing location and is therefore included in the analysis.

4.1.1 Landfill Viewshed

Figure 11 shows a variety of viewsheds for the landfill site. The 3-D composite displays the viewshed overtop of a shaded 3-D landform. The larger scale viewshed map shows the more distant views. This map used 36 points on the landfill to determine the viewshed. An additional model was run using several hundred points within the viewsheds to determine the frequency of visibility of the landfill surface itself. This "hotspot" test was done on the surface of the landfill as seen from the viewsheds to determine the most commonly seen portion of the landfill. In general, the north side of the landfill has a much higher visibility than the south side. Also, the higher elevations have a greater level of visibility, since it rises above some of the surrounding landforms.

4.1.2 Upper Stockpile Viewshed

The upper stockpile area has a similar viewshed to that of the landfill. Figure 12 illustrates the limits of the stockpile viewshed. Because of the horizontal and vertical extent of the stockpile, its viewshed is similar to the landfill but with greater visibility in Rice Canyon and Couser Canyon. The views of the upper stockpile are much more limited to the northeast, along the eastern limits of SR-76.

4.1.3 Lower Stockpile Viewshed

The lower stockpile area also has a similar viewshed to that of the landfill. Figure 13 illustrates the limits of the stockpile viewshed. The viewshed is greater than the upper stockpile towards the northeast (in the eastern portions of the SR-76 corridor) as well as in Rice Canyon. The lower stockpile has less visibility than the upper stockpile in the Couser Canyon viewshed as well as in the western portions of the SR-76 corridor. This is due to its lower overall elevation.

4.1.4 Facility Area Viewshed

The facility area is of a limited size and is located at a relatively low elevation. However, the viewshed is significant enough to discuss. As shown on Figure 14, the viewshed is substantial to the north of the facility area, but is much more limited in Rice Canyon. The proposed location of the siltation basins and the grading required to make this portion of the site suitable, will have visibility from the highway as well as other important areas in Rice and Pala Mesa Canyon areas. Visibility is high towards the northeast, as seen from SR-76. However, substantial vegetation does exist along the highway, that blocks most of this visibility. No visibility of the facility area or siltation basins will occur in the Couser Canyon area.

4.1.5 Access Bridge Viewshed

The access road is at a lower elevation and will have a small viewshed, limited to portions of SR-76 and the subject property. The bridge over the San Luis Rey River will be slightly more visible. Figure 15 shows the viewshed of the bridge,

assuming a highpoint elevation of 315.5 msl along the 575 foot length. An additional 3 foot high noise barrier wall was assumed in the model. The viewshed does include the upper elevations located northeast and southwest of the project site.

4.1.6 Other Project Elements

Various other project elements have not been included in this viewshed analysis since they are too small or are not likely to have a significant visual impact. The off-site adjustments to SR-76, the access road, aqueduct realignment and the powerline relocation are not large enough or at a high enough elevation to be seen from distant viewsheds. Therefore, these elements did not require a detailed viewshed analysis. Their visibility would fall within the viewsheds of the landfill, stockpiles and bridge.

4.1.7 Landfill Composite Viewshed

A composite of the viewsheds, shown on Figure 16, has been overlaid on a USGS map to help identify areas potentially affected by changes in the visual environment. This map also breaks the viewsheds into specific subarea unit viewsheds. The acreage for each viewshed is summarized on Table 3. The map also identifies the locations of key view photographs selected to represent the most critical views from each viewshed. A total of 10 key views were selected that best represent the probable view as seen by different viewer groups in different viewsheds. These key views will be used to simulate the various elements of the project. Please refer to Chapter 5 for the simulations.

4.2 Viewing Conditions

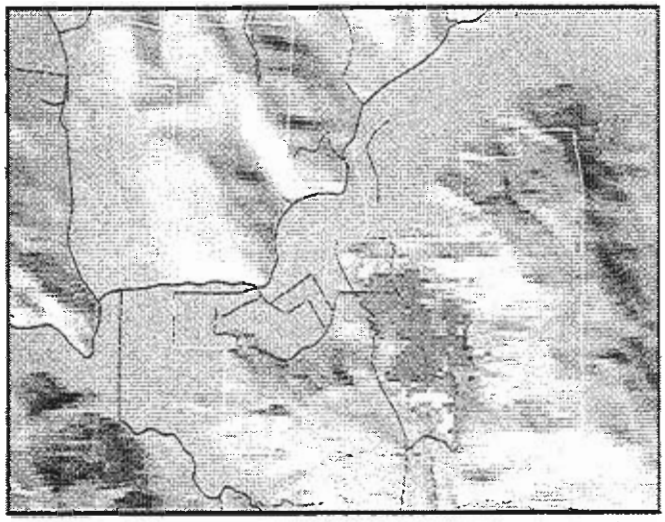
A variety of conditions can affect the ability of a viewer to effectively see the proposed project elements. The viewshed maps shown on Figures 11-16 only took into account intervening topography. It should be noted that since these viewsheds are based upon topography only they represent the worst case situation. Typically, existing structures and trees screen large areas of views, thereby reducing the actual areas that have visibility of the project. Since it is impossible to verify every location within the viewshed, the reader should assume that these viewsheds represent the worst case scenario for areas potentially affected by changes in the visual environment caused by the landfill project. The death or removal of trees and the expansion or demolition of structures is likely to occur over time. Landforms, on the other hand, do not change that dramatically over time.

Table 3- Viewshed Summary of Acres

Sub-area Viewsheds	Visibility*	Acres	
Sub-areas where viewshed is not relevant due to project site ownership			
Property			Total Acres in Sub-area
			954.84
Landfill			Total Acres in Sub-area
			197.06
Sub-areas where viewshed is relevant			
Rice Canyon	0	9.47	
Rice Canyon	1	87.09	
Rice Canyon	2	56.33	
Rice Canyon	3	37.80	Total Acres in Sub-area
Rice Canyon	4	0.67	191.36
Rosemary Mtn	0	55.80	
Rosemary Mtn	1	12.24	
Rosemary Mtn	2	12.97	
Rosemary Mtn	3	79.63	Total Acres in Sub-area
Rosemary Mtn	4	43.29	203.94
West San Luis Rey Canyon	0	16.86	
West San Luis Rey Canyon	1	58.78	
West San Luis Rey Canyon	2	91.32	Total Acres in Sub-area
West San Luis Rey Canyon	3	43.22	210.18
Central San Luis Rey Canyon	0	1.55	
Central San Luis Rey Canyon	1	28.90	
Central San Luis Rey Canyon	2	28.47	Total Acres in Sub-area
Central San Luis Rey Canyon	3	82.67	141.59
Couser Canyon	0	113.51	
Couser Canyon	1	413.47	Total Acres in Sub-area
Couser Canyon	2	243.22	770.21
East San Luis Rey Canyon	0	9.31	
East San Luis Rey Canyon	1	95.97	
East San Luis Rey Canyon	2	50.00	
East San Luis Rey Canyon	3	144.61	Total Acres in Sub-area
East San Luis Rey Canyon	4	42.25	342.14
Gomez	0	18.15	
Gomez	1	116.53	Total Acres in Sub-area
Gomez	2	1.91	136.58
Lancaster Mtn	0	45.36	
Lancaster Mtn	1	105.26	
Lancaster Mtn	2	167.18	
Lancaster Mtn	3	162.23	Total Acres in Sub-area
Lancaster Mtn	4	40.20	520.23
Monserate Ridge	0	7	
Monserate Ridge	1	76	
Monserate Ridge	2	40	Total Acres in Sub-area
Monserate Ridge	3	11	134.35
North Hillside	0	75	
North Hillside	1	129	
North Hillside	2	121	
North Hillside	3	137	
North Hillside	4	383	Total Acres in Sub-area
North Hillside	5	83	927.95
		Total Acres of All Sub-areas	4,730.42

***Visibility Legend**

0-No Visibility
1-(1-7pts) Visible
2-(8-15pts)Visible
3-(16-25pts)Visible
4-(26-35pts)Visible
5-(35-46pts)Visible



This image indicates the most frequently seen portions of the landfill.

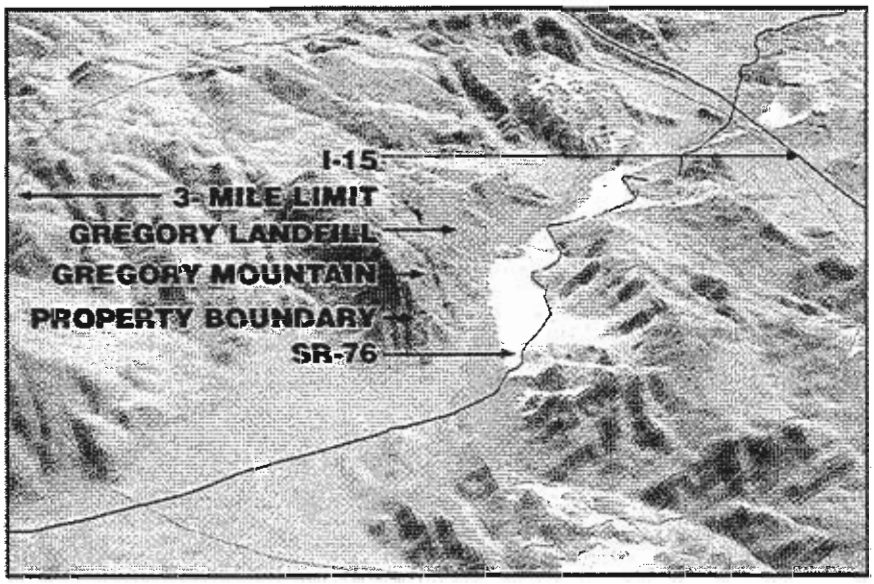
GREGORY CANYON LANDFILL

Visual Impact Assessment

Landfill Viewshed

Figure 11

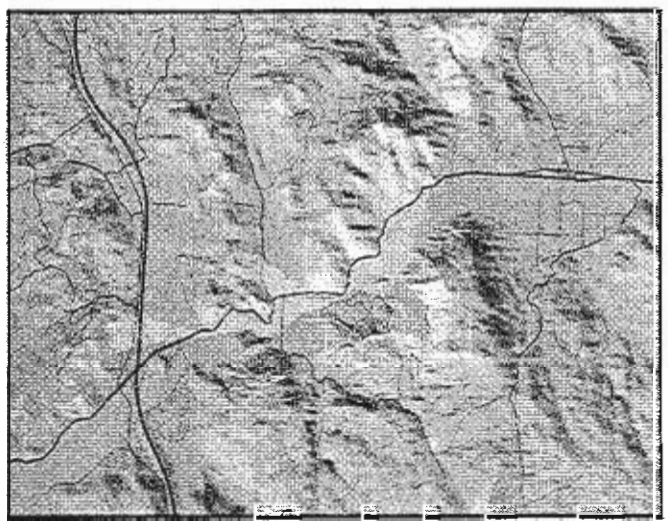
- Areas with Highest Visibility (36+ points)
- Areas with High Visibility (26-35 points)
- Areas with Moderate Visibility (16-25 points)
- Areas with Low Visibility (8-15 points)
- Areas with Limited Visibility (1-7 points)
- Areas with No Visibility (0 points)



3-D Composite Viewshed of the Multiple Points on the Landfill (Isometric as seen from the Northeast)

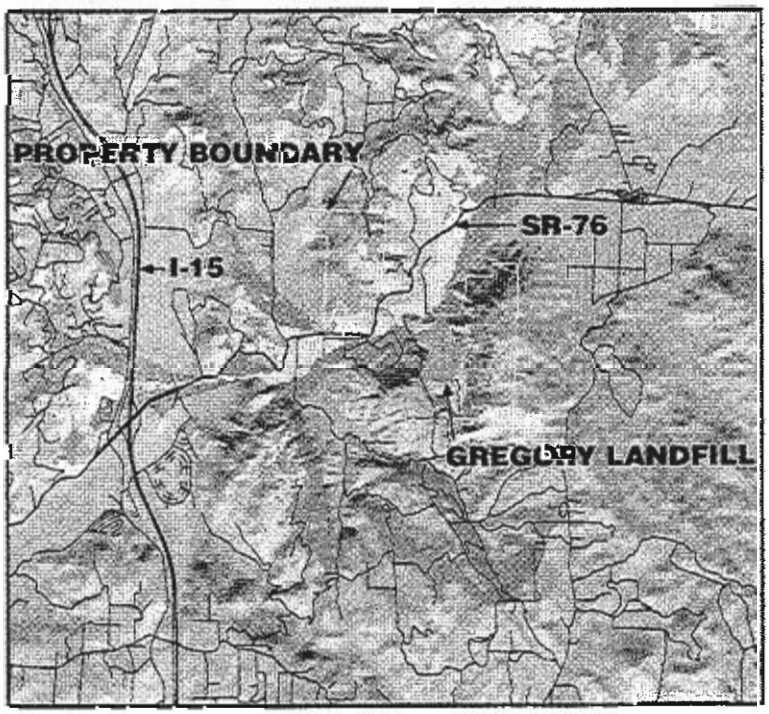
VIEWSHED NOTES:

These viewsheds were based on topographic conditions only. They should be considered as theoretical limits to visibility since structures, large vegetation and other misc. items could block visibility. The areas of visibility were determined by identifying strategic locations on the project element surface and then allowing the computer to determine all of the potential locations that could see these points. Composite runs were made within the computer model when more than one point was utilized. The composite model utilizes a running counter for each time an area sees any of the points on the surface. The number of points seen were then categorized into one of five ratings.

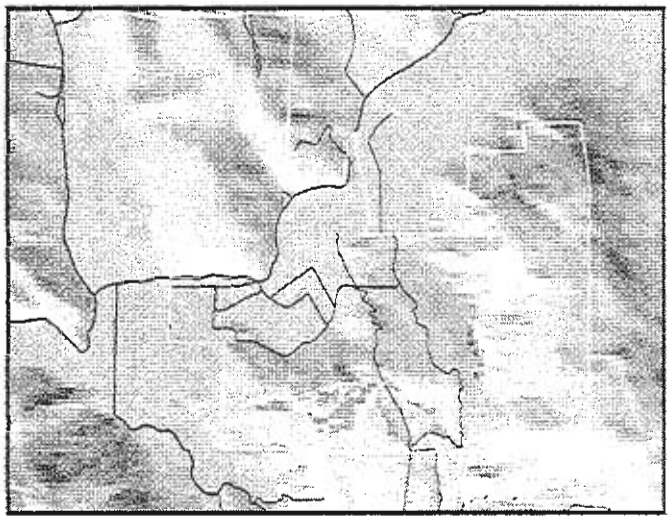


Viewshed of the Highest Point on the Landfill

Areas with Visibility of High Point



Viewshed Composite of Multiple Points on the Landfill

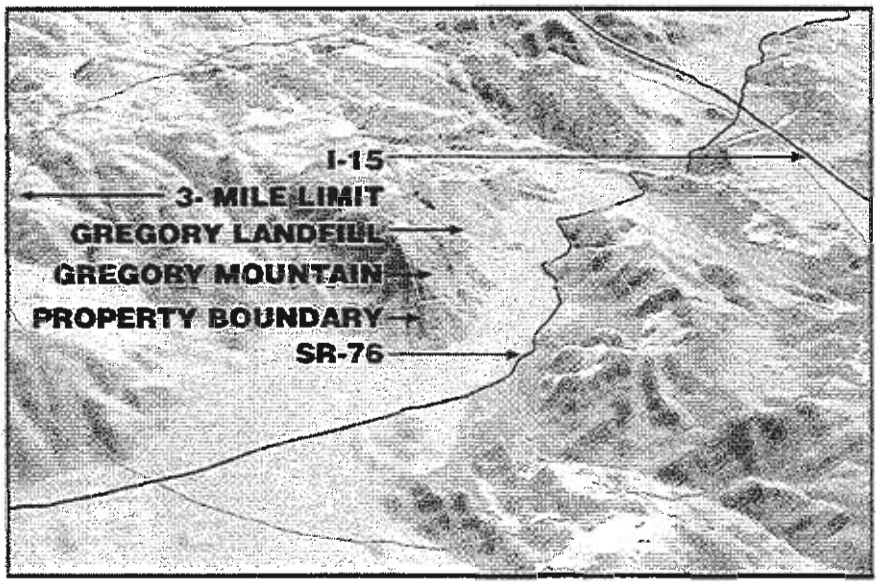


GREGORY CANYON LANDFILL
Visual Impact Assessment

Upper Stockpile Viewshed
Figure 12

- Areas with Highest Visibility (5+ points)
- Areas with High Visibility (4 points)
- Areas with Moderate Visibility (3 points)
- Areas with Low Visibility (2 points)
- Areas with Limited Visibility (1 point)
- Areas with No Visibility (0 points)

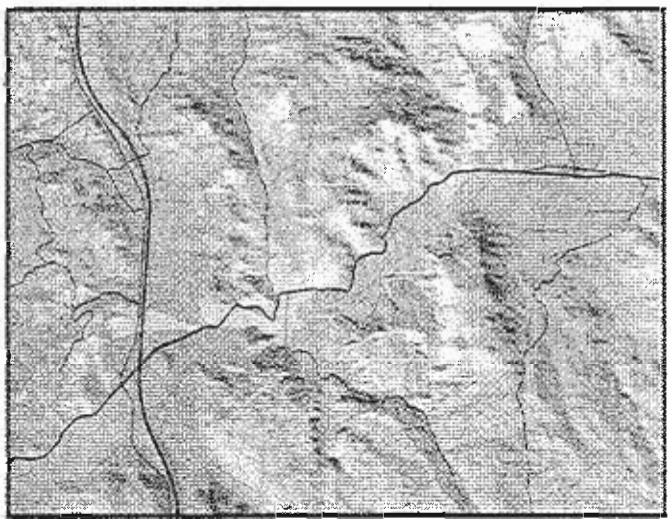
This image indicates the most frequently seen portions of the Stockpile.



3-D Composite Viewshed of the Multiple Points on the Stockpile (Isometric as seen from the Northeast)

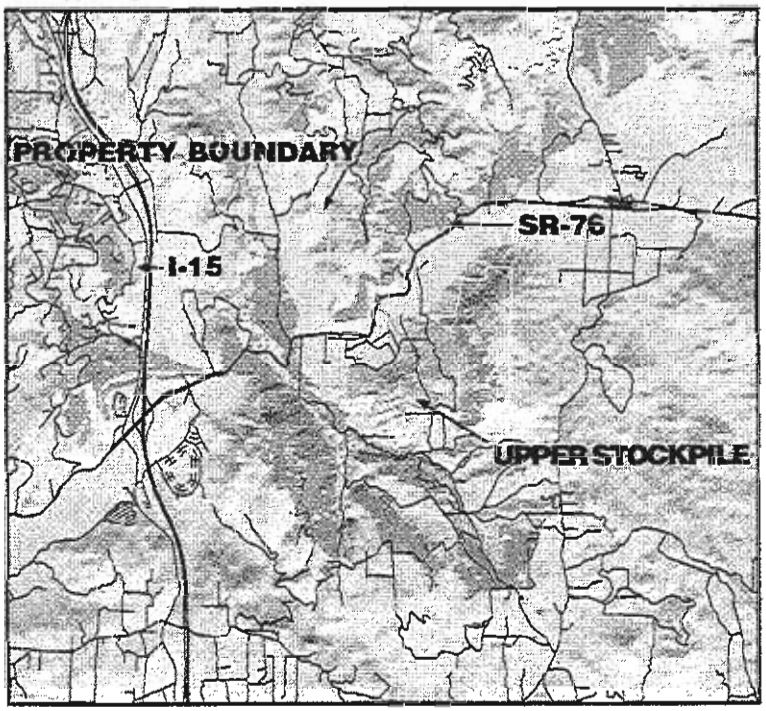
VIEWSHED NOTES:

These viewsheds were based on topographic conditions only. They should be considered as theoretical limits to visibility since structures, large vegetation and other misc. items could block visibility. The areas of visibility were determined by identifying strategic locations on the project element surface and then allowing the computer to determine all of the potential locations that could see these points. Composite runs were made within the computer model when more than one point was utilized. The composite model utilizes a running counter for each time an area sees any of the points on the surface. The number of points seen were then categorized into one of five ratings.

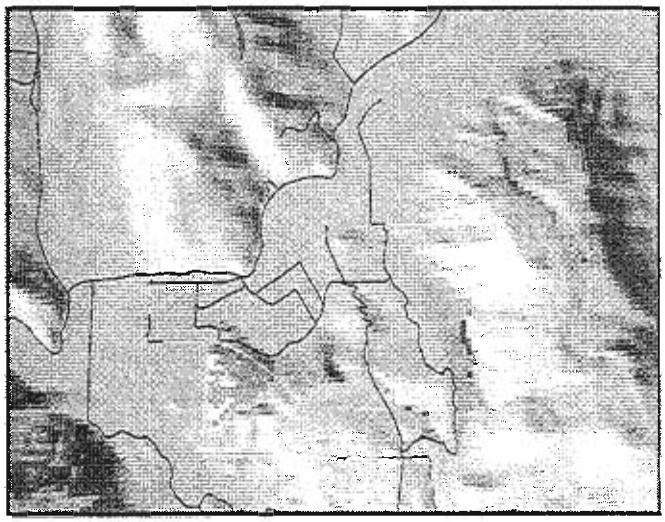


Viewshed of the Highest Point on the Stockpile

Areas with Visibility of High Point



Viewshed Composite of Multiple Points on the Stockpile



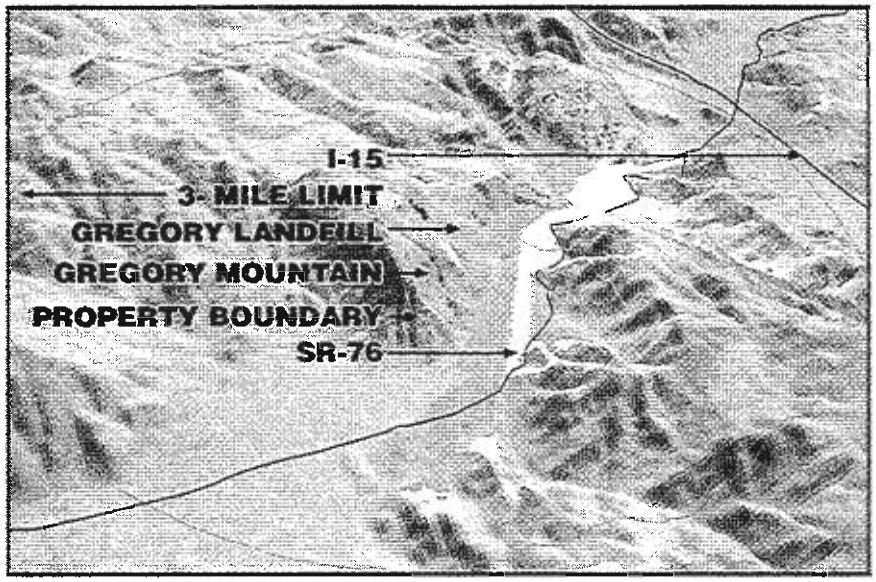
This image indicates the most frequently seen portions of the Stockpile.

GREGORY CANYON LANDFILL
Visual Impact Assessment

Lower Stockpile Viewshed

Figure 13

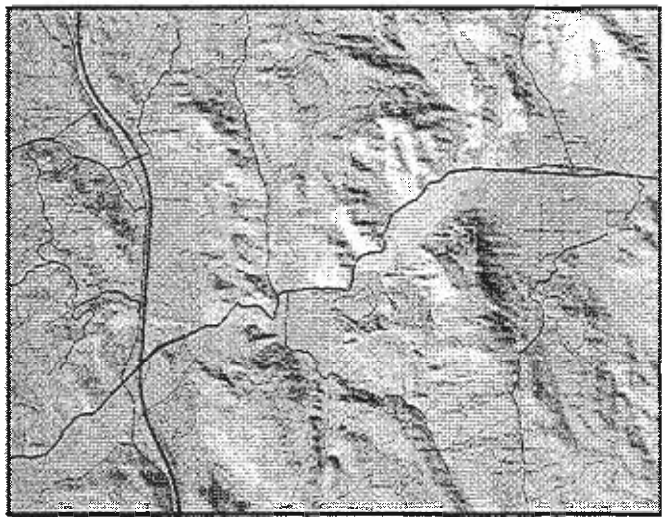
- Areas with Highest Visibility (None Shown)
- Areas with High Visibility (4 points)
- Areas with Moderate Visibility (3 points)
- Areas with Low Visibility (2 points)
- Areas with Limited Visibility (1 point)
- Areas with No Visibility (0 points)



3-D Composite Viewshed of the Multiple Points on the Stockpile (Isometric as seen from the Northeast)

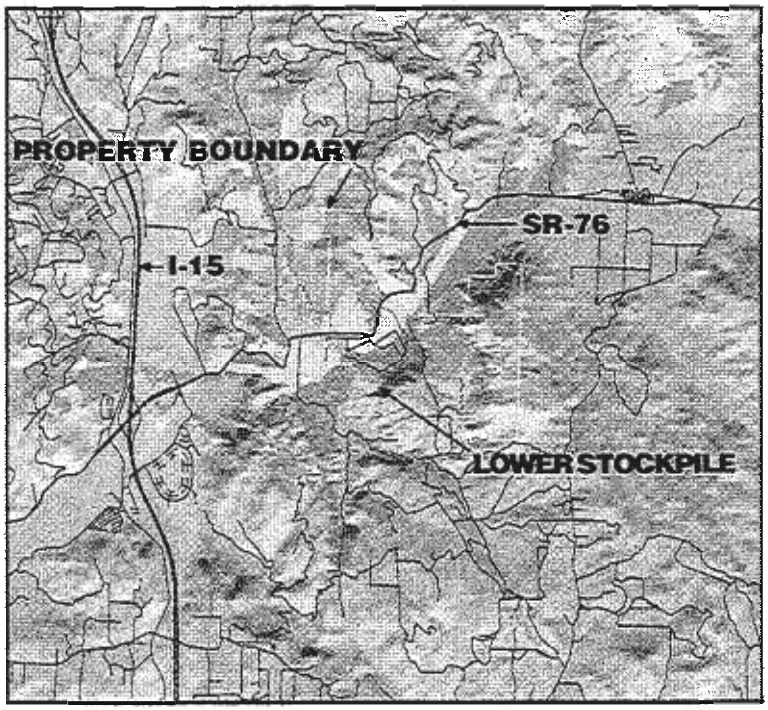
VIEWSHED NOTES:

These viewsheds were based on topographic conditions only. They should be considered as theoretical limits to visibility since structures, large vegetation and other misc. items could block visibility. The areas of visibility were determined by identifying strategic locations on the project element surface and then allowing the computer to determine all of the potential locations that could see these points. Composite runs were made within the computer model when more than one point was utilized. The composite model utilizes a running counter for each time an area sees any of the points on the surface. The number of points seen were then categorized into one of five ratings.



Viewshed of the Highest Point on the Stockpile

Areas with Visibility of High Point



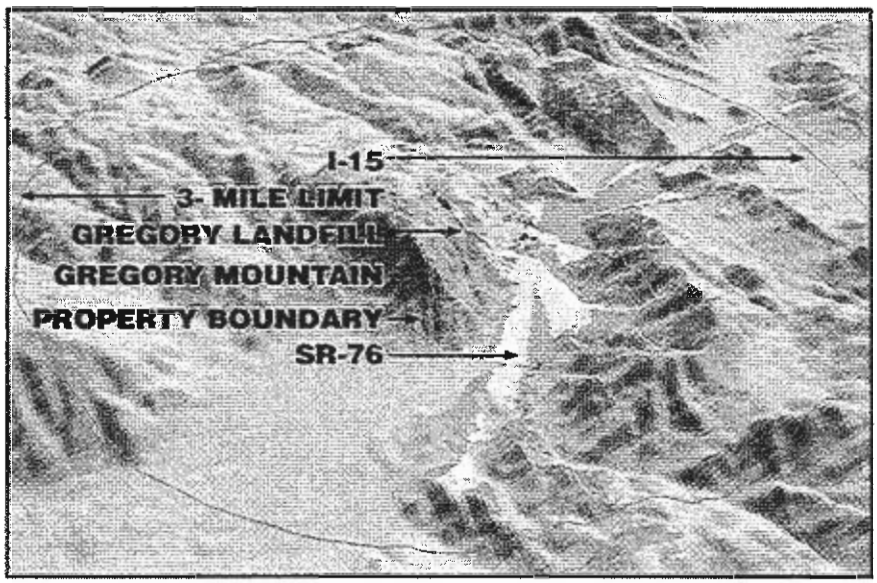
Viewshed Composite of Multiple Points on the Stockpile

Facility Area Viewshed

Figure 14

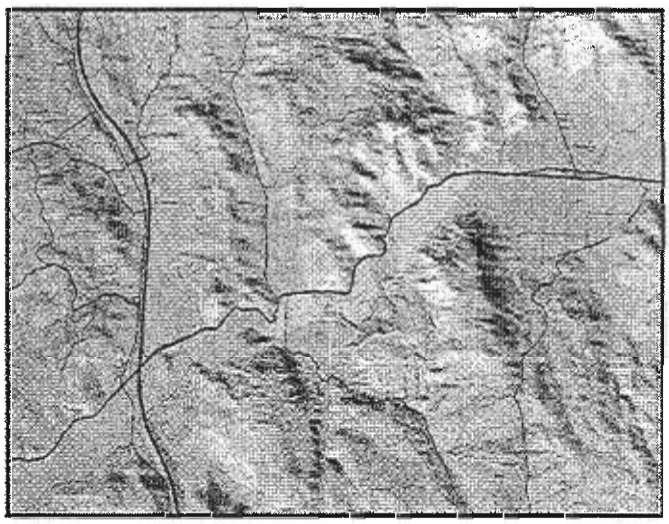
VIEWSHED NOTES:

These viewsheds were based on topographic conditions only. They should be considered as theoretical limits to visibility since structures, large vegetation and other misc. items could block visibility. The areas of visibility were determined by identifying strategic locations on the project element surface and then allowing the computer to determine all of the potential locations that could see these points. Composite runs were made within the computer model when more than one point was utilized. The composite model utilizes a running counter for each time an area sees any of the points on the surface. The number of points seen were then categorized into one of five ratings.



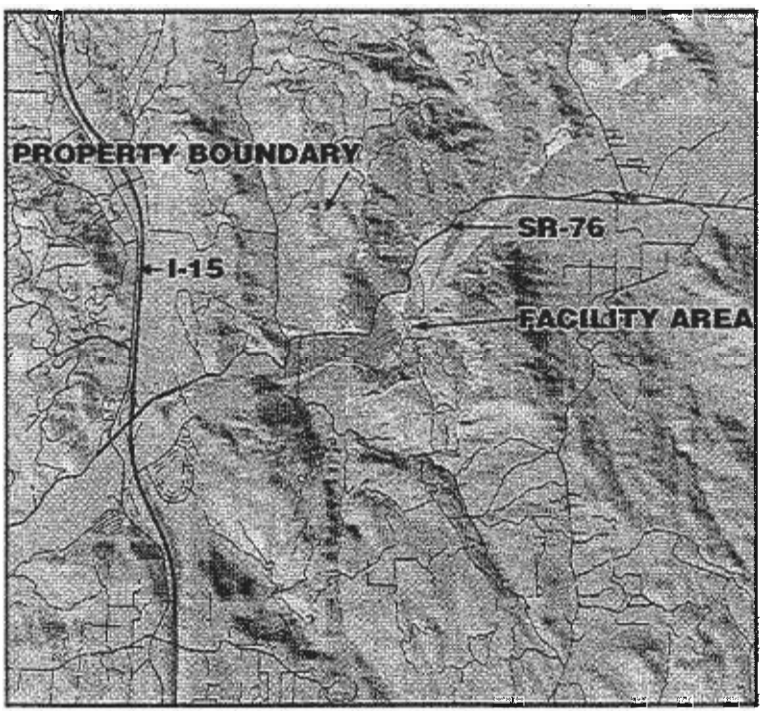
- Areas with Highest Visibility (13+ points)
- Areas with High Visibility (9-12 points)
- Areas with Moderate Visibility (6-8 points)
- Areas with Low Visibility (3-5 points)
- Areas with Limited Visibility (1-2 point)
- Areas with No Visibility (0 points)

3-D Composite Viewshed of the Multiple Points on the Facility Area (Isometric as seen from the Northeast)



Viewshed of the Highest Point on the Facility Area

Areas with Visibility of High Point



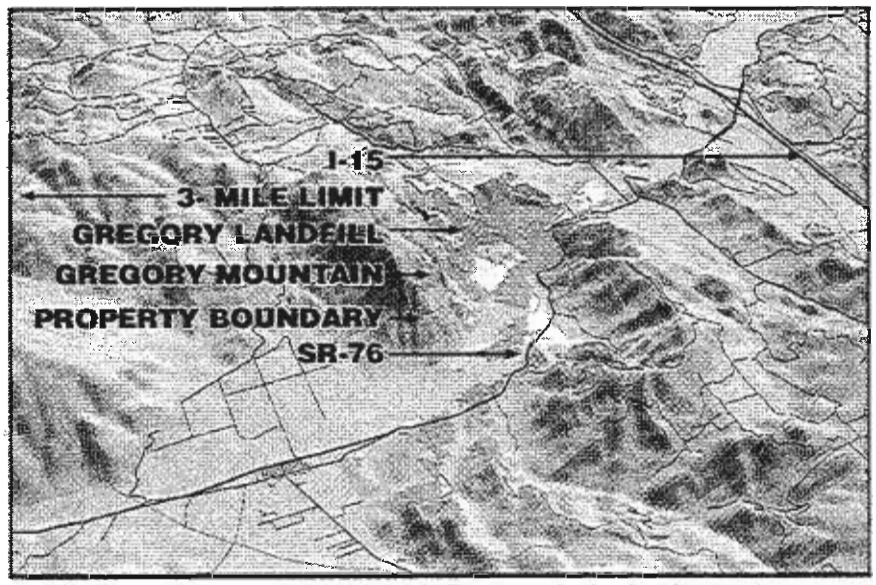
Viewshed Composite of Multiple Points on the Facility Area

Access Road Bridge Viewshed

Figure 15

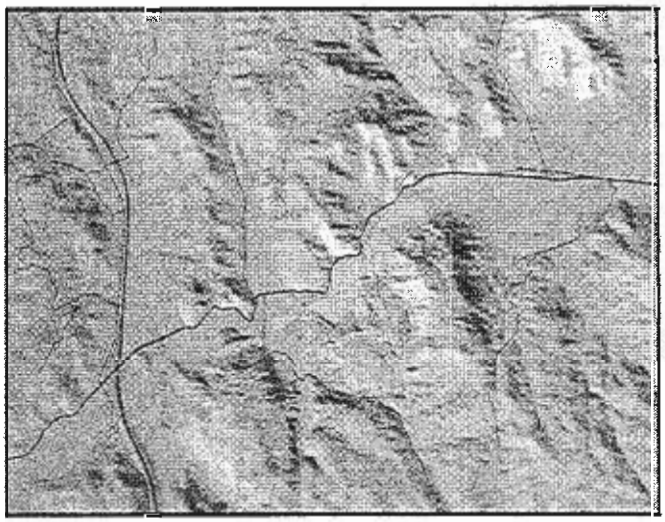
VIEWSHED NOTES:

These viewsheds were based on topographic conditions only. They should be considered as theoretical limits to visibility since structures, large vegetation and other misc. items could block visibility. The areas of visibility were determined by identifying strategic locations on the project element surface and then allowing the computer to determine all of the potential locations that could see these points. Composite runs were made within the computer model when more than one point was utilized. The composite model utilizes a running counter for each time an area sees any of the points on the surface. The number of points seen were then categorized into one of five ratings.



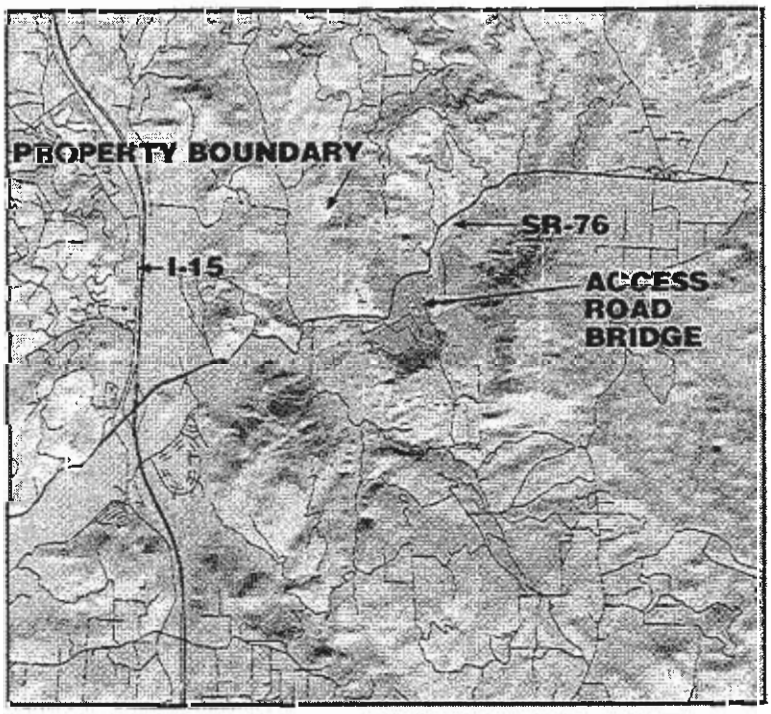
Areas with Highest Visibility (5+ points)
Areas with High Visibility (4 points)
Areas with Moderate Visibility (3 points)
Areas with Low Visibility (2 points)
Areas with Limited Visibility (1 point)
Areas with No Visibility (0 points)

3-D Composite Viewshed of the Multiple Points on the Bridge (Isometric as seen from the Northeast)



Viewshed of the Highest Point on the Bridge

Areas with Visibility of High Point



Viewshed Composite of Multiple Points on the Bridge

Lighting can have a significant affect on views and visibility. In general, backlighting from the sun tends to wash out detail and increase ridgeline prominence. Foreground lighting from the sun will increase detail, texture, and color differences. Intermittent sunlight through cloud openings can focus attention on areas while de-emphasizing other areas. Diffused light through clouds and fog can decrease contrast dramatically.

Atmospheric conditions in the Inland North County tend to be hazy a large percentage of time. In fact, it was very difficult to find days clear enough for photography work on the site. Within a dozen site visits, only one during a Santa Ana condition proved to be clear enough for photos. A combination of fog, mist, haze, and smog combine to decrease visibility to less than one mile for many months during the year.

Figure 16 indicates the relative distance the viewshed is from the landfill. It should be noted that areas beyond three miles should not be considered significantly impacted by the project since atmospheric conditions coupled with lack of detail, color, texture, and limited cone of vision tend to lower the contrast of changes in the visual environment.

4.3 Existing Stationary Viewers

Figure 16 indicates the existing homes within the study area. The actual number of residential viewers is probably less than assumed since some facilities thought to be residences may be unoccupied structures. It is not possible to site verify all possible residential structures, so the worst case situation has been assumed. All structures shown on aerials that are on legal parcels that are zoned for some form of residential use, have been assumed to be occupied residences. A quick review

Table 4- Viewshed Sub-area Acreage & Residential Viewer Projection

Sub-area	Zoning	Acres in Viewshed	Existing Houses*	Density Allowed in Zone**	Houses Allowed in Zone***	Potential Houses****
Central San Luis Rey Canyon	A-72	133.4	1	0.125	17	16
Couser Canyon	A-72	0.01	0	0.125	0	0
Couser Canyon	A-70	651.7	36	0.125	81	45
East San Luis Rey Canyon	A-70	0.5	0	0.125	0	0
East San Luis Rey Canyon	A-72	114.4	3	0.125	14	11
East San Luis Rey Canyon	S-82	213.7	0	0	0	0
Gomez	A-72	57.2	1	0.125	7	6
Gomez	PALA	24	0	0.125	3	3
Lancaster Mountain	A-70	284.6	0	0.125	36	36
Lancaster Mountain	A-72	190.2	0	0.125	24	24
Monserate Ridge	A-70	124.1	0	0.125	16	16
North Hillside	A-70	577.7	7	0.125	72	65
North Hillside	A-72	232	9	0.125	29	20
North Hillside	PALA	39	0	0.125	5	5
Property	A-70	238.2	0	0.125	30	30
Property	A-72	610.7	14	0.125	76	62
Rice Canyon	A-70	80.6	3	0.125	10	7
Rice Canyon	A-72	97.8	5	0.125	12	7
Rosemary Mountain	A-70	94.6	0	0.125	12	12
Rosemary Mountain	A-72	48.1	3	0.125	6	3
West San Luis Rey Canyon	A-70	35	0	0.125	4	4
West San Luis Rey Canyon	A-72	61.4	0	0.125	8	8
West San Luis Rey Canyon	S-90	72	1	0	0	-1
	Totals:	**3,981**	**83**	**3**	**462**	**379**

* The number of existing houses is likely to be much less than listed. These structures appeared to be residences, however many may not be inhabited.

** The number .125 equates to one house per 8 acres.

*** The actual number of allowed structures is likely to be much less than shown due to smaller parcels and other topographic or environmental issues.

**** The potential future number of houses should be considered as a worst case situation.

The number that are likely to be built would be way below this number primarily due to market conditions, lot size and site difficulties.

of the map will help to identify the most sensitive viewsheds based on the presence of residential viewer groups. Table 4 summarizes the existing viewers and indicates the current zoning of these areas.

4.4 Potential Future Viewers

Table 4 also indicates the potential homes within each subarea viewshed. As part of this analysis, it was assumed that future development potential should be taken into account along with the existing viewers. It should be noted however, that this analysis assumes a maximum development potential based on underlying zoning and does not take into account, parcel size, topography and other environmental restrictions based on habitats and floodplains. The number of potential users is a worst case scenario.

4.5 Highway Users

Based on the discussion in Section 1.3.3- County Scenic Highway Element, SR-76 is preliminarily classified as a scenic highway. Therefore viewers from this location should be assumed to have a high sensitivity to visual change. The estimated number of viewers using the highway has been developed based on current traffic counts (see Table 5). A projected number of highway viewers has been based on projected traffic volume (also shown on Table 5). A distinction has been made between eastbound and westbound drivers. In general, eastbound viewers will have more distant and longer views of the project elements. Westbound viewers will have shorter views, however, these views are more directly oriented towards the landfill.

Figure 17 delineates the locations and duration of time that the average driver is able to see the landfill. Visibility of the upper and lower stockpiles and other support facilities were not included in this analysis since the landfill represents the worst case scenario. The highway analysis assumed an average driving speed of 40 miles per hour.

Figure 17 also indicates the elements that help to screen the landfill. Existing intervening topography and vegetation substantially reduces the overall visibility of the site. The number of seconds that the viewer is able to see the site is also indicated on this figure, assuming the 40 mph speed. As part of the overall driving experience, the actual length of view is very short. The duration and location of these highway views can change dramatically if the adjacent screening provided by existing vegetation is removed.

It is also assumed the driver of the vehicle would be looking intently at the view, even though the existing highway is difficult to maneuver at high speeds and requires a straight forward orientation most of the time. The map indicates the general angle of view and relative area of the landfill that is visible. Specific research into cones of vision relative to driving speeds has shown that the angle of view is substantially decreased as the speed increases. Figure 18 shows the normal cone and angle of vision. This figure also shows how the cone of vision is decreased based on speed. In any account the actual peripheral vision and angle of vision is limited by driver activity and speed.

Table 5-Probable Highway Viewers Along SR 76

Existing & Future Drivers	ADT (Both Directions)	
Existing without Project	*5,450*	
Project Traffic (average)	*1,981*	*max: = 2,085*
Cumulative Project Traffic	*4,380*	
Future using All of the Above	*11,811*	

Existing Driver Distribution	ADT East Bound	ADT West Bound
Full Day Volume	*2,628*	*2,822*
Daytime Volume (6:00 AM to 6;00 PM)	*2,316*	*2,532*
Nightime Volume (6:00 PM to 6:00 AM)	*312*	*480*

Source: Draft Preliminary Screencheck EIR for Gregory Canyon, 2/27/98

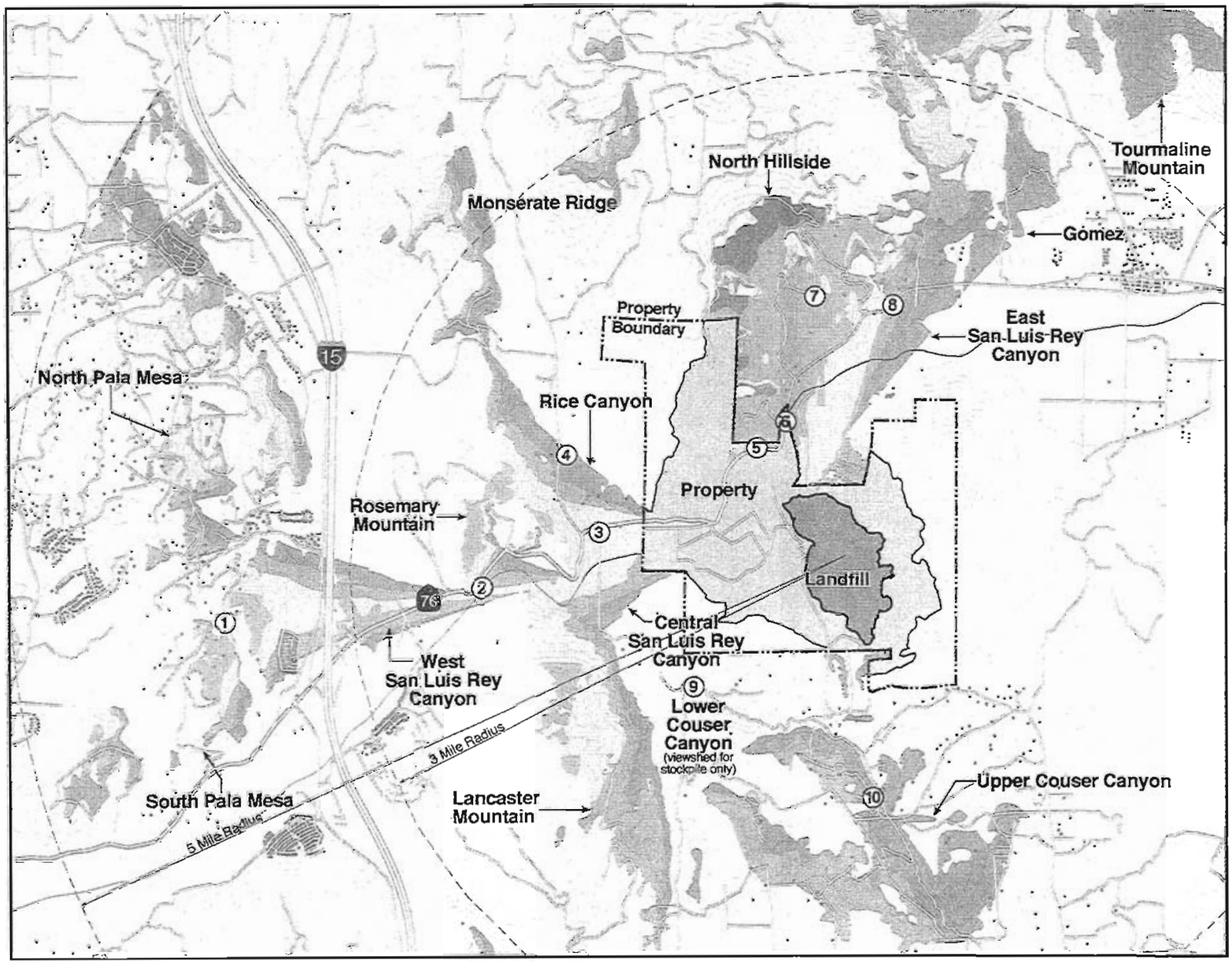
4.6 Viewer Group Sensitivity

Below is a summary of the viewer types expected within the various viewsheds:

- Residential Viewers: Residential viewers are considered the most sensitive viewer group to changes in the visual environment because of their financial investment in the area, their time spent in the area and the types of activities conducted that tend to allow time and attention to scenic resources.

- Agricultural Workers: Livestock and agricultural workers are the closest of all viewer groups, but they are not as directly exposed in terms of duration as the residential viewers and, due to their typical activities, would not be considered to be as sensitive.

- Highway Viewers: Occupants of automobiles east and westbound on SR-76 can see the project site when driving at typical highway speeds. However, the road segments from which the project site would be visible are relatively short and the view to the east is regularly broken up by masses of large trees within the highway right-of-way and major landforms. Though duration and visibility are limited, highway viewers are considered to have a moderate sensitivity to visual change. Since this is a scenic area and many drive this highway for scenic pleasures, many in this group would be considered as having a moderate to high sensitivity to changes in the visual environment.



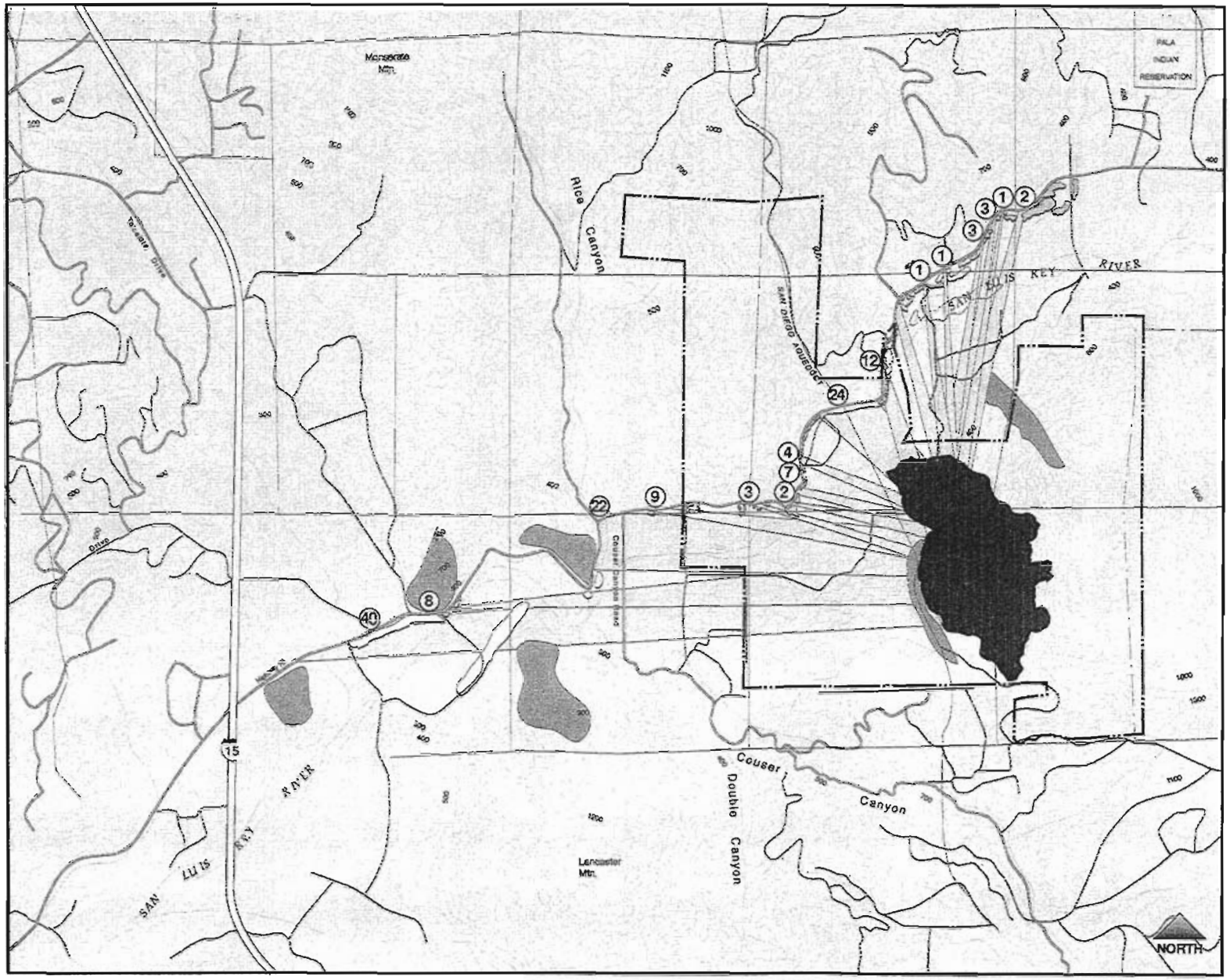
GREGORY CANYON LANDFILL
Viewsheds of Landfill Surface
Figure 16

- Highest Visibility (36-46 Pts.)
- High Visibility (26-35 Pts.)
- Moderate Visibility (16-25 Pts.)
- Low Visibility (8-15 Pts.)
- Limited Visibility (1-7 Pts.)
- ③ Key View Location
- Structures (Probably residences)

Note: Viewsheds are determined by topographic features only. Actual viewsheds may be restricted by other visual obstructions such as building and vegetation. This graphic represents the worst-case basis. The analysis of viewsheds was accomplished using USGS Digital Elevation Model data. This data is accurate to within 10%.

Some visibility exists north and south of the area shown in this figure. However, it is beyond the three mile limit and is therefore insignificant.

0 750 1500 3000



GREGORY CANYON LANDFILL

Visibility of the Landfill Surface from SR-76

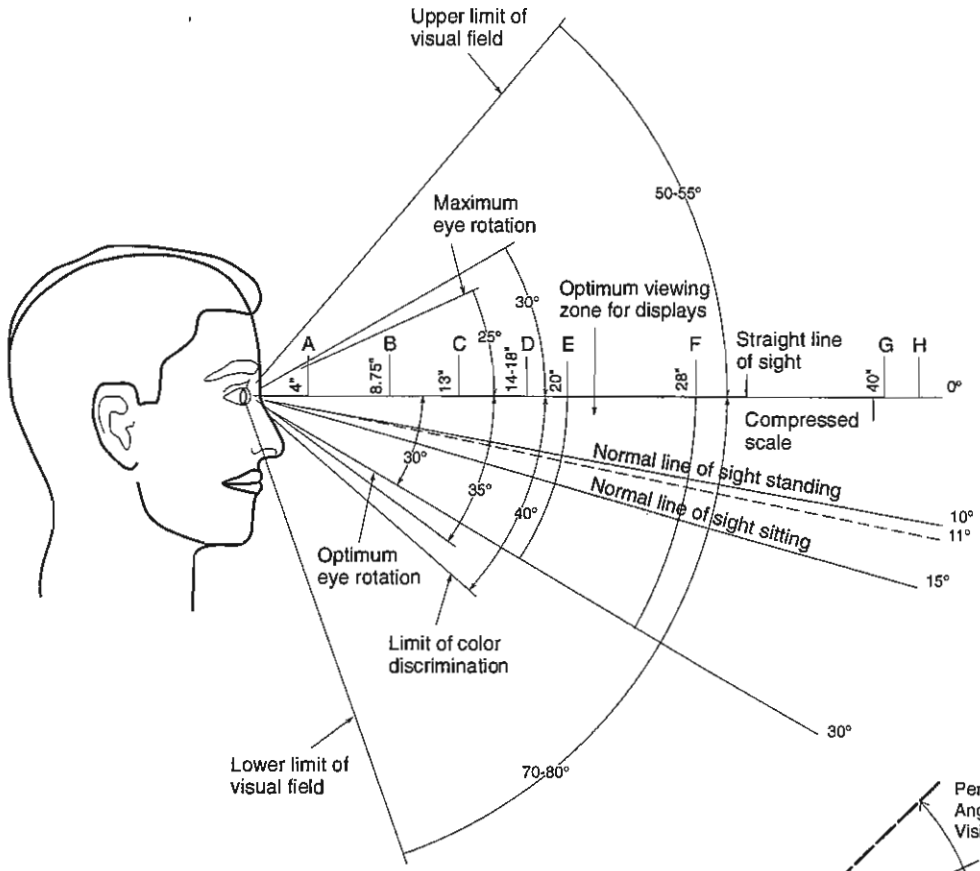
Figure 17

- View Corridor
- Trees Blocking View
- Trees Partially Blocking View
- Landform Blocking View
- Landfill Footprint
- (3) View in Seconds (@ 40 mph)

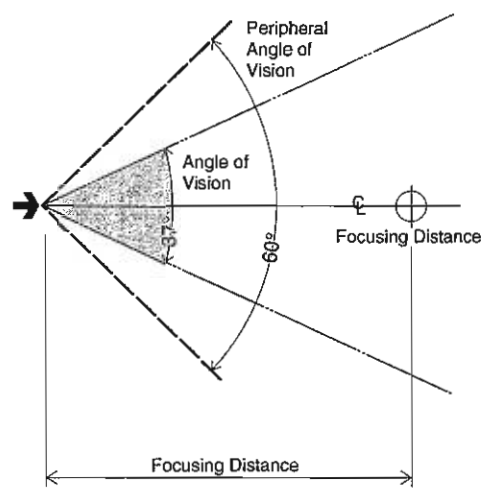
Note: The normal cone of vision for a driver of a vehicle is limited to less than 37 degrees, with a peripheral vision of 60 degrees. Some of the views shown on this figure would not be noticeable, assuming normal peripheral vision. However, this figure is a worst-case basis of visibility from Highway 76.

0 500 1000 2000

GREGORY CANYON LANDFILL
Visual Impact Assessment



Angles of Vision-Vertical



Design Speed	Focusing Distance	Angle of Vision	Peripheral Angle
40 mph	1100 ft	37°	60°
50 mph	1400 ft	29°	55°
60 mph	1800 ft	20°	45°

Cone of Vision at Highway Speeds

Viewing Ergonometrics Figure 18

4.7 Visibility of Project Landforms

A summary viewshed showing the visibility of the three project landforms has been developed and shown on Figure 19. This viewshed differs from the previous viewsheds since it concentrates on the landfill and stockpile surfaces. The two most important viewer groups indicated in this chapter are the highway viewers and the residential units found within the viewsheds of the landfill and the stockpiles. All residential viewers that have a view of the landfill as well as various locations along the highway, have been used as points to determine the highest frequency of visibility of the landfill and stockpile surfaces. The upper image on Figure 19 indicates the areas of the landfill and stockpile landforms that will require the most attention since they are the most frequently seen portions of these surfaces. The middle image shows the viewshed of all residences within view of the landfill. These residences are indicated on the map as a small black dot. The lower portion of the figure shows the viewshed of SR-76 itself. It is clear to see that the highway is located in such a position to see most of the landfill and the stockpiles. It should be noted that substantial vegetation does exist to block much of this view and that the driver's vertical and horizontal cone of vision will limit visibility more and will shift the focus of attention onto the roadway.

4.8 Visibility from Gregory Mountain

Though no current viewer group has been identified for the top of Gregory Mountain, some concern has been expressed about the project's effects on the spiritual importance of this mountain to the Luiseno Indians. If spiritual beings historically looked from the mountain top, then changes in the visual environment (as seen by these beings or by Native Americans interested in utilizing the top of the mountain for spiritual purposes), should be noted. Figure 20 shows the viewshed that can be seen from seven positions on this mountain. These seven positions include the highest point along with six points around the crest of the mountain's edge. Figure 20 also indicates existing disturbances that can be seen from this viewpoint as well as proposed projects that are likely to negatively affect the visual setting of the valley. Note that the powerlines and a high percentage of the landfill will not be visible, due primarily to the relative roundness of the top of Gregory Mountain and the low angle needed to see these elements.

4.9 Landfill Elevation Critical Height

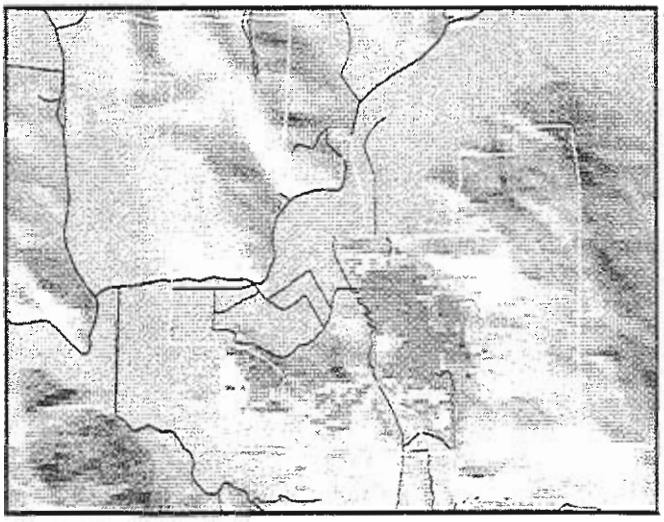
The dynamics of the landform and its visibility within the various viewsheds should be noted. In previous processing efforts for Gregory Canyon, the landfill was held to an upper elevation of 925'. The viewshed was more limited than those being shown under this study that uses an elevation of 1,100 feet. The primary reason for this change is directly related to the landforms that surround the landfill canyon. The ridgeline directly to the west and the saddle ridgeline to the south, tended to block most of the landfill. Only a very small portion of Couser Canyon could see the original landfill at 925'. Likewise, the viewshed along SR-76 and westward over to Pala Mesa was much more limited. The landfill at 1,100 feet rises above these adjacent ridgelines and becomes visible to a much larger viewshed. As shown on Figure 21 and on Table 6, the Couser Canyon and the SR-76 viewshed increases marginally up to 950 feet and then more dramatically above 1,000 feet. Changes in the viewshed towards the north, northeast and west change very little with the different elevations, since Gregory Mountain is responsible for mostly blocking views of the landfill. A substantial increase is made to the extent of the Rice Canyon, Central San Luis Rey Canyon, West San Luis Rey Canyon and the South Pala Mesa viewsheds when the landfill elevation climbs above 950'. The critical areas of residential viewers in the Couser Canyon viewshed are affected between the 925' and the 950' elevation. Though a substantial increase effects the rest of Couser Canyon above 1,000 feet, the majority of houses with a view of the landfill are already affected at the 950' level. A similar situation will exist when the upper stockpile reaches above the adjacent ridge. The upper height and volume of the stockpile will not be as big as the landfill.

Table 6-Viewshed Changes based on Landfill Elevation Changes

High Point Visibility	Viewshed Acres	Incremental % Increase to Preceeding Elevation	Cumulative % Increase above 925'
900 feet	*2,129*		
925 feet - previous project	*2,425*		
950 feet	*2,818*	*116.2%*	*116.2%*
975 feet	*3,169*	*112.5%*	*130.7%*
1,000 feet	*3,572*	*112.7%*	*147.3%*
1,025 feet	*3,887*	*108.8%*	*160.3%*
1,050 feet	*4,174*	*107.4%*	*172.1%*
1,075 feet	*4,457*	*106.8%*	*183.8%*
1,100 feet - currently proposed	*4,726*	*106.0%*	*194.9%*

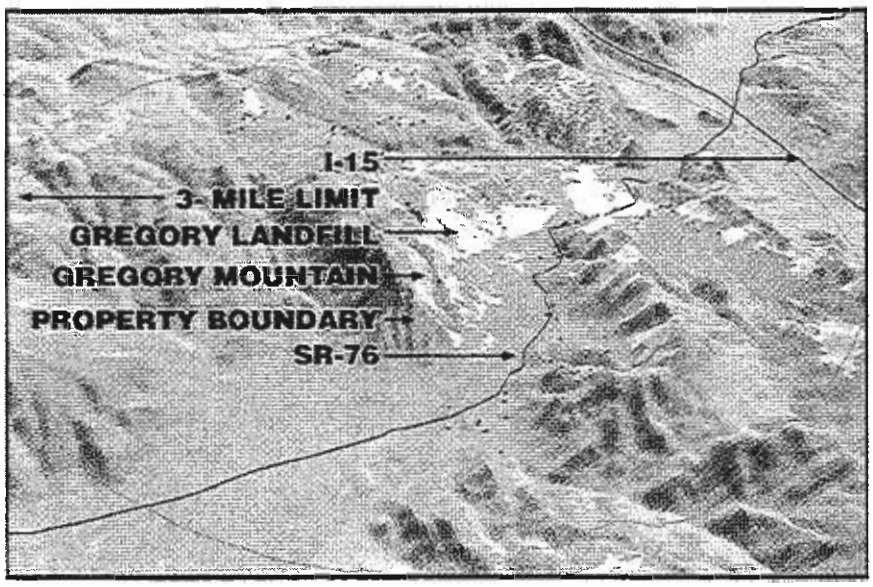
Visibility Frequencies of Project Landforms

Figure 19



This image indicates the most frequently seen portions of the Landfill and Stockpiles.

- Areas with Highest Visibility (41+ points)
- Areas with High Visibility (31-40 points)
- Areas with Moderate Visibility (21-30 points)
- Areas with Low Visibility (11-20 points)
- Areas with Limited Visibility (1-10 points)
- Areas with No Visibility (0 points)

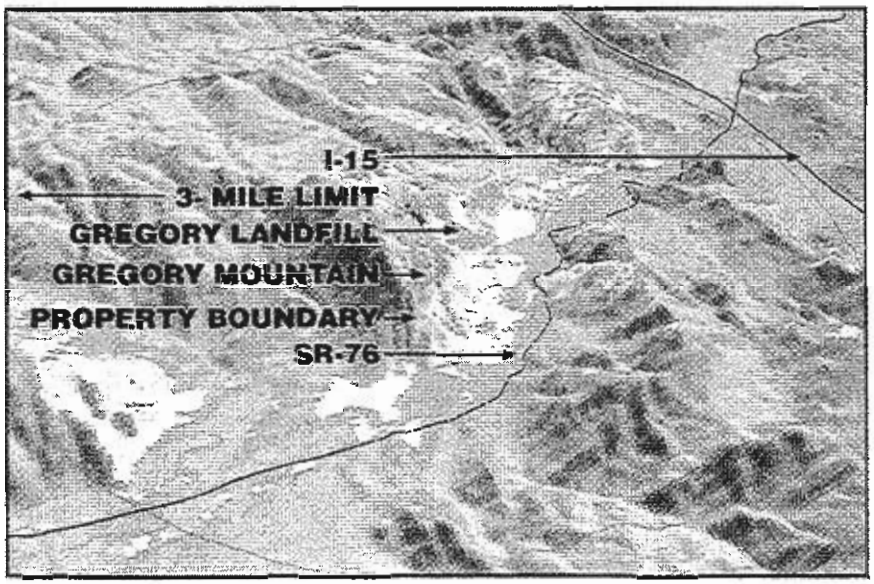


3-D Composite Viewshed of the Structures found within the viewshed of the Landfill (Isometric as seen from the Northeast)

- Areas with Highest Visibility (41+ points)
- Areas with High Visibility (31-40 points)
- Areas with Moderate Visibility (21-30 points)
- Areas with Low Visibility (11-20 points)
- Areas with Limited Visibility (1-10 points)
- Areas with No Visibility (0 points)

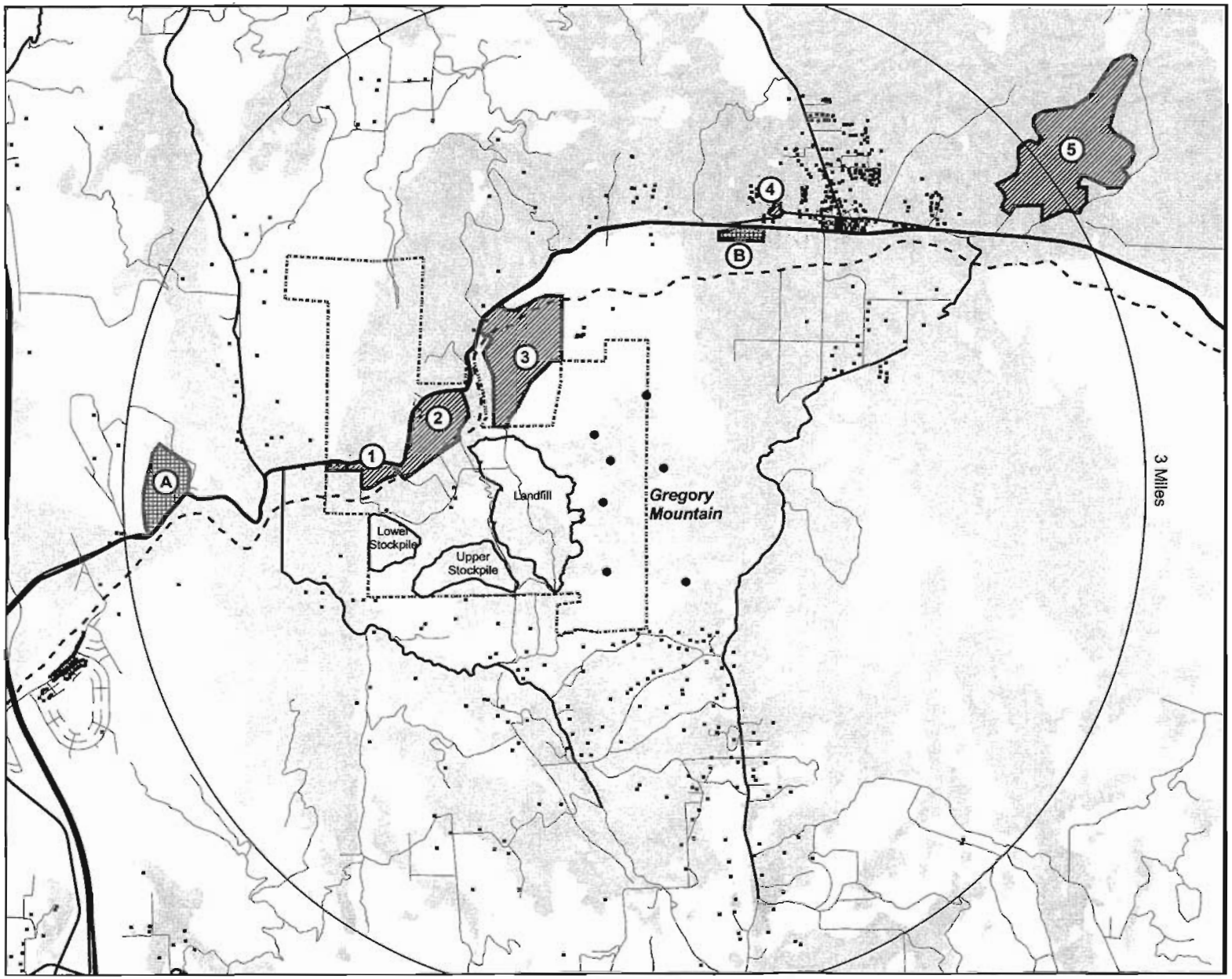
VIEWSHED NOTES:

These viewsheds were based on topographic conditions only. They should be considered as theoretical limits to visibility since structures, large vegetation and other misc. items could block visibility. The areas of visibility were determined by identifying strategic locations on the project element surface and then allowing the computer to determine all of the potential locations that could see these points. Composite runs were made within the computer model when more than one point was utilized. The composite model utilizes a running counter for each time an area sees any of the points on the surface. The number of points seen were then categorized into one of five ratings.



3-D Composite Viewshed of the Multiple Points along State Route 76 (Isometric as seen from the Northeast)

- Areas with Highest Visibility (16+ points)
- Areas with High Visibility (11-15 points)
- Areas with Moderate Visibility (6-10 points)
- Areas with Low Visibility (3-5 points)
- Areas with Limited Visibility (1-2 points)
- Areas with No Visibility (0 points)



GREGORY CANYON LANDFILL

Viewshed of Gregory Mountain

Figure 20

Areas visible from Gregory Mountain

View points used to determine visibility

Structures (Probably houses)

Existing Visual Disturbances

Future Visual Disturbances

Disturbances Shown on Map

1. Verboom Dairy
2. Abandoned Lucio Dairy
3. Fenton Pala Site Sand Mine
4. Current Extraction area in pala
5. CalMat-Pala Aggregate Mining

A. Palomar Aggregates Rock Quarry (Reference Min.)

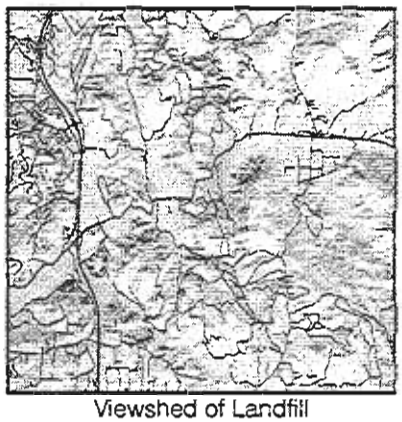
B. Pala Band of Mission Indians Gaming Casino

0 750 1500 3000

Visibility Analysis of Final Landfill Height

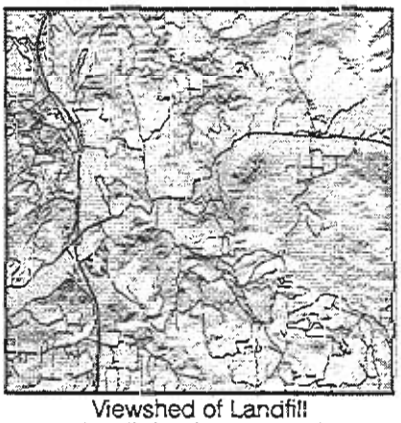
Figure 21

Viewshed of Landfill with Highpoint at 925 ft.



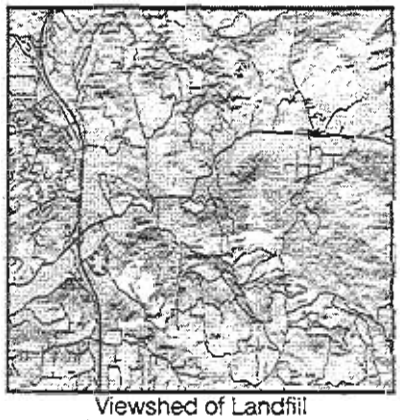
Viewshed of Landfill with Highpoint at 950 ft.

Viewshed of Landfill with Highpoint at 1000 ft.



Viewshed of Landfill with Highpoint at 1050 ft.

Areas visible from High Point

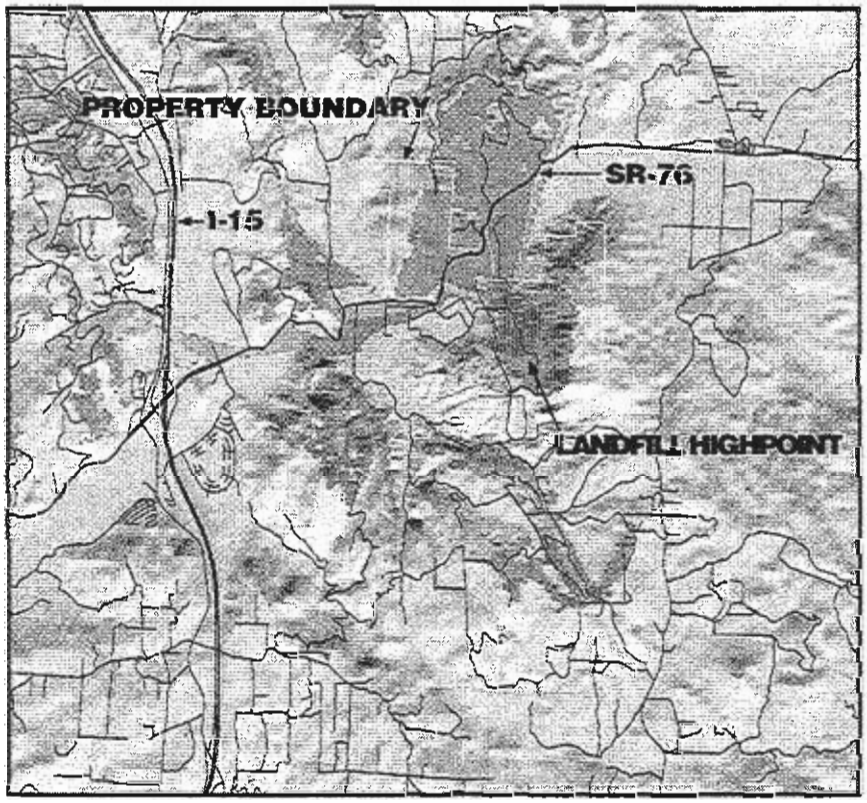


Viewshed of Landfill with Highpoint at 1100 ft.

- Areas visible from 1100 ft.
- Areas visible from 1050 ft.
- Areas visible from 1000 ft.
- Areas visible from 950 ft.
- Areas visible from 925 ft.
- Areas with No Visibility

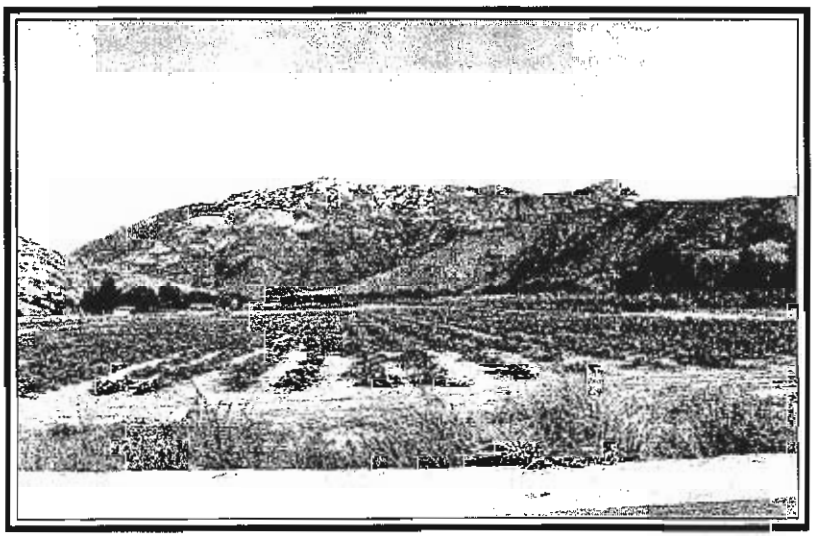
VIEWSHED NOTES:

These viewsheds were based on topographic conditions only. They should be considered as theoretical limits to visibility since structures, large vegetation and other misc. items could block visibility. The areas of visibility were determined by identifying strategic locations on the project element surface and then allowing the computer to determine all of the potential locations that could see these points. Composite runs were made within the computer model when more than one point was utilized. The composite model utilizes a running counter for each time an area sees any of the points on the surface. The number of points seen were then categorized into one of five ratings.



Viewshed Composite of Multiple Landfill Highpoint Elevations

5. VISUAL IMPACT ASSESSEMENT



5. IMPACT ASSESSMENT

5.1 Potential Impact Thresholds

Appendix G of the State CEQA Guidelines includes the statement that "a project may be deemed to have a significant effect on the environment if it will... (a) conflict with adopted environmental plans and goals of the community where it is located; and (b) have a substantial, demonstrable negative visual effect."

The CEQA Section 15064 (b) states that "...the significance of an activity may vary with the setting ...an activity which may not be significant in an urban area may be significant in a rural area." This statement is particularly applicable to the determination of the significance of a visual effect.

Based on the relevant CEQA guidelines and the policies and regulations of the County of San Diego, the following shall be determined to be significant visual effects (note the overall response to each of these criteria is summarized in italics below and further expanded on in each project element discussion):

i) Physical change which is determined to be in substantial conflict with the character of the project area as defined by the approved community plan or as defined in Section 9.2 of the San Diego County CEQA Guidelines (County of San Diego, 1991). *The project would make a substantial change to the character of the project area and is therefore considered potentially significant.*

ii) Physical change which may preclude future compliance with the design criteria of the project area as defined by the approved design guidelines for the area (County of San Diego, 1991). *The Pala Community Plan does not include specific design guidelines. However, the plan does indicate that Mount Gregory is a resource conservation area and as such, it is the goal of the County to protect the visual and character resources of these conservation areas. The plan also indicates that the provision of commercially designated land should not affect the scenic or rural character of the community. One of the primary goals of the Fallbrook Community Plan is to perpetuate the existing rural charm and village atmosphere of the community. Other goals include: the preservation of areas unsuitable for intense development as permanent open space; the preservation of mature trees and significant land forms; the minimization of grading impacts through wise grading practices; the revegetation of areas disturbed by grading; and the avoidance of development which impacts ridgeline silhouettes. The project would not be in compliance with these guidelines and is therefore considered potentially significant.*

iii) Physical change which is not in conformance with the Hillside Development Policy, Board of Supervisors Policy I-73 (County of San Diego, 1991). *The extent of grading and landform alteration would be at issue with the intent of I-73 .*

iv) Physical change which will substantially affect the viewshed of a designated Scenic highway (as defined in the Scenic Highway Element of the General Plan) regardless of priority status (County of San Diego, 1991). *Though not designated in text, the Highway is shown on the scenic highway element map and does meet the criteria. The visibility of the landfill from SR-76 would be apparent and therefore would be potentially significant.*

v) Physical change which will substantially degrade the quality of an identified visual resource, including but not limited to: unique topographic features, undisturbed native vegetation, surface waters and major drainages, a park or recreational area (County of San Diego, 1991). *Gregory Mountain is appropriately classified as a visual resource and its quality would be affected by this project. Therefore, the visual impacts to these resources would be potentially significant.*

5.1.1 Significance Thresholds for Impact Categories

The significance of visual impacts are broadly defined above, but since significance varies by individual project (CEQA Section 15064 (b)), for the purposes of this assessment, a significant impact is more succinctly defined as a change to the visual environment that is visible to a moderate level of viewers (1,000 or more per day) and that contains at least one of the following possible conditions:

- For a significant landform impact to occur the project will need to permanently change the landform character of an area and this change will not only be noticeable to a moderate to large number of viewers, but the contrast must dominate other adjacent landforms.

- For a significant visual quality impact to occur, it must clearly contrast with the existing visual elements of a moderate or high quality landscape assessment unit. This contrast must be clearly visible to a moderate to large number of viewers and the contrast must dominate the visual scene to the point where the character and quality of the immediate area is permanently changed.

• For a significant visual resource impact to occur, a substantial amount of the physical resources that make up the local visual character must be removed. These physical resources include vegetation, rock structures, naturally appearing water, structures or landforms that make up the individual visual resources and contribute to the character of the landscape assessment unit.

• For a significant view quality impact to occur, the project would need to block a substantial percentage of an existing view corridor of a regionally or subregionally important view scene or prevent the physical or visual access to a viewing point where this viewing scene can be seen from. An impact would also occur if the project highly contrasts and dominates the viewing scene to the point where the view scene quality is substantially degraded.

• For a significant neighborhood / community character impact to occur, the project would need to prevent the attainment of a design or other aesthetic goal that is part of an adopted community plan or other County approved document.

5.2 Impact Categories

Four levels of impacts were used in the evaluation of the proposed project.

(1) Significant (meets threshold criteria listed above)
(2) Adverse but less than significant impact (noticeable change and negative contrasting affect but does not meet the threshold criteria)
(3) Insignificant (not noticeable or if noticeable not considered to contrast or be perceived as adverse)
(4) Not Seen or No impact (not noticeable, no contrast or no effect)

5.3 Visual Simulations

Prior to the assessment of visual impacts, a major effort was developed to accurately simulate the effects the landfill may have on the visual quality and character of the area. Assessments for a project of this scope and complexity are inaccurate without the realistic simulation of the project, placed in the context of the visual environment.

The simulations were completed by developing a computer model of the area landform with the proposed landfill and other project elements added. The coordinates and elevation points of the 10 key views were used to calibrate the computer model. Once a shaded and surface computer model was developed, it was then digitally overlaid onto a photo taken from the same key viewpoint. After the ridgelines and other landforms were lined up on the photo, the image was then colored, textured and detailed to match the appearance of an ongoing landfill. Texture and color details were taken from photographs of other regional landfills including Simi Valley, Miramar, San Marcos, Otay and Sycamore Canyon landfills.

A key view analysis of the specific viewshed and direction of views was completed for each simulation (Figure 25-34). An existing photograph of the site was also included for a frame of reference. Unmitigated simulations were produced for the initial project phase, midterm project phase and the final project phase with only minimal revegetation efforts assumed. A final simulation was produced that included all proposed mitigations and also assumed a level of maturity in revegetation efforts. This would only occur, however, if the landscape screening and revegetation occurred in earlier project phases instead of at the end of the landfill.

The detail and appearance of these simulations are based on certain assumptions of the project that may or may not be exactly as will be constructed. Every effort was given to assure the most accurate simulations possible.

5.4 Contrast Ratings

Each simulation was assessed by several design professionals (landscape architects and planners) to determine the contrast ratings of each view. The individual worksheets for these assessments are shown in Appendix 2. All the factors affecting visual quality and visual change were assessed. All of the project elements were also assessed as part of this worksheet.

Contrasts to form, line, texture, contrast of color, contrast of value, and character were evaluated. The worksheets ranked the impacts of each of three timeframes spread throughout the operating life of the landfill. Assessments were done for the project with and without major mitigations. An adverse but less than significant impact has been used in the contrast rating worksheets to identify those impacts that are not, entirely by themselves, significant. However, the summary of the impact for each project element has been classified as either significant, adverse but less than significant or no effect. The impact of a project element is significant if at least two or more of the key views have been rated as adverse or if at least one key view is rated as significant. Determination of conformance to BLM visual resource guidelines were also assessed. Table 7 summarizes the impacts to each key viewpoint based on each project element.

5.5 Mitigation Descriptions

The simulations for the 10 key views assumed a standard amount of revegetation efforts for all phases of the landfill. This revegetation effort would be required as part of slope stabilization and erosion control. Hydroseeding of temporary slopes was also considered mandatory to reduce dust, prevent erosion, and reduce the amount of visual contrast of the landfill. Revegetation for purposes of visual screening or blending were not assumed to be part of the project, nor were revegetation efforts related to biological habitat restoration. Though these revegetation elements are likely to become part of the final project based on the recommended mitigations in this visual technical study as well as mitigations required by the biological technical study, they have not been assumed to be part of the base project.

The following list of possible mitigations is summarized prior to the discussion of project impacts so that the reader already has an understanding of possible mitigations when reading the sections that discuss impacts and recommended mitigations. Table 7 will also refer to the Visual Mitigations by the numbers referenced below. Possible mitigations include the following:

Visual Mitigation Measure (VMM) 1: Landscape screening- this screening will occur at strategic locations along the highway both on and off the subject property or in other strategic locations that will help to reduce the visibility of the project elements. Transplanted trees (from the landfill / stockpile footprint or from areas adjacent to highway expansion areas) will be placed in key locations to block views of the landfill face. Smaller containerized trees will also be placed along the highway in between the larger transplanted trees. Areas adjacent to the support facilities and next to the water tank will be planted with mature trees to help block visual access of these structures. It should be noted that all areas being recommended for screening that are not on the subject property, would first have to obtain easements, property or permission to allow the screening to be placed there. Likewise, CALTRANS and the County of San Diego will need to provide permission for plantings within the local highway rights-of-way. Based on this assumption, landscape screening not on the subject property can not be considered to mitigate impacts until the time where the private property owner and agencies have approved the screening and access to their properties.

VMM2: Landform screening- because of the relative scale of the landfill, landform screening will not be able to substantially reduce impacts associated with the visibility of the landfill. Landform screening, however, has value for the facility area as well as the stockpiles. This mitigation will consist of the creation of large earthen berms, or in the case of the stockpiles, special grading treatments of the visible faces of the stockpiles that will help to hide areas behind these visible faces. Landform screening will normally be done in conjunction with landscape screening and revegetation efforts as well.

VMM3: Landform grading- contouring of landforms to help blend the general forms of land masses will be done on the landfill face as well as part of the upper and lower stockpile areas. Gentle grading and curvilinear shapes will be used to help blend the project grading with the natural topography. Areas will also receive other blending elements such as mature trees, rock outcrops, and native materials as listed under VMM4, 5 & 6. This treatment will be placed in a variable width edge of the landfill that has received special soil capping and subsurface drainage. The top and side slopes must be graded to blend with the surrounding natural topography. Large, undifferentiated, flat slopes or pads must be avoided.

VMM4: Rock outcrop placement- since a large amount of rock outcrops are apparent throughout the area, and since these materials will need to be removed from the landfill footprint, they must be stockpiled and placed in strategic locations to help blend graded surfaces back with the dominant textures of the area. This will need to occur primarily around the edges of the landfill face and top surface. It will also be used for mitigating impacts associated with the facility area and access road.

VMM5: Major tree groupings and transplants- another textural element needed to blend the project into its surroundings is that of mature tree transplants. Since over 900 oaks exist on site, a large supply of transplantable trees are available. Though many of these oaks will not be economically viable for transplanting and many more will be either too old or in too bad of health, a substantial number of candidate transplant trees would be available. The success of transplanting is directly related to the health of the tree, the time available for boxing and replanting the tree and the care given for preparation and maintenance of the receiving transplanting site. Based on the requirements for biological mitigation, all healthy Engleman Oak trees will be required to be transplanted. This visual impact mitigation measure will also require the transplanting of all healthy oaks that are considered to be midterm in age and are considered to be accessible for transplanting equipment. All other healthy oaks with a trunk caliper of at least 4 inches should be considered for transplanting unless they are pro-

hibitively difficult to get to or transplant. Various other mature trees are currently planned for removal around the stockpiles, facility areas, access road and access bridge. Those that are considered to be mid-age and are healthy, must be considered for transplanting as well. The creation of a viable and sustainable oak grove will also require this transplanting. The use of a broad range of oak trees with different levels of maturity and size, will be critical in establishing a visually consistent woodland setting as well as a biologically viable oak woodland habitat.

These oaks and other mature trees will be placed in groupings along the edges of the landfill face, around the facility area, adjacent to the stockpile areas, and in some cases, along the highway.

VMM6: Native revegetation & general landscaping- the use of natives is not only needed to assure sustainability and long term viability, they are also needed to blend in with the natural colors and textures of the surrounding hillsides. All revegetation areas will need this treatment. Existing vegetation species in the vicinity of the project will be used or emulated for all landscape plantings. The plant communities found on surrounding hilltops, slopes and valleys adjacent to the landfill top, sides and base, must be matched. Where a specific functional tree requirement can not be met with a native species, then non-native species will be allowed. It is important to make sure that the non-native species are either indigenous to the area, have naturalized to the local conditions or at least have the appearance of relating to the adjacent native species. Care must be taken to assure that none of these non-native species will result in invasive growth patterns that may negatively affect adjacent native habitat.

VMM7: Contrast and color matching- all areas will be replanted with plant materials, integral material color or painted surfaces that will decrease the amount of value and color contrast with surrounding areas. This will be accomplished through the use of native plant materials including grassland species; and through the use of paint on buildings and structures. Temporary revegetation of slopes will also help to reduce contrast, especially if the proper color and textures are utilized in the plant selection process.

VMM8: Texture matching- all revegetation efforts will attempt to match the texture of the surrounding areas. If the mitigation measures are taken as listed above, then the rocks, native plants, trees, color, and landforms will all produce compatible textures.

VMM9: Engineering structure adjustments- A variety of adjustments are needed to man-made or engineered structures. These adjustments include the construction of brow ditches with outside bench lips slightly higher than inside edges. Culverts and other pipelines connecting brow ditches will be painted in a similar color and pattern to the background of the area they are crossing. Integral or stained color will be used on all brow ditches. A natural brown, beige or sand colored staining will be required so that the ditch will not contrast with adjacent colors. Painting of miscellaneous structures will use a variety of colors that match the revegetation patch and soil color that the structure is located in. Variations in color are necessary. It is acceptable that the painting be inconsistent and a lack of maintenance on the painting of these pipes would also be acceptable since it would produce variations as well.

VMM10: Adjustments to the project footprint or grading- adjustments to the footprint of major landfill landforms or associated stockpile/borrow sites is warranted in several situations. These adjustments either include the change in horizontal location or the vertical height and shape of the landform. Many of these mitigations have been made to be part of the base project and therefore, no longer required as mitigations.

5.6 Project Element Impact Summary

Below is a discussion of the individual project elements and their probable impacts. The location of the project elements are shown on Figure 9, Page 3-2. Required mitigations and threshold criteria are also discussed. It should be noted that all project elements meet the initial threshold criteria of being visible to at least 1,000 viewers per day. All elements are visible to the highway and therefore all project elements meet this first criteria. The remaining discussion focuses on the other threshold criteria.

5.6.1 SR-76 Curve Realignment Impact Summary

The impacts associated with the roadway expansion and its associated slopes are primarily limited to the highway viewer. In the immediate area of the road expansion, the fill slopes and the removal of major trees alongside of the highway will be noticed by the highway driver. These trees provide screening of the future landfill and they help to set the natural streamside setting and scenic qualities of SR-76.

No adverse impacts are expected for landform quality, visual quality, view quality or neighborhood character. However, with the loss of major riparian associated trees, an impact would occur to visual resources. Since the area seen is small, the contrast

ratings moderate, and the percent of viewsheds affected so limited, the overall rating of this impact is considered to be **adverse but less than significant**. (*SR-76 Realignment -Visual Resource Impact 1.*)

Mitigations for Visual Resource Impact 1: Mitigations required to eliminate the adverse impacts and to eliminate the effect will include mitigation measures: **VMM1, VMM5** and **VMM6.** Riparian trees will be replanted at the base of the slope as well as up the slope as far as possible, without being placed in an area that would be considered as a safety problem for highway drivers. The viability of this mitigation will be based on the approval of CALTRANS and the County of San Diego for plantings within the highway rights-of-way. The screening being provided by the existing vegetation will be critical in reducing the visibility of the landfill and the stockpiles from this section of the highway.

5.6.2 New Access Road & Bridge Impact Summary

Access Road Impacts

The entry road leading from the highway edge to the bridge is seen from a very limited area of the viewshed. No significant grading is proposed. The removal of abandoned dairy structures and livestock pens would more than likely improve the visual quality of this area, since it is currently in a degraded state. An **adverse but less than significant** impact to **visual quality** is expected for the access road on the south side of the bridge, leading up to the facility area *(Access Road -Visual Quality Impact 1).* No adverse impacts are expected for landform quality (minor grading proposed), visual quality (no current quality in this area and minimal project contrast), view quality (no regionally or sub-regionally view scenes or corridors are in this area), visual resources (no existing resources exist) or neighborhood character (no specific guidelines or policies apply) for the portion of the access road leading up to the bridge.

Access Road Mitigations

Mitigations for Visual Quality Impact 1: Slopes created as a result of the entry road construction needed to connect the highway with the landfill will in most cases be permanent. Mitigation measure **VMM1, VMM5 and VMM6** will be required to eliminate the adverse visual quality impact (VQ-1). Landscape screening of the access road close to the highway will be required. Major tree groupings must be placed along the access road to help recreate the natural settings of the area as well as provide screening of the access road and bridge. The revegetation of the slopes and roadbed edge areas with compatible native plant species must match the plant community they are adjacent to. In most cases, these slopes and areas will be temporarily irrigated in order to establish a viable surface erosion barrier and will assist in the transition to a drought tolerant condition after a period of three (3) to five (5) years.

Access Bridge Impacts

The construction of the bridge will result in the loss of major riparian trees within the clearing zone needed for bridge construction and stream course realignment. These resources are visible to a significant number of highway drivers and their loss would be noticeable and negative. This loss would be a **significant** impact to **visual resources** (*Access Bridge-Visual Resource Impact 2*). No impacts are expected to landform quality (minor grading that will not dominate the landform), visual quality (only a small part of the assessment unit is being affected), view quality (may actually increase views of the river corridor) or neighborhood character (no specific guidelines or policies apply).

Access Bridge Mitigations

Mitigations for Visual Resource Impact 2: A combined biological and visual mitigation is needed for this impact. From a visual standpoint, large riparian trees along with the associated understory found within these riparian zones is needed to replace the lost resources. **VMM1, VMM5** and **VMM6** mitigations will be required in order to reduce this significant impact to less than significant. A revegetation plan developed by the project landscape architect and the project biologist will be required to mitigate for visual resource impacts as well as biological impacts.

5.6.3 Lower Stockpile Impact Summary

The extent of fill associated with the lower stockpile is substantial. The fill would be placed in a canyon that currently has a natural appearance. This canyon area is highly visible to highway drivers as well as residents in Rice and Couser Canyons. The contrast with the existing visual setting will be high. The visual quality of this landscape unit is considered low, however, due primarily to the disturbed nature of the site. The sensitivity to change or the ability of the site to absorb change is considered to be moderate. The visual resource class of the lower stockpile is Class 4. Based on these conditions, the lower stockpile area is considered to have an **adverse** but less than significant impact on **visual quality** *(Lower Stockpile- Visual Quality Impact 2).* With the mitigations listed below for the landform quality impact, the adverse visual quality impact would be eliminated. Therefore, no mitigations beyond those listed for the landform quality impact will be required for Visual Quality Impact 2.

Landform quality impacts are considered to be more dramatic. The proposed stockpile area (as originally planned) will have an excavation of 3,426,000 cubic yards and a fill of 5,187,000 cubic yards. This will result in a substantial mound and a wide area used for excavation. The original form of the stockpile area had a heavily engineered appearance and did not fit into the adjacent landforms. Because the area is highly visible, the stockpile will likely remain unvegetated while active, and the overall size and form of the stockpile is different from the adjacent area, it will have a **significant** impact on the **landform quality** of the area *(Lower Stockpile- Landform Impact 1).* However, the proposed mitigated landform has been incorporated into the project and will no longer be considered as a mitigation. The proposed landform shown on Figure 22 shows the adjusted project landform. The change accommodates 1,089,000 cubic yards of excavation and 3,524,000 of fill. Though this amount is lower than the maximum extent possible, it is still a sizeable area and will still accommodate the needs of the landfill. Other mitigations will be required and are listed below. No view quality (sub-regionally important view scenes or view corridors do not exist in the area), visual resource (limited resources exist on the stockpile site that will be removed or that can be seen) or neighborhood quality impacts (no applicable guidelines or policies) are expected for the lower stockpile.

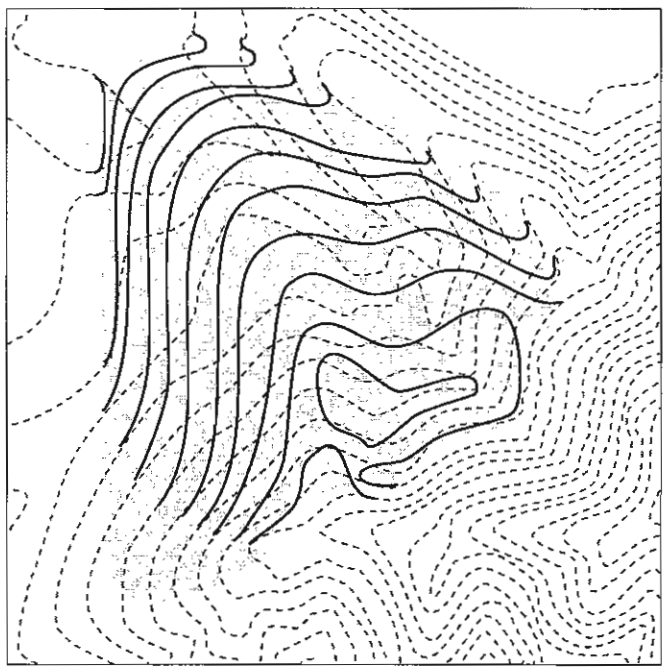
Mitigations for Landform Quality Impact 1 (also covers mitigations for Lower Stockpile Impacts VQ-2)**:** A variety of mitigation measures must be implemented to reduce this adverse impact. Landform grading will be required **(VMM-3).** Where topsoils stockpiling is anticipated, the soil will be temporarily stabilized with nurse crop species of nitrogen fixing plants which will help enhance the future quality and viability of the topsoil. The depth of the topsoil stockpiles should be no higher than 3 to 4 feet to preserve the micro-bacterial quality of the topsoil for future use.

In other areas where overburden and soil landfill cover material is being borrowed or stored, temporary revegetation will be required **(VMM-6)**. Most of these surfaces will be active and the landforms will always be changing. Any stockpile landform that is anticipated to remain beyond one full year, will receive hydroseeding or other revegetation efforts. The leading edge landforms (as seen from highly visible areas within the viewshed) will be permanently revegetated and landform grading techniques will be used to blend it in with adjacent landforms **(VMM-3).** Revegetation must take into account the contrast and color **(VMM-7)** as well as texture matching **(VMM-8)** so that it can blend back into the local setting better. These leading edge landforms will need to be created within the first two years of the creation of the borrow / stockpile areas. The landforms will be made to help block the views of the working face of the stockpile **(VMM-2).** Additional landscape screening will be required **(VMM-1)**. The landforms will remain as buffers until after all stockpiled material has been removed. The leading edge landform may stay permanently or it may be removed but only if the visible areas of the former borrow site / stockpile have been fully reclaimed and revegetated. Major tree groupings placed at the lower reaches of the landforms **(VMM-5)** will also help to blend in the edges of the stockpiles. With these mitigations, the landform quality **significant** impact would be reduced to **below a level of significance.**

5.6.4 Upper Stockpile Impact Summary

The extent of fill associated with the upper stockpile is very substantial. The fill would be placed in a canyon that has a natural appearance. This canyon area is highly visible to highway drivers as well as residents in Rice and Couser Canyons, especially along Couser Canyon Road. The contrast with the existing visual setting will be high. The visual quality of this landscape unit is considered to be moderate. The sensitivity to change is high and the ability of the site to absorb change is considered to be low. The visual resource class of the upper stockpile is Class 3. Based on these conditions, the upper stockpile area is considered to have a **significant** impact on **visual quality** *(Upper Stockpile- Visual Quality Impact 3).* With the mitigations listed below for the landform quality impact, the adverse visual quality impact would be eliminated. Therefore, no mitigations beyond those listed

Figure 22- *Lower Stockpile Proposed Fill Landform*



for the landform quality impact will be required for Visual Quality Impact 3. No view quality (no sub-regionally important view scenes or view corridors exist) or visual resource quality impacts (limited visual resources exist on this site that are visible) are expected for the upper stockpile.

Due to the substantial change to the visual environment, and considering County and local community adopted goals for the visual environment, the upper stockpile as proposed, would be inconsistent with these goals and would make it difficult for the community to attain the broader visual quality and character they have envisioned. An **adverse but less than significant** impact would occur to the **neighborhood character quality** *(Upper Stockpile- Neighborhood Quality Impact-1).* With the mitigations listed below for the landform quality impact, the adverse visual quality impact would be reduced to below a level of significance. Therefore, no mitigations beyond those listed for the landform quality impact will be required for Neighborhood Quality Impact 1.

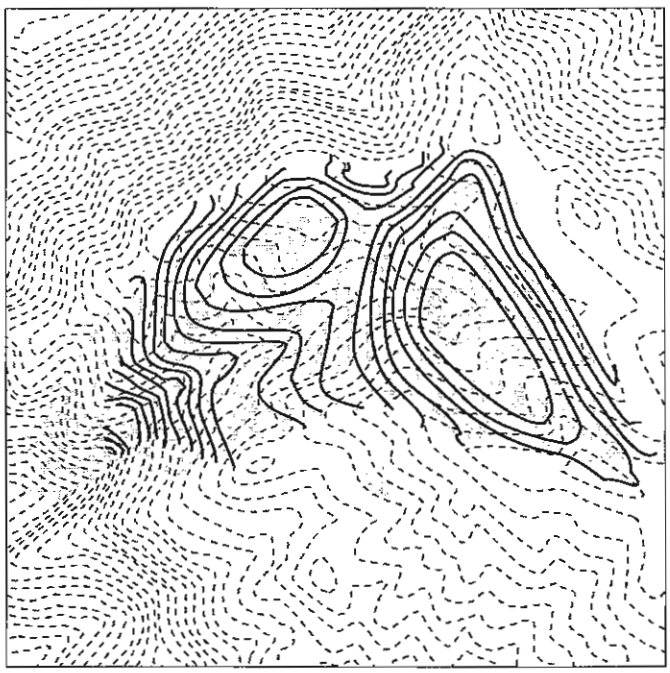
Landform quality impacts are more extensive for the upper stockpile than those of the lower stockpile. The stockpile area (as originally planned) will have an excavation of 9,752,000 cubic yards and a fill of 6,198,000 cubic yards. This will result in a substantial mound and a wide area used for excavation and cut slopes. The originally planned form of the stockpile area would have appeared to be heavily engineered and would not have fit into the adjacent landforms. Because the area is highly visible, will likely remain unvegetated while active, and the overall size and form of the stockpile is different from the adjacent area, it will have a **significant** impact on the **landform quality** of the area *(Upper Stockpile- Landform Impact 2).* However, the proposed mitigated landform has been incorporated into the project and will no longer be considered as a mitigation. The proposed landform shown on Figure 23 shows a suggested change to this landform. The change accommodates 6,877,374 cubic yards of fill. Other mitigations will be required and are listed below.

Mitigations for Landform Quality Impact 2 (also covers mitigations for Upper Stockpile Impacts VQ-3 and NQ-1)**:** A variety of mitigation measures must be implemented to reduce this impact. The proposed redesign as discussed above is assumed now to be part of the project. However, landform grading will still be required as a mitigation **(VMM-3).**

In areas where overburden and soil landfill cover material is being borrowed or stored, temporary revegetation will be required **(VMM-6)**. Most of these surfaces will be active and the landforms will always be changing. Any stockpile landform that is anticipated to remain beyond one full year, will need to receive hydroseeding. The leading edge landforms (as seen from highly visible areas within the viewshed) will be permanently revegetated and landform grading techniques will be used to blend it in with adjacent landforms **(VMM-3).** The face of the stockpile leading edge will be made to have a low point that mimics a canyon draw. A flat slope surface will not be allowed. Additional landscape screening will be required **(VMM-1)**. The lower sedimentation basin will require screening. A dense planting of riparian trees will be required around the sedimentation basin as well as leading up a draw of the stockpile leading edge. These plantings will require some form of supplemental watering to become established.

Revegetation must take into account the contrast and color **(VMM-7)** as well as texture matching **(VMM-8)** so that it can blend back into the local setting better. These leading edge landforms will need to be created within the first two years of the creation of the borrow / stockpile areas. The landforms will be made to help block the views of the working face of the stockpile **(VMM-2).** The landforms would remain as buffers until after all stockpiled material has been removed. The leading edge landform may stay permanently or it may be removed but only if the visible areas of the former

Figure 23- *Upper Stockpile Proposed Fill Landform*



borrow site / stockpile have been fully reclaimed and revegetated. Major tree groupings placed at the lower reaches of the landforms **(VMM-5)** will also help to blend in the edges of the stockpiles. These trees must remain on site even after the stockpile has ceased operations. With these mitigations, the landform quality **significant** impact would be reduced to **below a level of significance.**

5.6.5 Ancillary Support Facility Impact Summary
Moderate contrast ratings associated with the facility area will occur to key views 3, 5, 6, & 7 & 8. Visibility is somewhat obscured by the landforms in the area. Because of the lower elevation of these facilities, their prominence is not as great as the landfill. However, since the facilities do not appear to be part of the natural or agricultural character of the area, they will contrast and be visible to many of the SR-76 viewers. This project element will have a **significant** impact on the **visual quality** of the area (*Ancillary Support Facility- Visual Quality 4*). The west detention basin will cut into the facing slope adjacent to the aqueduct area. This grading will be highly visible for SR-76 viewers. Since the existing knoll would be left to help screen views of most of the support facilities, no landform quality impacts are expected. No impacts are expected to occur to landform quality (since no major landform changes are expected), visual resources (the current site has limited visual resources that will be removed or can be seen), view quality (no sub-regionally important view scenes or view corridors exist in the area) or neighborhood character (no applicable or specific design guidelines or policies exist for this area).

Mitigations for Visual Quality Impact 4: As long as the knoll to the north of the facility area is preserved, then no landform screening will be necessary, since the knoll is already providing this screening function. Slopes must only be cut on the south and east sides of this knoll, leaving the north and west sides to block views into the facility area. The water tank must be held below the upper elevation of the knoll. The tank will be allowed 3-5 feet above this elevation if proper native plantings can be used around the tank. Landscape screening (**VMM-1**) will be required to hide the taller facilities in this area and to hide the lower berms for the detention basin. Major tree groupings (**VMM-5**) as well as native revegetation (**VMM-6**) and rock outcrop placement will be necessary (**VMM-4**). The facility area slopes will need to be treated in a way similar to the road slopes, with permanent slopes stabilized with an appropriate native plant seed mix and local planting of container stock where screening is desired (**VMM-6**). In some cases, there may be changes and/or transitions to these slopes based upon the phasing of the landfill development. In these areas, more temporary erosion control techniques will be utilized. Facilities and misc. structures will be painted or be made of materials that fit into the local color environment (**VMM-7**). The structures must also match adjacent textures (**VMM-8**). The slopes associated with the detention basins (both upper cut slopes and lower berm fill slopes) must be eased into the adjacent natural forms **(VMM3)**. Revegetation of the side slopes and areas below the crest will also be required, using native materials including transplanted oaks **(VMM5 & VMM6)**. With these mitigations, the visual quality **significant** impact would be reduced to **below a level of significance.**

5.6.6 Landfill Impact Summary
Significant contrasts associated with the landfill face will occur to key views 3, 4, 5, 6, 7, & 8. Significant impacts associated with the landfill surface will occur to all of these key views in addition to key view 10. A small portion of the surface area can be seen from key views 8 and 10. The proposed landfill will highly contrast with the visual setting and the landform setting. Its overall size, elevation and form will cause it to contrast dramatically with the adjacent setting. The position of the view relative to both residential viewer groups as well as highway viewers will make the landfill highly visible.

The landfill will have a negative impact on the visual quality of the area. The landfill occurs either on or next to landscape units that have a high or moderate visual quality, a high or moderate sensitivity to change and is within landscape units that are ranked as having a Visual Resource Class of 2. Based on this, the landfill will have a **significant** impact on the **visual quality** of the area *(Landfill-Visual Quality Impact 5).*

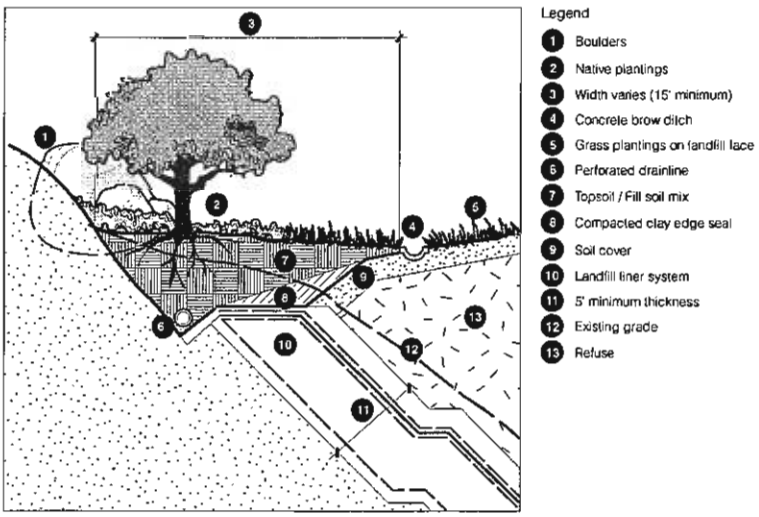
Mitigations for Visual Quality Impact 5: Major tree groupings (**VMM-5**) as well as native revegetation (**VMM-6**) and rock outcrop placement will be necessary (**VMM-4**) along the edges of the landfill. Based on drainage and settlement problems, these elements are not recommended for inclusion too far out from the sides of the landfill. Figure 24 indicates the method of drainage and placement anticipated for this mitigation. A transitional blending of the flat landfill face would be undertaken along the bottom and perimeter edges where it meets the existing terrain. Here, large boulders and trees will be placed to resemble the ribbon of oak woodland impacted by the landfill. Tree groupings must be placed in groves below existing swales that contain oaks and sycamores. This extension will help break the geometric lines of the landfill and will help the face blend with the surrounding hillsides.

Permanent slopes will need to be stabilized with appropriate native plant seed mix and container stock around the edges (**VMM-6**). In some cases, there may be changes and/or transitions to these slopes based upon the phasing of the landfill development. In these areas, more temporary erosion control techniques will be utilized. Drainage and methane extraction structures and pipes must be painted (**VMM-8**) or be made of materials that fit into the local color environment (**VMM-7**) and that match adjacent textures (**VMM-8**). On the active face of the landfill, temporary revegetation will be required **(VMM-6)**. Any slope that is anticipated to remain beyond one full year, will need to receive hydroseeding or other revegetation efforts. Permanent slopes and all areas of the landfill that are considered to be "hot spots" (see Figure 19, page 4-21) will need to be permanently revegetated as soon as possible. Landform grading techniques will be used to blend the landfill with adjacent landforms **(VMM-3).** Revegetation must take into account the contrast and color **(VMM-7)** as well as texture matching **(VMM-8)** so that it can blend back into the local setting. Care must be given to the color and material associated with structures, pipelines and other facilities associated with surface drainage, subsurface drainage and methane gas control **(VMM-9).** Painting of these structures to help blend them into the background of the areas that they are traversing will be required.

Because the surface of the landfill cover may only be 2' to 3' thick, manipulation of this face will require additional fill material. The creation of ridges and swales would concentrate the flow of water and could cause erosion of the buried fill materials if not properly handled. Boulders and trees set along the edge of the landfill could penetrate the soil layer and allow water into the fill, speeding decomposition unless the drainage and root penetration is accommodated. A subsurface drainage system and soil cover requirements are indicated on Figure 24. The intent of this approach would be to feather the edge of the landfill so that the hard geometric shapes are blurred and made to look more natural. The central face of the landfill will be planted with native grasses and other shallow rooted plants representative of the Inland Sage Scrub plant community. The plantings will be irrigated by a temporary above ground spray irrigation system or will be watered by hand or through the use of on-site water trucks. All supplemental irrigation will be removed once the planting has completely covered the landfill face and is established.

Once closure of the landfill is achieved and final cover is completed, a vegetative surface cover utilizing native plant species will be established. These species must have shallow roots (less than 2 feet) so as not to penetrate the landfill cap, and must have an acceptable tolerance to methane gas, though no gas is expected to leak from the landfill. In addition, the species must exhibit rapid germination and be self-sowing. The cover must comprise low volume fire retardant species with low maintenance requirements.

All permanent and temporary slopes within the project will be stabilized to prevent soil erosion. Several erosion controls techniques will be used including physical, mechanical and vegetative methods. The selected technique will depend upon the severity and longevity of the slope areas in question.



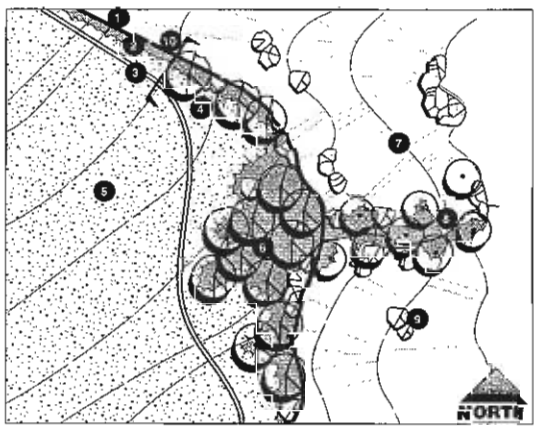


***Figure 24**-Landfill Special Edge Treatments*

The following are erosion control and revegetation techniques which will be implemented:

- Application of non-living mulching materials.
- Installation of geotextile netting and/or grids.
- Chemical soil stabilization.
- Surface soil scarification.
- Drainage collection techniques.
- Temporary non-irrigated nurse crop plantings
- Transitional non-irrigated native seed mix plantings

Distinct views of the landfill will be seen due to openings in existing vegetation along SR-76. To reduce the impact of these views, all highway frontage (located on the project site property) along the south side of SR-76, will be planted with a screen of native or indigenous trees and shrub species that is a minimum of 20' wide **(VMM-1 & VMM5).** Existing trees and shrubs along SR-76 will be saved and supplemented by like species and other fast growing trees to create a naturally landscaped transportation corridor through the property where appropriate to screen the landfill.

Planting within the highway rights-of-way will be required along at least one location within the project property boundary. The location is shown on Figure 35, about midway through the project property where the highway makes a hard turn from heading east/west to north/south. This location will require the use of slope plantings up as close as possible to the road shoulder edge. Because there is no assurance that CALTRANS and the County of San Diego will allow these plantings within their rights-of-way, plantings in this area should not be counted as mitigating this particular visual impact completely.

Plantings along the highway on private property outside of the project study area should also be pursued. Figure 35 indicates where the most critical areas are for this off-property screening. The segment of road from Rice Canyon and Couser Canyon Road east to the project property limits is the most crucial area needing screening. However, since the project proponent has no control over this property, this mitigation may not be feasible.

Plantings for screening will consist of native tree and shrub species selected for their compatibility with existing adjacent vegetation types. Where feasible, trees impacted by the landfill or by the SR-76 realignments will be transplanted to locations appropriate for their cultural requirements. Plant species used will attempt to match the existing floral variety and will include:

Western Sycamore (Platanus racemosa)
Black Cottonwood (Populus trichocarpa)
Fremont Cottonwood (Populus fremontii)
White Alder (Alnus rhombifolia)
Goodding Willow (Salix gooddingii)
Pacific Wax Myrtle (Myrica californica)
Bay Laurel (Umbellularia californica)
Catalina Perfume (Ribes viburnifolium)
California Rose (Rosa californica)

With these mitigations, the visual quality **significant** impact would be reduced to **below a level of significance.** Even without the continuous screening recommended by mitigations listed above, the visual quality impact can be reduced to below a level of significance. However, without this screening, the landform impacts discussed below, will not be mitigatible unless a full highway screening program can be implemented.

The landfill will have a negative impact on the landform quality of the area. The natural landforms located to the east, south and west of the site will be sharply contrasted with. The landfill will not easily take on the appearance that it is anything but man-made. The overall size and mass of the landfill will dominate the visual scene, though the adjacent Gregory Mountain landform will still be superior. The engineered landfill face will be the most apparent landform impact associated with the landfill operation. Because this face will be constructed in phases, its appearance will take on a distinctive age layering regardless of the mitigation methods used. To the degree that is functionally possible, landform manipulation and surface revegetation will be maximized to help the landfill face blend into the surrounding hillsides and is assumed to be part of the base project. The landfill will have a **significant** impact on the **landform quality** of the area *(Landfill-Landform Quality Impact 3).*

Mitigations for Landform Quality Impact 3: The adversity of the impact can be reduced through a variety of mitigation measures. Landform grading of the benches and lifts must be required **(VMM-3)**. Blending of created landforms with adjacent landforms can be achieved by: manipulating the landform to resemble or meld with its surroundings, planting to create the pattern resembling the adjacent vegetation matrix and its colors, and incorporating boulders into the final grades to create the rocky texture of the surrounding hillsides. Those these mitigations will reduce the extent of the landform impact, the shear size and mass of the landfill, the landform quality **significant** impact would remain **significant and should be considered as a long term, unmitigatible significant impact.**

The landfill will cause the loss of a major visual resource in the area. Extensive amounts of visual resources such as oak trees, native vegetation and rock outcrops

in the canyon where the landfill is proposed will be lost. These elements do make up the character of the area and are considered to be important resources. The visibility of the area is high enough to have these visual resource losses noticed. The landfill will have a **significant** impact on the **visual resources** of the area *(Landfill- Visual Resource Impact 3).*

Mitigations for Visual Resource Impact 3: New revegetation areas will be needed to mitigate for the loss of visual resources **(VMM5)** as well as for biological mitigation. Areas that are within public view must be considered (such as adjacent to the facility area or within the abandoned Lucia Dairy parcels). This revegetation must contain both oak woodland habitats as well as riparian plantings. Placement of these trees must occur along the highway as well so that they can serve the dual purpose of screening the landfill and mitigating for the loss of visual resources **(VMM1)** . Wherever possible, the use of boulders and rock outcrops that have been removed from the site, will be placed in replanted areas. The rock outcrops look most natural at the base of slopes but could also be used along the outer edges of the highway **(VMM4)**. With these mitigations, the visual resource **significant** impact would be reduced to **below a level of significance.**

The landfill will change the character of the visual scene and this change will be noticeable. Though the landfill will not block any views of regionally or sub-regionally significant view scenes, it is part of the San Luis Rey Valley that is considered to be a sub-regionally significant view scene. Since the size of the project is dramatic, the landfill has the ability to change a significant portion of the valley. However, it is not large enough to dominate the entire valley. Therefore, the landfill will have an **adverse** but less than significant impact on the **view quality** of the area *(Landfill- View Quality Impact 1).*

Mitigations for View Quality Impact 1: If the mitigations listed under the visual quality and landform quality impact sections listed above are implemented, then the view quality adverse impact will be reduced to **below a level of significance**.

Based on the reported community goals expressed in various County of San Diego documents as well as the Pala and Fallbrook community plans, the landfill project would not be consistent with these adopted goals. Though specific goals can not be used to determine thresholds, it is clear that these documents recognize the visual character of the area and specify goals to protect this character. Attainment of future goals would be difficult but not impossible. Given the mitigations that are possible, the project could be brought into more compliance with these community goals. Therefore, the landfill will have an **adverse** but less than significant impact on the **neighborhood character** of the area *(Landfill- Neighborhood Character Impact 2).*

Mitigations for Neighborhood Character Impact 2: If the mitigations listed under the visual quality and landform quality impact sections discussed above are implemented, then the neighborhood character adverse impact will be reduced to **below a level of significance**.

5.6.7 Powerline Realignment

The proposed project will require the relocation of the high tension SDG & E power lines running through the middle of the site. This will occur at later stages of the landfill development. Because these towers are not intruding into the skyline and based on the open lattice powerline structure, they are difficult to see from 1 to 3 miles, and impossible to see beyond 3 miles. This is assuming clear atmospheric conditions without haze. The haze will drop the visibility even further. Because of the lack of visibility, visual quality, view quality, visual resources and neighborhood character impacts associated with the relocation of the 2 towers is considered to be **insignificant.**

The access roads and graded pads associated with these towers are generally more visible than the towers themselves. Under this project phasing scheme, a new access road to these towers will be required, though eventually the upper top of the landfill will be used for access. A significant area of grading will be required in order to create the three pads needed for existing and future powerline towers and poles. Because of the elevated nature of this pad, the number of highway viewers that would see the pad, and due to its extreme cut slopes and massive size, this portion of the powerline realignment would have a **significant** impact on the **landform quality** of the area, especially Gregory Mountain (*Powerline- Landform Quality Impact 3*). It should be noted that these impacts are considered not to be permanent, since the landfill surface will eventually (within 15-20 years) hide much of the exposed pads and cut slopes of these powerlines.

Mitigations for Landform Quality Impact 3: A variety of mitigation measures must be implemented to reduce this impact. The primary mitigation will be the redesign of the facility **(VMM-10)**. Every effort should be made to reduce the actual footprint needed for the powerlines. When comparing the existing pads that support the powerline towers, the area is less than 10% of the size of these proposed pads. Though future powerline pole requirements will need

to be accommodated and would increase the size of the pad dramatically, it should still be able to be at least half of the current size shown. The extensive cut slopes must be permanently revegetated and landform grading techniques must be used to blend it in with adjacent landforms **(VMM-3).** The cut face of these pads will be sculpted in such a manner to allow rock outcrops to remain and be prominent. The addition of other rock-outcrops will be required **(VMM-4)**, where they do not interfere with the access and maintenance requirements of the towers. Revegetation must take into account the contrast and color **(VMM-7)** as well as texture matching of the revegetation **(VMM-8)** so that it can blend back into the local setting better. With these mitigations, the landform quality **significant** impact would be reduced to **below a level of significance.**

5.7 Residual Impacts to Stationary Viewers

The individual impacts associated with each key view were described in previous sections. Cumulative effects of these individual impacts would occur to the overall character of the area. Development of a landfill at the Gregory Canyon site would result in the alteration of existing landforms and visual characteristics of the San Luis Rey Subregional unit. Impacts to visual quality would include grading for the landfill operations, access roads, associated graded slopes, unnatural terrain features, and the loss of natural vegetation.

Visual resources of the Gregory Canyon site would be significantly degraded by the proposed project. The project would not be able to meet the BLM VRM Class III objectives because it would create a strong contrast with the existing setting and impacts would be apparent to the casual observer from within the San Luis Rey, Rice Canyon and Couser Viewsheds as well as along SR 76.

Even though the level of contrast with the existing visual setting will be dramatic, the limited number of stationary viewers (excluding highway viewers) is below the stated 1,000 viewers listed for the threshold for these impacts. Therefore, from a stationary viewer (primarily residential viewers) standpoint, the residual impact should be considered **adverse but less than significant**. The adverse impacts associated with visual quality, visual resources, view quality and neighborhood character are all partially mitigatible but will remain adverse because of the severity of contrast to the local scale and visual setting of the area. The adverse impacts associated with landform will remain adverse since it is not possible to screen the landfill from all stationary viewers in the full viewshed. It should be noted that the landform impacts are considered as significant under section 5.8 but only adverse to stationary viewers. The only reason this impact is not considered significant to stationary viewers, is due to the limited number (less than 100) of residences and non-highway viewers in the area.

5.8 Residual Impacts to Highways Viewers

Siting of a landfill at this location would significantly degrade views along a two mile stretch of SR-76, a highway that qualifies for a third priority scenic highway designation. The landfill does not directly block a regionally or sub-regionally important public view, nor does it remove public viewing spots of

Table 7

IMPACT SUMMARY	Significance as Seen from Key Views 1	2	3	4	5	6	7	8	9	10	Summary of Impact	Impact Category	Mitigation Measures	Effectiveness of Mitigation	Rating after Mitigation
Project Element															
1). SR 76 Realignment & Slopes	-	-	A	-	-	-	-	-	-	-	**A**	VR	1,5,6	FM	**I**
2a). Entry Road	-	-	-	-	-	-	A	-	-	-	**A**	VC	1,5,6	FM	**I**
2b.) Entry Road Bridge	-	-	-	-	-	-	A	-	-	-	**S**	VR	1,5,6	FM	**I**
3a.) Lower Stockpile	A	-	S	-	-	-	A	I	-	-	**A/S**	VC/LQ	1,2,3,5,6,7,8	PA	**A**
3b.) Upper Stockpile	A	-	-	-	-	-	-	I	S	-	**S/A/S**	VC/NC/LQ	1,2,3,5,6,7,8	PA	**A**
4.) Ancillary Support Facilities	-	-	A	-	S	S	A	A	-	-	**S**	VC	1,3,4,5,6,7,8	FM	**I**
5) Landfill Face / Surface	A	A	S	S	S	S	S	A	-	S	**S/S/S/A/A**	LQ/VC/VR/VQ/NC	1,3,4,5,6,7,8,9,10	PM	**S**
6.) Relocation of Utility Tower	-	-	I	I	S	S	I	I	-	-	**S**	LQ	3, 4, 7, 8, 10	FM	**I**
Composite Impact per Keyview	**A**	**A**	**S**	**S**	**S**	**S**	**S**	**S**	**S**	**S**					

SIGNIFICANCE LEGEND

Significant	S
Adverse but Less than Significant	A
Insignificant	I
Not Seen or No Impact	-

MITIGATION SUCCESS LEGEND

Fully Mitigated to an Insignificant Level	FM
Partially Mitigated but Still Significant	PM
Partially Mitigated but Still Adverse	PA

VISUAL IMPACT CATEGORY

Landform Quality	LQ
Visual Character / Quality	VC
Visual Resources	VR
View Quality	VQ
Nieghborhood Character	NC

MITIGATION LEGEND

Landscape Screening	VMM1
Landform Screening	VMM2
Landform Grading	VMM3
Rock Outcrop Placement	VMM 4
Major Tree Groupings	VMM 5
Native Revegetation & Landscaping	VMM 6
Contrast & Color Matching	VMM 7
Texture Matching	VMM 8
Engineering Structure Adjustments	VMM 9
Adjustments to Project Footprint	VMM 10

VMM= Visual Mitigation Measure

these important views. It does, however, affect the visual scene of the area. The canyon, hills, riparian areas, natural slopes and agricultural uses all contribute to a neighborhood character that is relatively intact. The proposed project would change this visual scene and create a significant view quality impact. Views from the stretch of highway that runs through Gregory Canyon property will be screened by large trees, as proposed by mitigations for this impact. All on-property segments of the highway will be planted with screening. A few short segments will require special planting wells and slope containment structures in order to accommodate these plantings. Figure 35 indicates the locations of these plantings. Table 8 indicates the numbers of acres and viewing points along the highway that would be screened by the implementation of this screening program. A computer model set 22 points along the highway and analyzed the number of acres of the landfill surface that can be seen with and without screening. A 35' high vegetation screen was assumed to be plausible on a long term basis. This analysis showed that the landfill would drop from being seen from most all points along the highway to only few points. Almost half of the acres of the landfill would be removed from visibility to the highway viewer. Less than 20% of the landfill would be seen from more than 6 points along the highway. This on-property screening along with other mitigations discussed above, would **fully mitigate** the **significant view quality** impact from the on-property segment of highway.

Off-property landform quality impacts, however, would remain significant. Though an extensive screening program, as indicated on Figure 35 would effectively screen the landfill and stockpiles from the highway viewer, the feasibility of this screening is in question. Unless the project proponent were able to obtain easements and approvals from other private property owners as well as from CALTRANS and the County of San Diego, this mitigation would not be feasible. As such, the significant landform quality impacts as seen from the off-property highway segments, would remain **significant**.

Cumulative effects of individual impacts would occur to the overall character of the area. Development of a landfill at the Gregory Canyon site would result in the alteration of existing landforms and visual characteristics of the San Luis Rey Subregional unit. Impacts to visual quality would include grading for the landfill operations, access roads, graded slopes, unnatural terrain features, and the loss of natural vegetation.

Visual resources of the Gregory Canyon site would be significantly degraded by the proposed project. The project would not be able to meet the BLM VRM Class III objectives because it would create a strong contrast with the existing setting and impacts would be apparent to the casual observer from within the San Luis Rey, Rice Canyon and Couser Viewsheds as well as along SR 76.

Since the level of contrast with the existing visual setting will be dramatic, the number of highway viewers is above the stated 1,000 viewers listed for the threshold for these impacts, these impacts would be significant. Currently 2,628 east bound daytime drivers exist and another 2,822 west bound daytime drivers will see a substantial portion of the project elements. Therefore, from a highway viewer standpoint, the landform quality impact is considered **significant**. The significant impacts associated with visual quality and landform quality are all **partially mitigatible** but will remain **significant** because of the severity of contrast to the local scale and visual setting of the area. This impact should be considered as a **long-term unmitigable landform** impact.

5.9 Reduced Project Elevation Alternative

Discussion in Chapter 4 indicated the differences of visibility of the landfill surface when the overall height was reduced below the proposed 1,100 foot elevation. In order to reduce the visibility of the landfill slope and surface, a reduced height is necessary. An elevation of 950 to 1,000 feet would limit a significant amount of the viewshed, especially in Couser Canyon, South Pala Mesa and along SR-76. The actual landform as it currently stands, is an appropriate shape for the setting. A flat top landfill would contrast more with the adjacent setting. If the landfill is lowered, it should still contain a crowned top as currently proposed.

The analysis in Chapter 4 indicated that the viewshed would increase by 116% assuming a baseline elevation of 925' that was extended to 950 feet. The total number of acres would increase from 2,425 to 2,818. This increase is relatively minor. However, if you look at the cumulative increased total acres within the viewshed when going from 925' to 1,100', the increase is substantial, almost doubling the visibility of the landfill. The overall impact to viewsheds in Couser Canyon, portions of Rice Canyon, and the West San Luis Rey Canyon would be reduced significantly. However, the total number of residents are relatively low in these viewsheds.

The visibility of the upper landfill as it climbs above the ridgeline (as seen from the West San Luis Rey and South Pala Mesa viewsheds) is decreased with the lower elevations of this reduced landfill. In fact, only a small portion of the visibility of the landfill will remain if it is held below 950'. However, these viewers are at a fair distance from the landfill and the contrast with the existing setting is not extreme.

When the viewer groups located on the highway through the project property as well as those on the North Hillside and East San Luis Rey Canyon are analyzed, the overall height of the landfill is not that important. The face of the landfill will still be visible at almost any height. This visibility to the close viewers can be decreased by the proposed highway planting plan. However, all areas along the highway that are not under the direct control of the project proponent, may still be visible since planting of these areas for screening purposes is not assured. Because of this fact and the lack of assurance that these viewers could be screened completely from the landform impacts associated with the landfill, a reduced height alternative **would not reduce the impacts to below a level of significance**. The reduced height would certainly decrease impacts to the Couser, Rice Canyon and South Pala Mesa residents and to highway viewers to the west of the site, but since little can be done about the landform impacts to the remaining viewers, the alternative does not eliminate this impact and the landform quality impact would remain **significant**.

5.10 Reduced Project Footprint Alternative

The Reduced Footprint Alternative would have a smaller area for landfilling than the project. The landfill would be pulled back into the canyon further and the high points of the landfill would be shifted to the east and west edges of the southern portion of the landfill. The high point of the landfill would be 980' but would be shifted towards Gregory Mountain in order to avoid a silhouette against the ridgeline saddle (as seen from the highway). See Figure 36 and contrast this simulationwith that shown on Figure 30 to see the changes in visual impact. The preliminary grading analysis indicates that this project would allow for 40% of the capacity of the full volume / height project. In order for the landform of the landfill surface to not dominate and contrast with adjacent landforms, the shape and scale of the landform would have to be reduced dramatically. The landfill surface and front slope would have to be reconfigured and pulled southward into the canyon in order for it to not be seen from the portions of the highway that can not be screened. Because several of the viewpoints along the highway look into the mouth of the canyon, this pulling back of the landfill surface will still be highly visible. To reduce the dominance of the landform from these keyviews, the upper surface must not be allowed to silhouette against the skyline. This would allow the existing ridge and saddle south of the site to dominate the visual scene without being interrupted by the landfills upper surface.

If the Reduced Project Footprint Alternative were to be implemented, all of the impacts listed under the Project Alternative would be reduced. Many of the significant impacts associated with each of the individual viewsheds would also be reduced to below a level of significance. These impacts include view quality, visual quality, visual resources, landform quality and neighborhood character. With the Reduced Project Footprint, the landform grading requirements, the revegetation of the disturbed areas, the highway screening and the other mitigations listed in the previous section, all significant impacts could be reduced to below a level of significance.

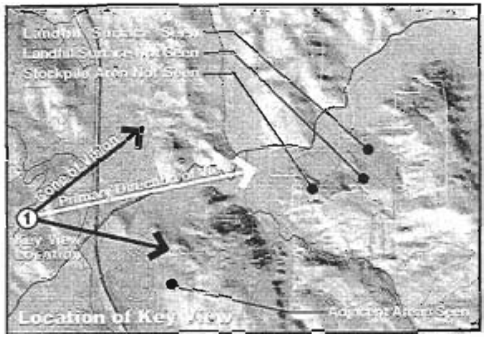
5.11 Aqueduct Realignment Alternative

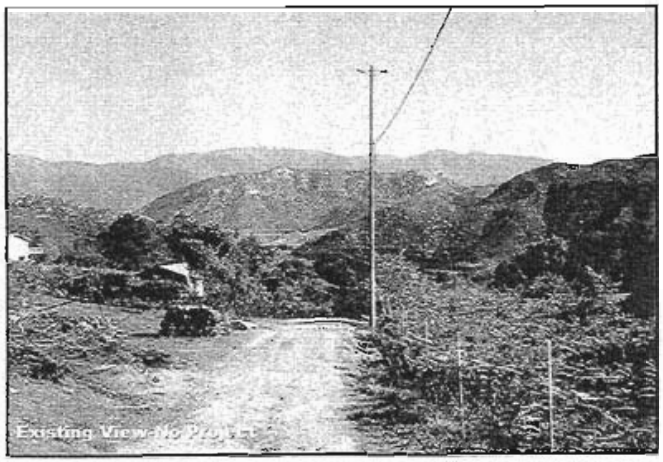
As proposed, the project will be required to protect the existing aqueduct system that runs through the site. However, if this protection is not considered adequate, a project alternative will be required that relocates the aqueduct to the west. This option will run the pipeline west of the project footprint initially through cattle grazing fields and then up an approximately 500 foot high hill. The most evident area to be cleared of vegetation (potentially a 275 foot wide area) will run 500 feet up the face of the hill directly west of the project support facility footprint. As currently described, this project element **will have a significant visual quality impact**. The 275 foot wide swath will be highly visible and will contrast with the adjacent color and texture of the area. The impact can be mitigated through the implementation of landform grading (**VMM3**), revegetation (**VMM6**), and through the color and texture matching efforts of the structures and vegetation (**VMM7 & 8**). Also, the appearance of man-made structures such as portals and air vents could be subdued by adjustments to engineered structures (**VMM9**). These adjustments would include the use of non-reflective materials and colors that match the adjacent areas. In addition, the removal of the air vents, roadway and other visual scars associated with the existing aqueduct corridor could help to offset the visual quality impacts associated with the new aqueduct realignment. With the implementation of the recommended mitigations, this significant visual quality impact would be reduced to **below a level of significance.**

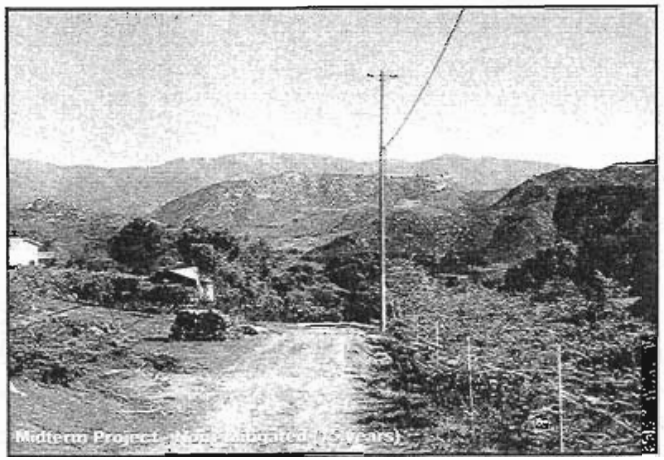
Table 8: **Effectiveness of Highway Screening**

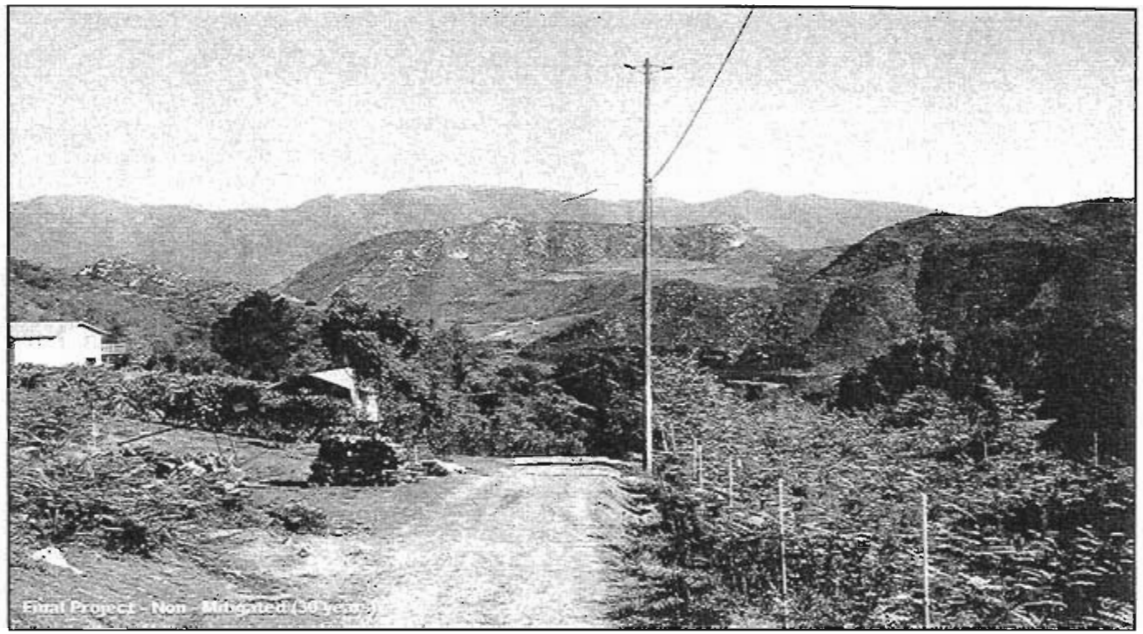
	Acres of Landfill Currently Visible from the Highway		*Acres of Landfill Visible After Highway Screening*	
Not Visible	85.20	40.9%	95.08	45.7%
1-3pts	19.42	9.3%	72.36	34.8%
4-6pts	18.92	9.1%	40.72	19.6%
7-9pts	17.46	8.4%		
10-12pts	30.46	14.6%		
13-17pts	36.70	17.6%		
22pts total	**208.15**		**208.15**	

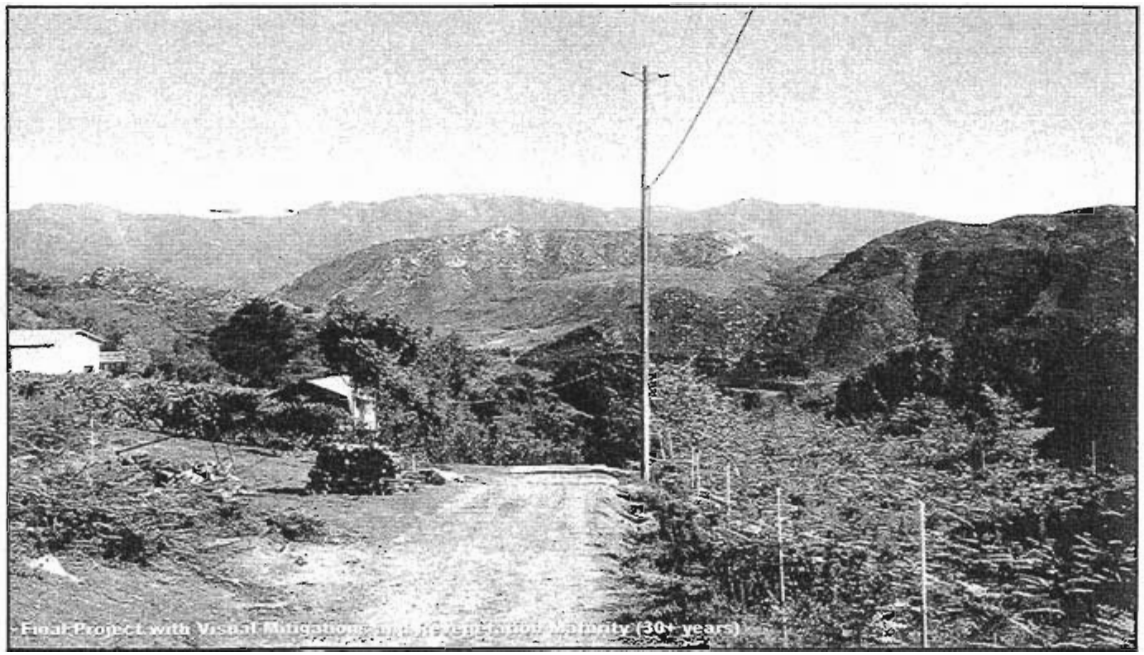
Keyview 1
(Figure 25)
Pala Mesa











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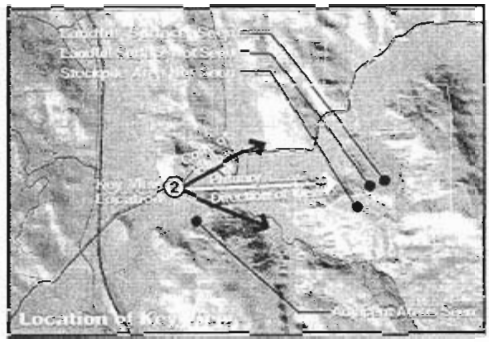
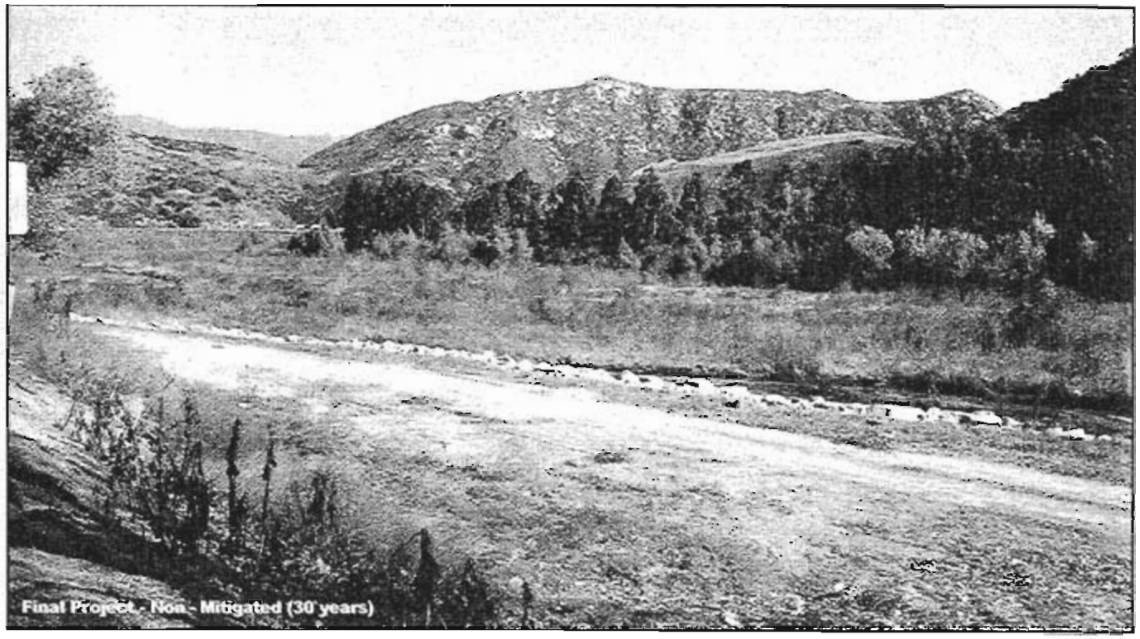
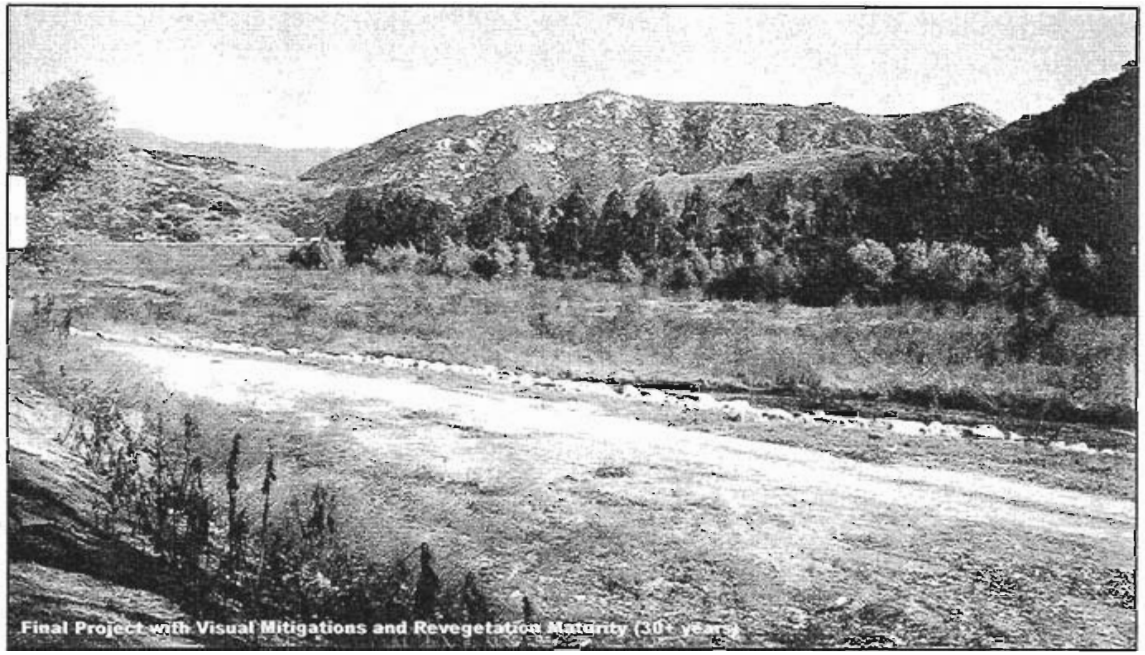
Keyview 1 (Figure 25)
Pala Mesa

Keyview 2
(Figure 26)

West San Luis Rey Canyon







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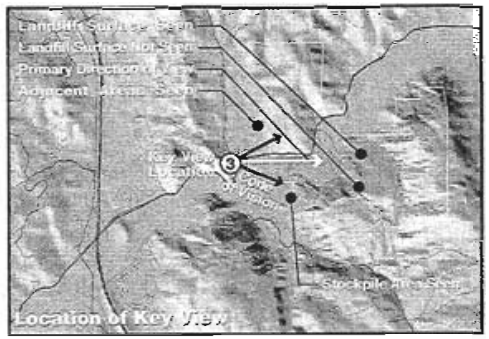
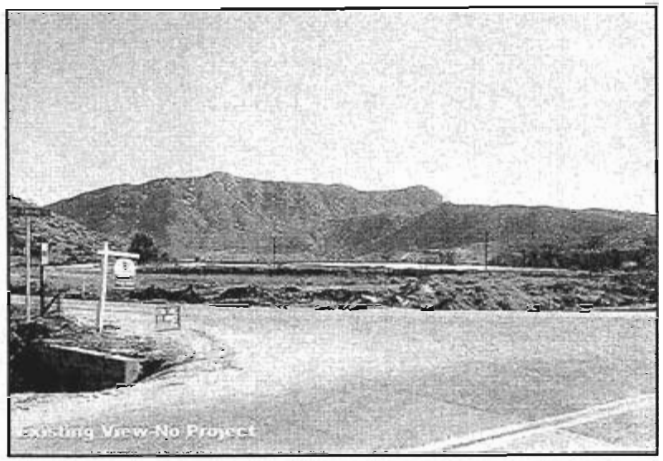
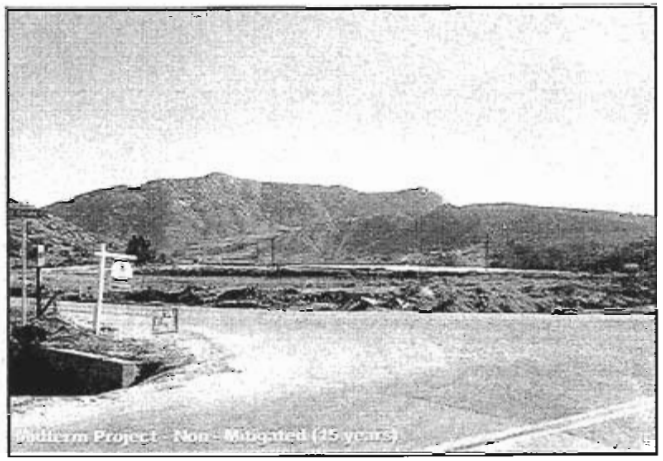
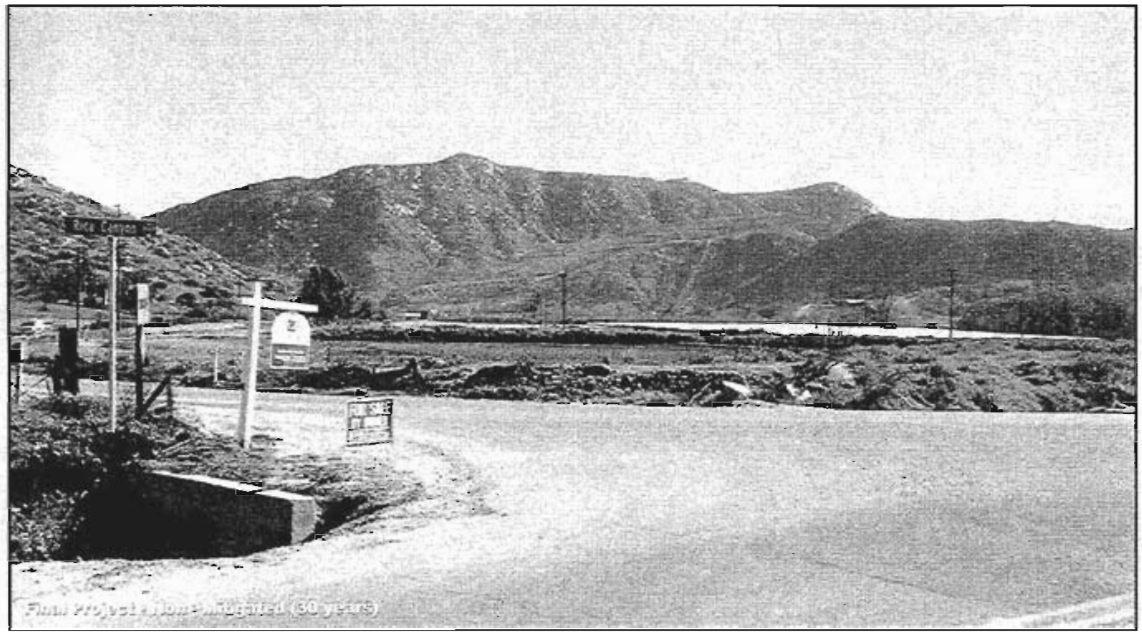
Keyview 2 (Figure 26)
West San Luis Rey Canyon

Keyview 3
(Figure 27)
Rice Canyon









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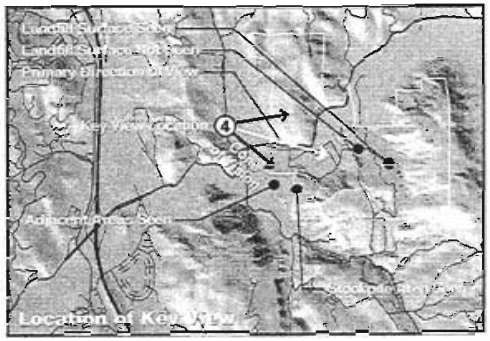
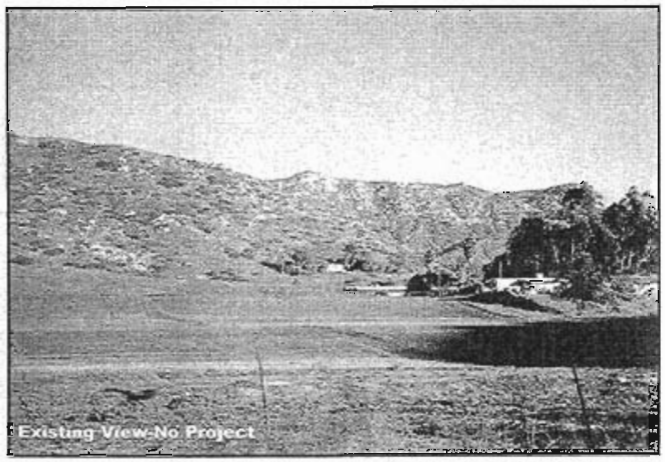
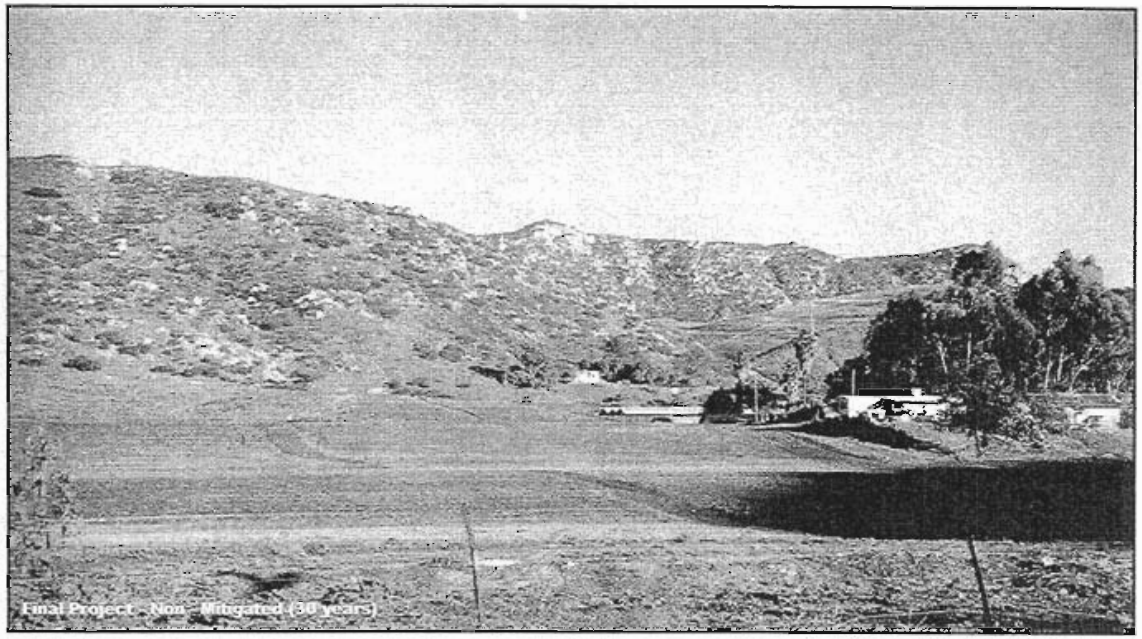
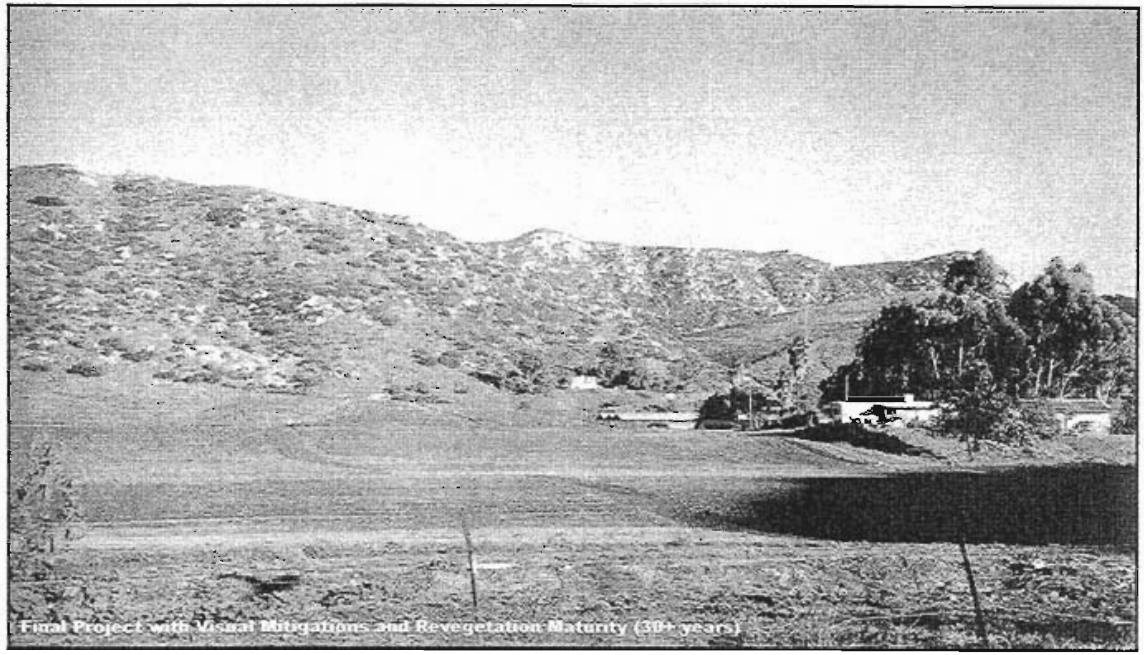
Keyview 3 (Figure 27)
Rice Canyon

Keyview 4
(Figure 28)
Rice Canyon









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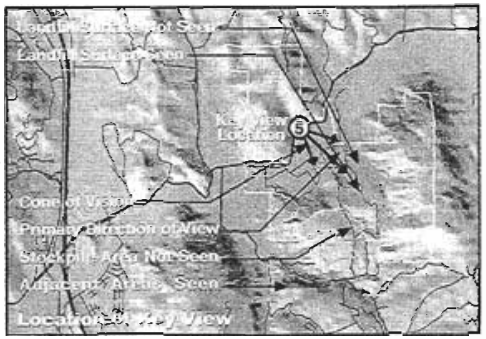
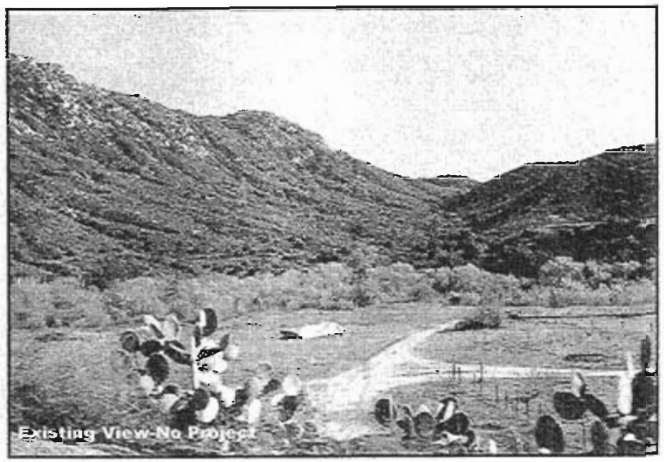
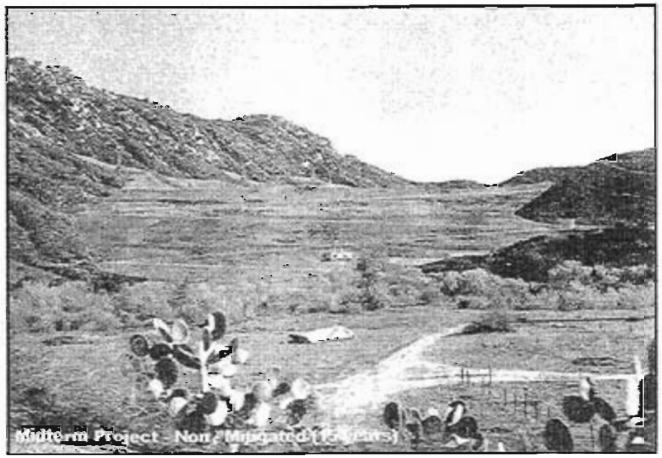
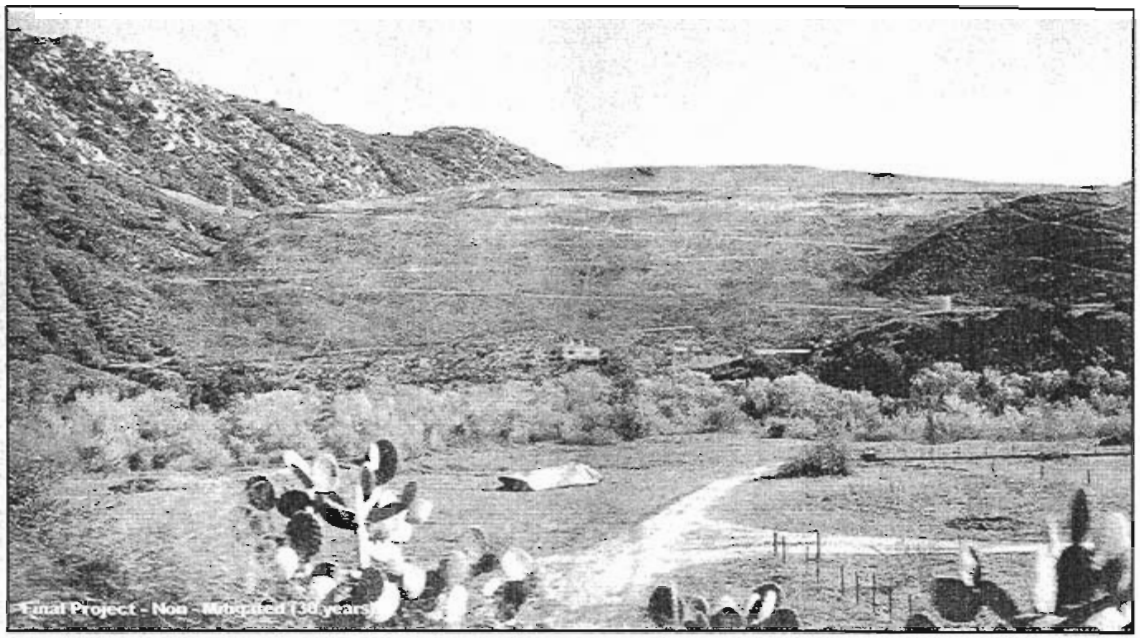
Keyview 4 (Figure 28)
Rice Canyon

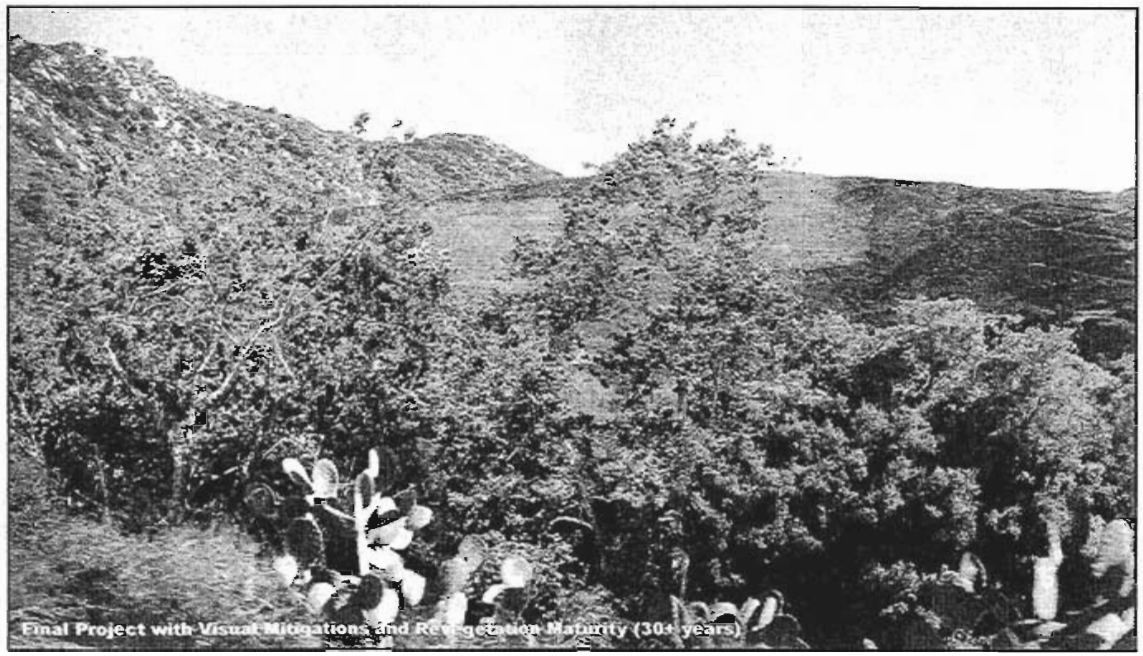
Keyview 5
(Figure 29)
East Bound Highway 76











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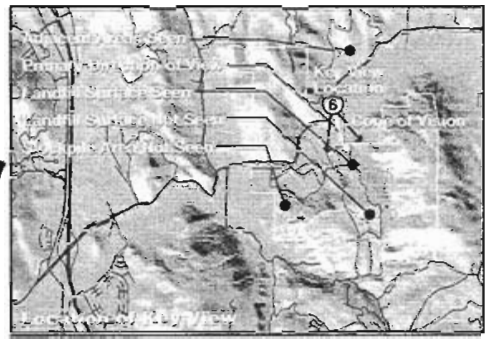
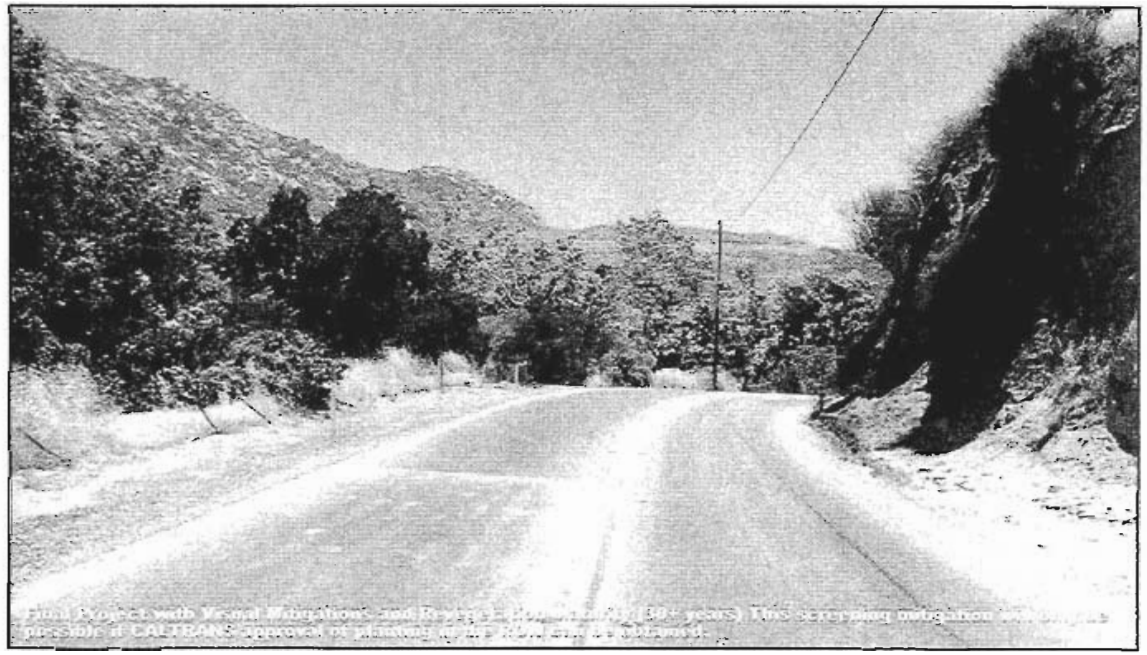
Keyview 5 (Figure 29)
Eastbound Highway 76

Keyview 6
(Figure 30)
West Bound Highway 76





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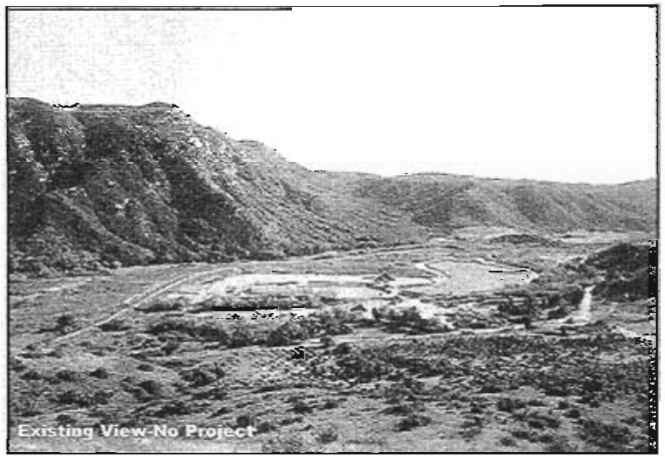
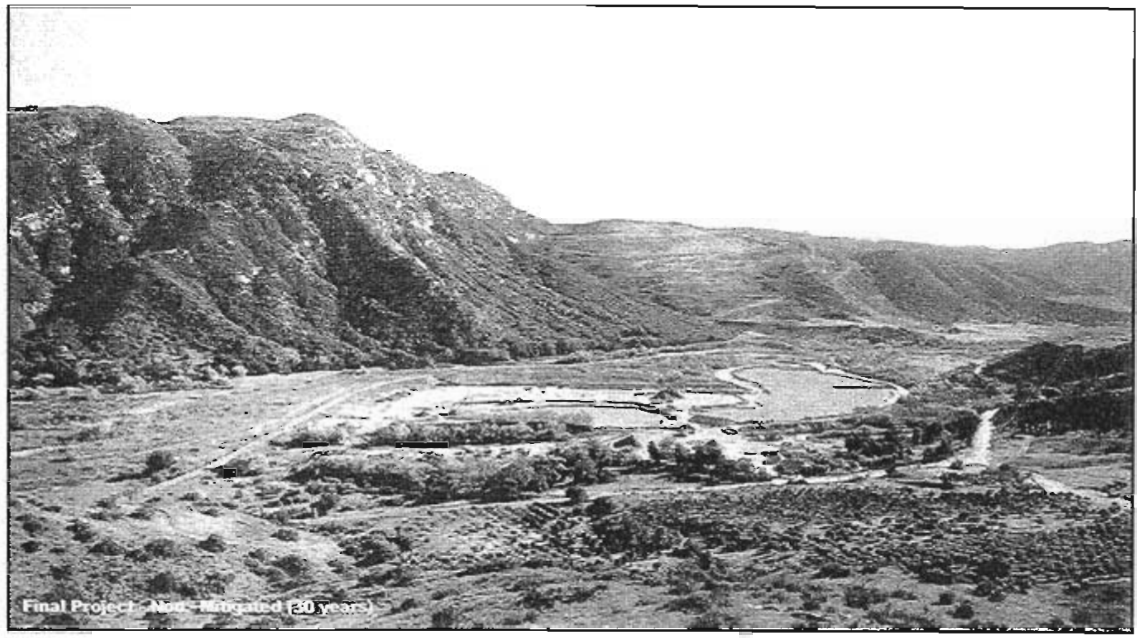
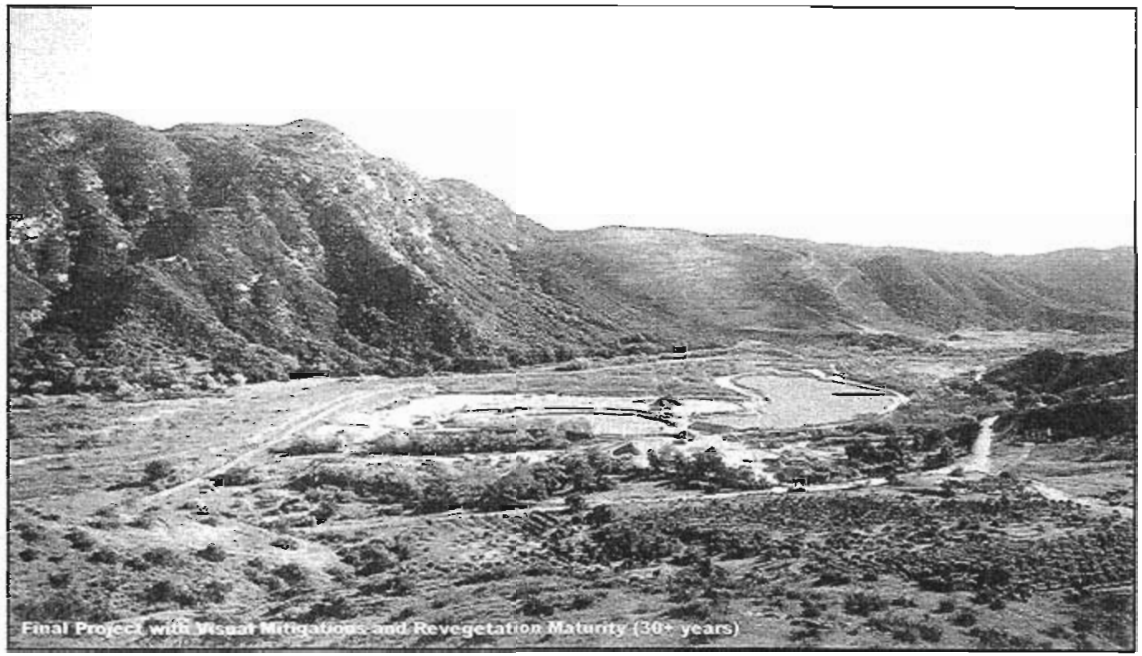
Keyview 6 (Figure 30)
Westbound Highway 76

Keyview 7
(Figure 31)
North Hillside







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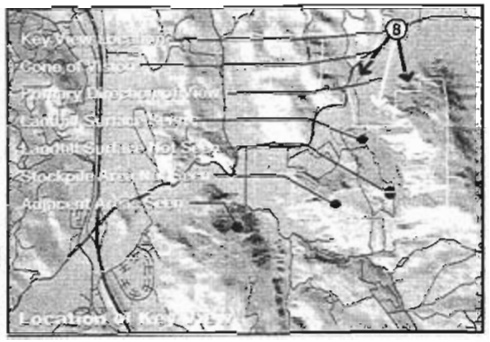
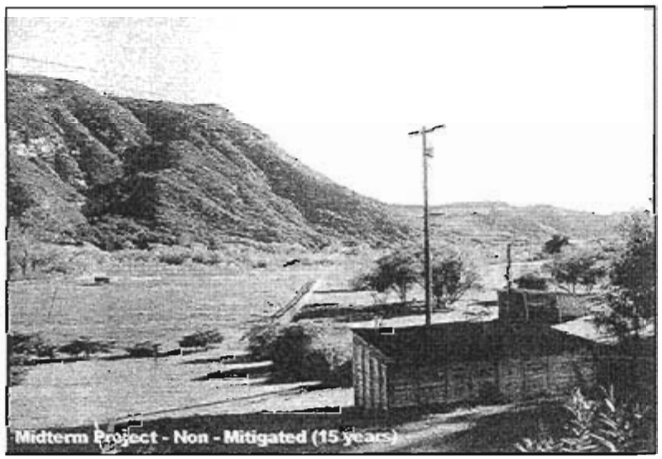
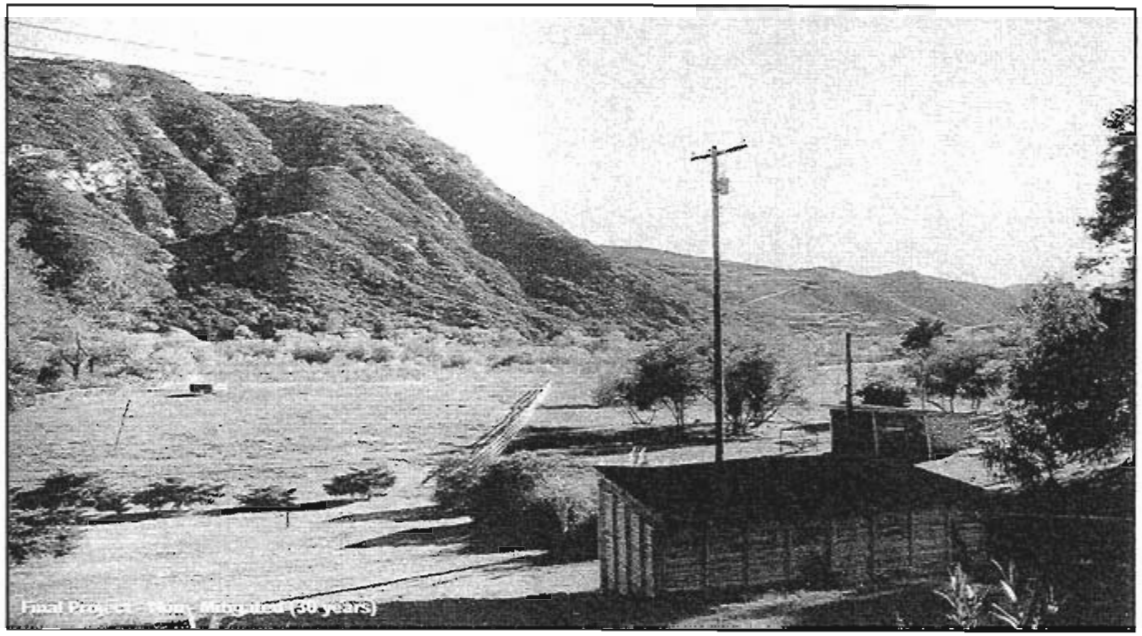
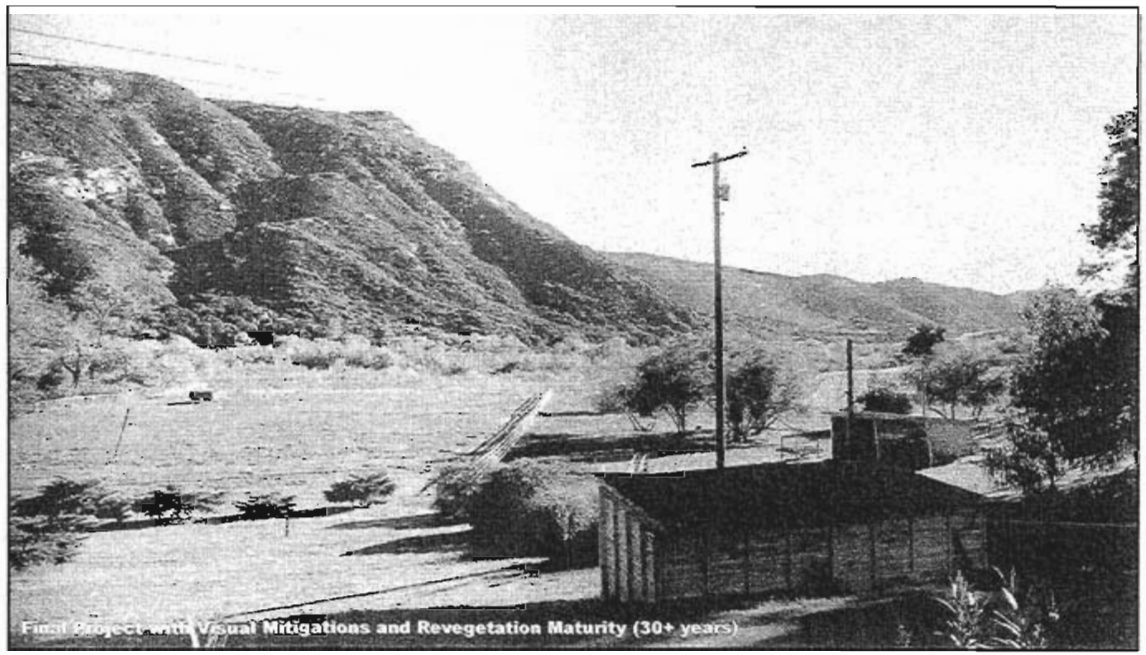
Keyview 7 (Figure 31)
North Hillside Viewshed

Keyview 8
(Figure 32)
East San Luis Rey Canyon









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Visual Impact Assessment

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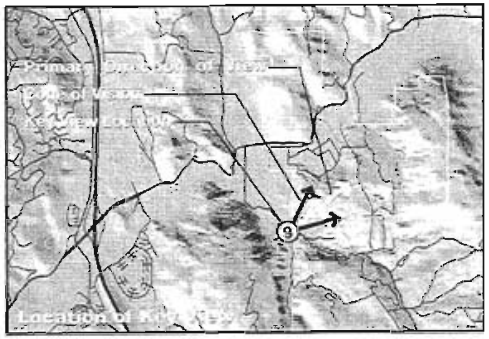
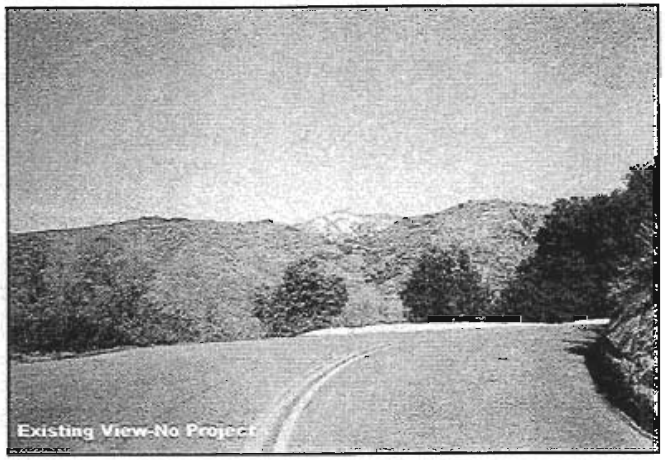
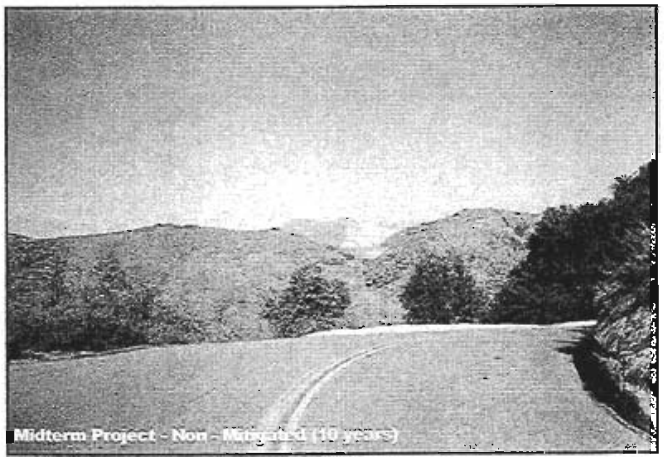
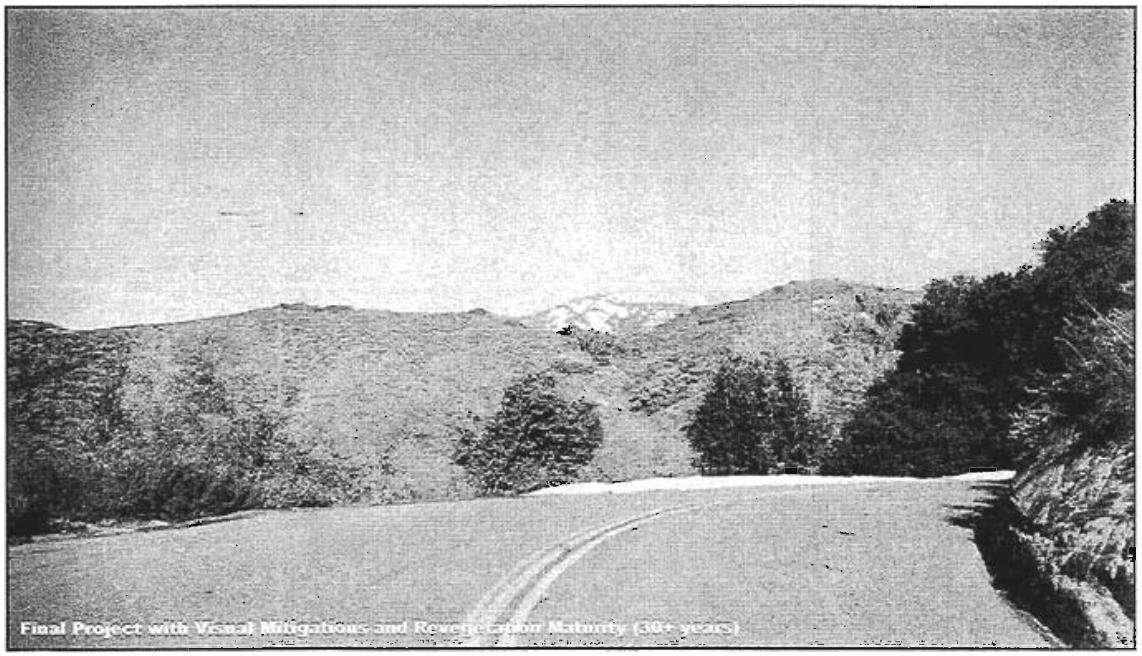
Keyview 8 (Figure 32)
East San Luis Rey Canyon

Keyview 9
(Figure 33)
Lower Couser Canyon









GREGORY CANYON LANDFILL
Visual Impact Assessment

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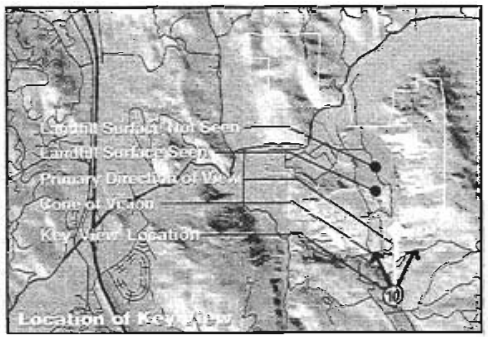
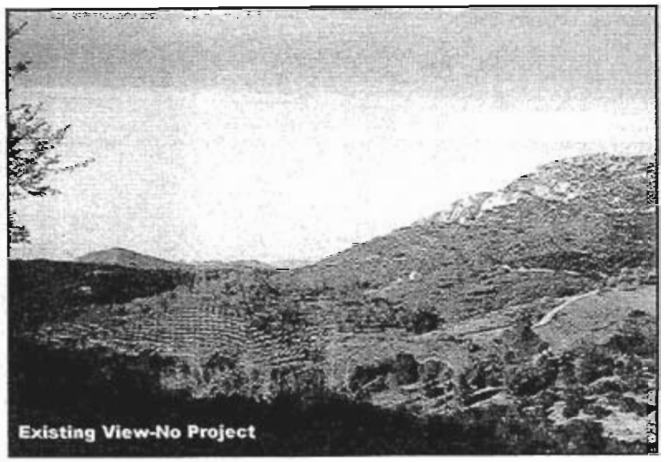
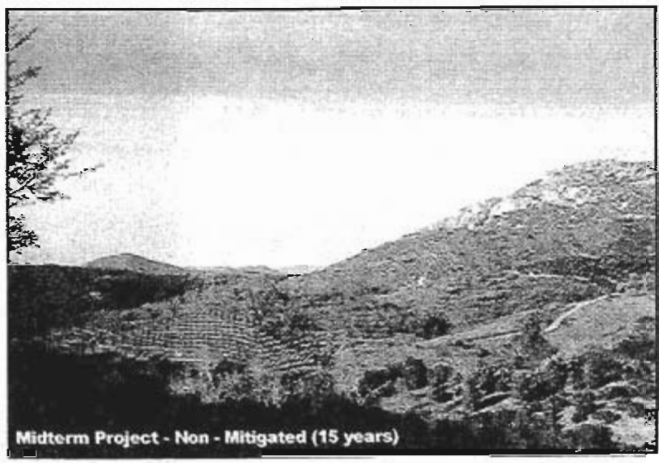
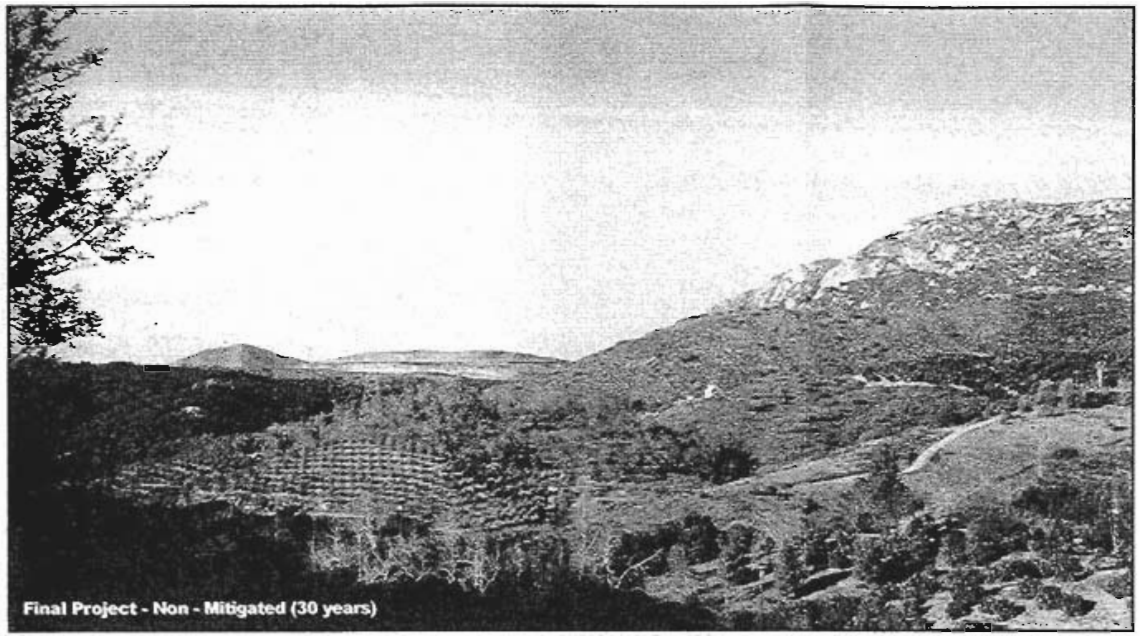
Keyview 9 (Figure 33)
Lower Couser Canyon

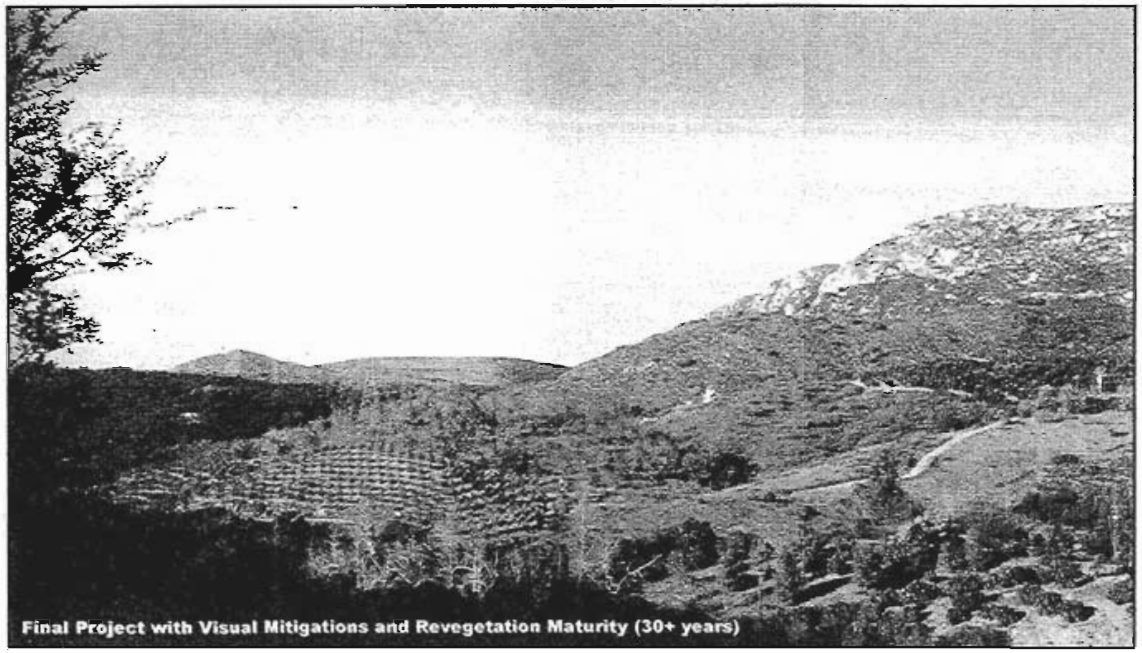
Keyview 10
(Figure 34)
Upper Couser Canyon







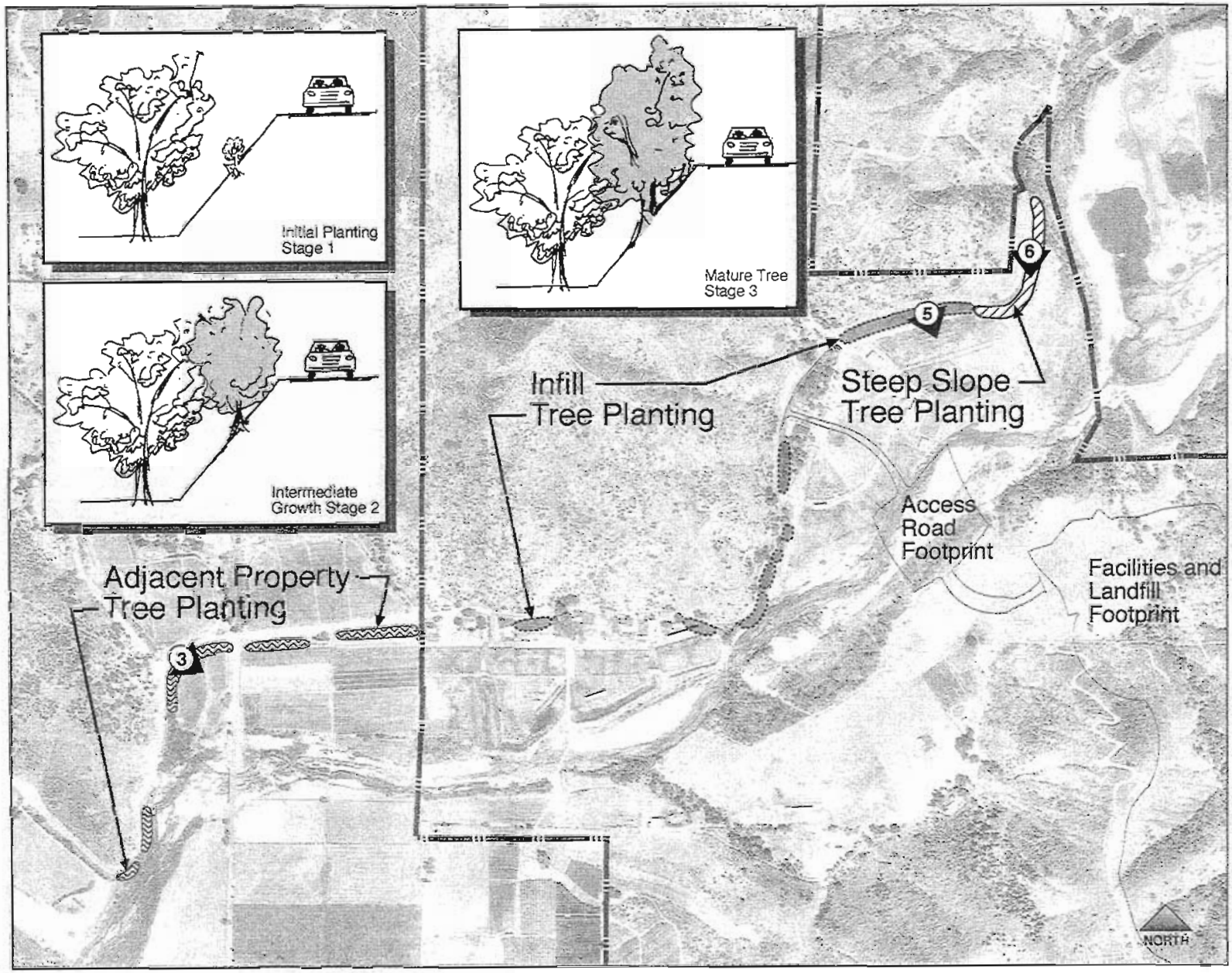




GREGORY CANYON LANDFILL
Visual Impact Assessment

These simulations have been rendered by computer. The consultant has made every attempt to accurately depict the proposed project. However, some project details may not be known and other elements are difficult to depict with 100% accuracy. The actual view of the proposed project will vary slightly from this simulation.

Keyview 10 (Figure 34)
Upper Couser Canyon



GREGORY CANYON LANDFILL

Screening Views of Landfill Surface from SR-76

Figure 35

5 Key View location

Property Boundary

Note: The areas of planting are separated into three categories: Steep Slope, Infill, and Adjacent Property. These categories reflect issues unique to each area.

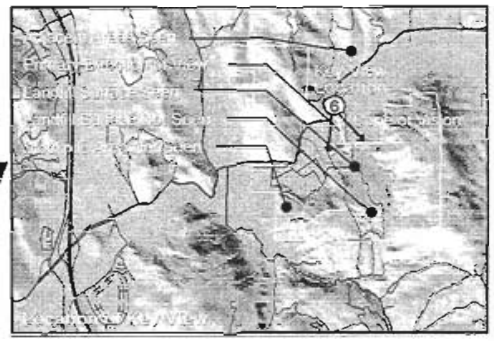
- The **Steep Slope** area is unique because of the difficulty to plant trees at a position high enough relative to the viewers (on the road) and an area that is capable of holding a full-grown screening tree. Increased construction cost will be incurred to reinforce the road base to accommodate planting, irrigation, and drainage of the screening trees.
- The **Infill** area requires no unique additional construction cost to install the plants and irrigation.
- The **Adjacent Property** area requires arrangements with the existing property owner to allow tree planting or with CALTRANS for approval of plantings in R.O.W.

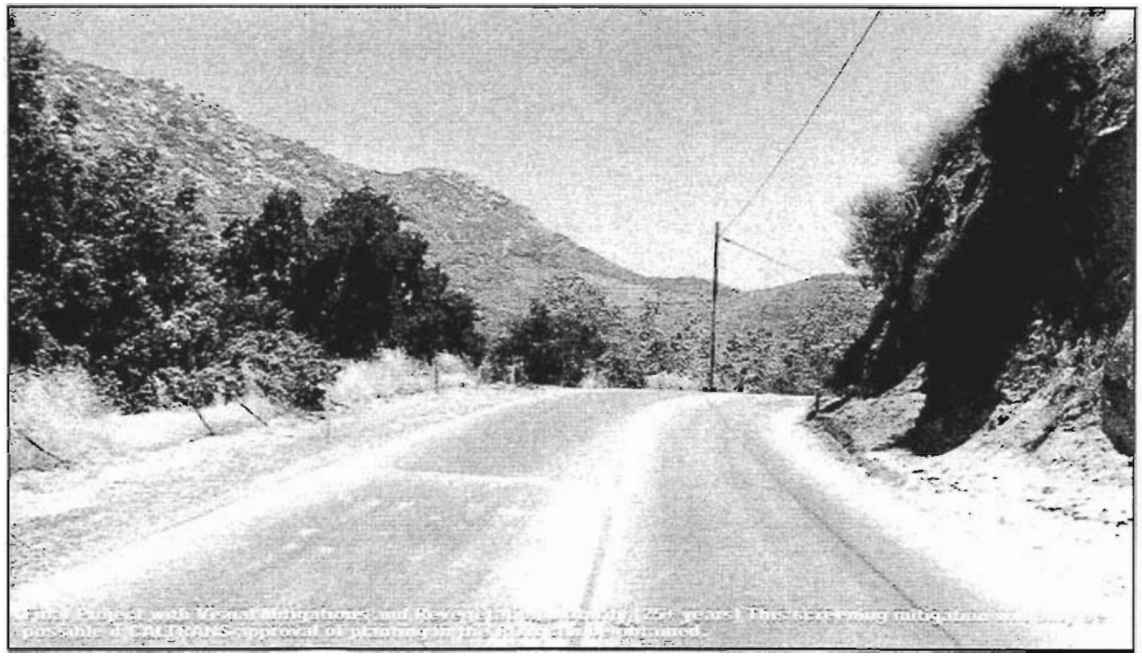
Not to Scale

Keyview 6
(Figure 36)

West Bound Highway 76

Reduced Footprint Alternative



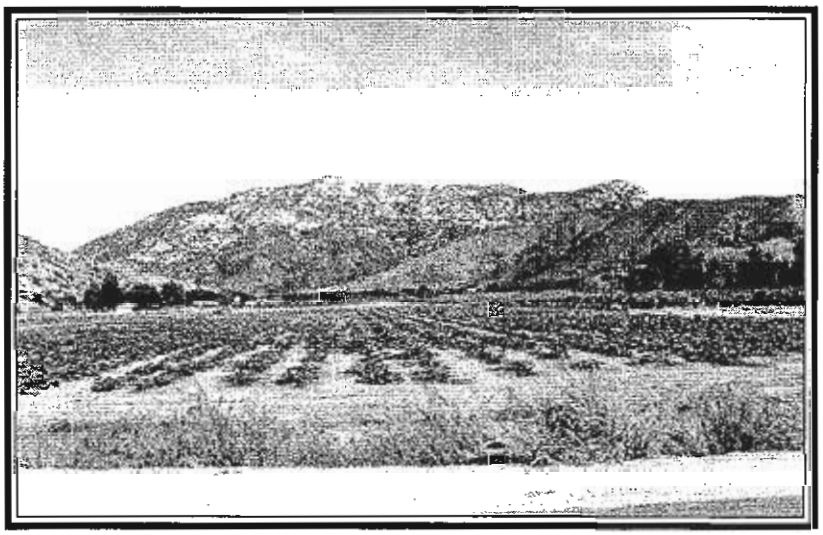


GREGORY CANYON LANDFILL
Visual Impact Assessment

These simulations have been rendered by computer. The consultant has made every attempt to accurately depict the proposed project. However, some project details may not be known and other elements are difficult to depict with 100% accuracy. The actual view of the proposed project will vary slightly from this simulation.

Keyview 6 (Figure 36)
Westbound Highway 76
Reduced Footprint Alternative

APPENDIX 1



INVENTORY WORKSHEETS

GREGORY CANYON
For landscape unit: LD 1

VISUAL IMPACT ASSESSMENT
Date: 6/20/91

SCENIC QUALITY INVENTORY AND SENSITIVITY EVALUATION CHART

scenic quality factors	high quality	moderate quality	low quality	character notes
landform	High vertical relief as expressed in prominent cliffs, spires, or massive rock outcrops; or severe surface variation or highly eroded formations including major badlands or dune systems; or detail features dominant and exceptionally striking and intriguing such as glaciers. 5	Steep canyons, mesas, buttes, cinider cones, and drumlins; or interesting erosional patterns or variety in size and shape of landforms; or detail features which are interesting though not dominant or exceptional. 3	Low rolling hills, foothills, or flat valley bottoms; or few or no interseting landscape features. 1	MANMADE LANDFORM CULTIVATED
vegetation	A variety of vegetation types as expressed in interesting forms, textures, & patterns. 5	Some variety of vegetation, but only one or two major types. 3	Little or no variety or contrast in vegetation. 1	AGRICULTURAL FIELD
water	Clear and clean appearing, still, or cascading white water, any of which are a dominant factor in the landscape. 5	Flowing, or still, but not dominant in the landscape. 3	Absent, or present, but not noticeable. 0	
color	Rich color combinations, variety or vivid color; or pleasing contrasts in the soil, rock, vegetation, water or snow fields. 5	Some intensity or variety in colors and contrast of the soil, rock, and vegetation, but not a dominant scenic element. 3	Subtle, color variations, contrast, or interest; generally mute tones. 1	
influence of adjacent scenery	Adjacent scenery greatly enhances visual quality. 5	Adjacent scenery moderately enhances overall visual quality. 3	Adjacent scenery has little or no influence on overall visual quality. 0	
scarcity	One of a kind; or unusually memorable, or very rare within region. Consistent chance for exceptional wildlife or wildflower viewing, etc. 5	Distinctive, though somewhat similar to others within the region. 3	Interesting within setting, but fairly common within the region. 1	
cultural modifications	Modifications add favorably to visual variety while promoting visual harmony. 2	Modifications add little or no visual variety to the area, & introduce no discordant elements. 0	Modifications add variety but are very discordant and promote strong disharmony. -4	AGRICULTURAL SOME
	Sub-totals	Sub-totals 3	Sub-totals 4	Total Rating 7

sensitivity factors	highly sensitive	moderately sensitive	not sensitive	
texture	Dominant mono-texture 3	Consistent variety of textures 2	Overwhelming variety of textures 0	
line	Curvelinear 5	Naturally geometric 3	Man-made geometric 0	
variety	Moderate variety of elements 3	No variety in elements 2	Large variety of elements 0	
contrast	Low contrasting elements 3	Moderate contrasts 1	Variety of contrasts 0	
intactness	Natural 5	Disturbed 3	Chaotic 0	
unity	Elements are harmonious 5	Elements are compatible 3	Elements are not harmonious 0	
	Sub-totals 6	Sub-totals 8	Sub-totals 0	Total Rating 14

GREGORY CANYON
For landscape unit: LU 2 & LU 11

VISUAL IMPACT ASSESSMENT
Date: 6/20/91

SCENIC QUALITY INVENTORY AND SENSITIVITY EVALUATION CHART

scenic quality factors	high quality	moderate quality	low quality	character notes
landform	High vertical relief as expressed in prominent cliffs, spires, or massive rock outcrops; or severe surface variation or highly eroded formations including major badlands or dune systems; or detail features dominant and exceptionally striking and intriguing such as glaciers. 5	Steep canyons, mesas, buttes, cinider cones, and drumlins; or interesting erosional patterns or variety in size and shape of landforms; or detail features which are interesting though not dominant or exceptional. 3	Low rolling hills, foothills, or flat valley bottoms; or few or no interseting landscape features. 1	RIPARIAN.
vegetation	A variety of vegetation types as expressed in interesting forms, textures, & patterns. 5	Some variety of vegetation, but only one or two major types. 3	Little or no variety or contrast in vegetation. 1	POPLARS/COTTONWOOD WILLOWS ELDERBERRY MULEFAT, ARUNDO
water	Clear and clean appearing, still, or cascading white water, any of which are a dominant factor in the landscape. 5	Flowing, or still, but not dominant in the landscape. 3	Absent, or present, but not noticeable. 0	STANDING NOT FLOWING
color	Rich color combinations, variety or vivid color; or pleasing contrasts in the soil, rock, vegetation, water or snow fields. 5	Some intensity or variety in colors and contrast of the soil, rock, and vegetation, but not a dominant scenic element. 3	Subtle color variations, contrast, or interest; generally mute tones. 1	
influence of adjacent scenery	Adjacent scenery greatly enhances visual quality. 5	Adjacent scenery moderately enhances overall visual quality. 3	Adjacent scenery has little or no influence on overall visual quality. 0	SOME VIEWS THRU TO HILLSIDES & AGRI. FIELDS.
scarcity	One of a kind; or unusually memorable, or very rare within region. Consistent chance for exceptional wildlife or wildflower viewing, etc. 5	Distinctive, though somewhat similar to others within the region. 3	Interesting within setting, but fairly common within the region. 1	
cultural modifications	Modifications add favorably to visual variety while promoting visual harmony. 2	Modifications add little or no visual variety to the area, & introduce no discordant elements. 0	Modifications add variety but are very discordant and promote strong disharmony. -4	BRIDGE & ROAD ONLY.
	Sub-totals 5	Sub-totals 9	Sub-totals 2	Total Rating 16

sensitivity factors	highly sensitive	moderately sensitive	not sensitive	
texture	Dominant mono-texture 3	Consistent variety of textures 2	Overwhelming variety of textures 0	
line	Curvelinear 5	Naturally geometric 3	Man-made geometric 0	
variety	Moderate variety of elements 3	No variety in elements 2	Large variety of elements 0	
contrast	Low contrasting elements 3	Moderate contrasts 1	Variety of contrasts 0	
intactness	Natural 5	Disturbed 3	Chaotic 0	ROAD & BRIDGE
unity	Elements are harmonious 6	Elements are compatible 3	Elements are not harmonious 0	
	Sub-totals 18	Sub-totals 3	Sub-totals	Total Rating 21

GREGORY CANYON
For landscape unit: LD 3

VISUAL IMPACT ASSESSMENT
Date: 6/20/91

SCENIC QUALITY INVENTORY AND SENSITIVITY EVALUATION CHART

scenic quality factors	high quality	moderate quality	low quality	character notes
landform	High vertical relief as expressed in prominent cliffs, spires, or massive rock outcrops; or severe surface variation or highly eroded formations including major badlands or dune systems; or detail features dominant and exceptionally striking and intriguing such as glaciers. 5	Steep canyons, mesas, buttes, cinider cones, and drumlins; or interesting erosional patterns or variety in size and shape of landforms; or detail features which are interesting though not dominant or exceptional. 3	Low rolling hills, foothills, or flat valley bottoms; or few or no interseting landscape features. 1	
vegetation	A variety of vegetation types as expressed in interesting forms, textures, & patterns. 5	Some variety of vegetation, but only one or two major types. 3	Little or no variety or contrast in vegetation. 1	ONLY SOME ISOLATED TREES & AGRI. FIELDS.
water	Clear and clean appearing, still, or cascading white water, any of which are a dominant factor in the landscape. 5	Flowing, or still, but not dominant in the landscape. 3	Absent, or present, but not noticeable. 0	
color	Rich color combinations, variety or vivid color; or pleasing contrasts in the soil, rock, vegetation, water or snow fields. 5	Some intensity or variety in colors and contrast of the soil, rock, and vegetation, but not a dominant scenic element. 3	Subtle color variations, contrast, or interest; generally mute tones. 1	
influence of adjacent scenery	Adjacent scenery greatly enhances visual quality. 5	Adjacent scenery moderately enhances overall visual quality. 3	Adjacent scenery has little or no influence on overall visual quality. 0	
scarcity	One of a kind; or unusually memorable, or very rare within region. Consistent chance for exceptional wildlife or wildflower viewing, etc. 5	Distinctive, though somewhat similar to others within the region. 3	Interesting within setting, but fairly common within the region. 1	
cultural modifications	Modifications add favorably to visual variety while promoting visual harmony. 2	Modifications add little or no visual variety to the area, & introduce no discordant elements. 0	Modifications add variety but are very discordant and promote strong disharmony. -4	AGRICULTURAL FIELDS.
	Sub-totals	Sub-totals 6	Sub-totals 3	Total Rating 9

sensitivity factors	highly sensitive	moderately sensitive	not sensitive	
texture	Dominant mono-texture 3	Consistent variety of textures 2	Overwhelming variety of textures 0	
line	Curvelinear 5	Naturally geometric 3	Man-made geometric 0	FIELDS.
variety	Moderate variety of elements 3	No variety in elements 2	Large variety of elements 0	
contrast	Low contrasting elements 3	Moderate contrasts 1	Variety of contrasts 0	VARIES
intactness	Natural 5	Disturbed 3	Chaotic 0	
unity	Elements are harmonious 5	Elements are compatible 3	Elements are not harmonious 0	
	Sub-totals 3	Sub-totals 9	Sub-totals 0	Total Rating 12

GREGORY CANYON
For landscape unit: LD 4

VISUAL IMPACT ASSESSMENT
Date: 6/20/91

SCENIC QUALITY INVENTORY AND SENSITIVITY EVALUATION CHART

scenic quality factors	high quality	moderate quality	low quality	character notes
landform	High vertical relief as expressed in prominent cliffs, spires, or massive rock outcrops; or severe surface variation or highly eroded formations including major badlands or dune systems; or detail features dominant and exceptionally striking and intriguing such as glaciers. 5	Steep canyons, mesas, buttes, cinider cones, and drumlins; or interesting erosional patterns or variety in size and shape of landforms; or detail features which are interesting though not dominant or exceptional. 3	Low rolling hills, foothills, or flat valley bottoms; or few or no interseting landscape features. 1	
vegetation	A variety of vegetation types as expressed in interesting forms, textures, & patterns. 5	Some variety of vegetation, but only one or two major types. 3	Little or no variety or contrast in vegetation. 1	AGRI FIELDS. OAKS, ELDERBERRY.
water	Clear and clean appearing, still, or cascading white water, any of which are a dominant factor in the landscape. 5	Flowing, or still, but not dominant in the landscape. 4 3	Absent, or present, but not noticeable. 0	POND & CREEK
color	Rich color combinations, variety or vivid color; or pleasing contrasts in the soil, rock, vegetation, water or snow fields. 5	Some intensity or variety in colors and contrast of the soil, rock, and vegetation, but not a dominant scenic element. 3	Subtle color variations, contrast, or interest; generally mute tones. 1	
influence of adjacent scenery	Adjacent scenery greatly enhances visual quality. 5	Adjacent scenery moderately enhances overall visual quality. 3	Adjacent scenery has little or no influence on overall visual quality. 0	DEFINES VALLEY SETTING HILLS BEYOND.
scarcity	One of a kind; or unusually memorable, or very rare within region. Consistent chance for exceptional wildlife or wildflower viewing, etc. 5	Distinctive, though somewhat similar to others within the region. 4 3	Interesting within setting, but fairly common within the region. 1	SOME UNIQUENESS
cultural modifications	Modifications add favorably to visual variety while promoting visual harmony. 2	Modifications add little or no visual variety to the area, & introduce no discordant elements. 0	Modifications add variety but are very discordant and promote strong disharmony. -4	
	Sub-totals 2	Sub-totals 17	Sub-totals 1	Total Rating 20

sensitivity factors	highly sensitive	moderately sensitive	not sensitive	
texture	Dominant mono-texture 3	Consistent variety of textures 2	Overwhelming variety of textures 1 0	
line	Curvelinear 5	Naturally geometric 3	Man-made geometric 0	
variety	Moderate variety of elements 3	No variety in elements 2	Large variety of elements 0	
contrast	Low contrasting elements 3	Moderate contrasts 1	Variety of contrasts 0	
intactness	Natural 5	Disturbed 4 3	Chaotic 0	
unity	Elements are harmonious 5	Elements are compatible 3	Elements are not harmonious 0	
	Sub-totals 10	Sub-totals 4	Sub-totals 1	Total Rating 15

GREGORY CANYON
For landscape unit: HD 5

VISUAL IMPACT ASSESSMENT
Date: 6/20/91

SCENIC QUALITY INVENTORY AND SENSITIVITY EVALUATION CHART

scenic quality factors	high quality	moderate quality	low quality	character notes
landform	High vertical relief as expressed in prominent cliffs, spires, or massive rock outcrops; or severe surface variation or highly eroded formations including major badlands or dune systems; or detail features dominant and exceptionally striking and intriguing such as glaciers. 5	Steep canyons, mesas, buttes, cinider cones, and drumlins; or interesting erosional patterns or variety in size and shape of landforms; or detail features which are interesting though not dominant or exceptional. 3	Low rolling hills, foothills, or flat valley bottoms; or few or no interseting landscape features. 1	
vegetation	A variety of vegetation types as expressed in interesting forms, textures, & patterns. 5	Some variety of vegetation, but only one or two major types. 3	Little or no variety or contrast in vegetation. 1	PREDOMINATELY AGRI. ORCHARDS AVOCADOS
water	Clear and clean appearing, still, or cascading white water, any of which are a dominant factor in the landscape. 5	Flowing, or still, but not dominant in the landscape. 3	Absent, or present, but not noticeable. 0	
color	Rich color combinations, variety or vivid color; or pleasing contrasts in the soil, rock, vegetation, water or snow fields. 5	Some intensity or variety in colors and contrast of the soil, rock, and vegetation, but not a dominant scenic element. 3	Subtle color variations, contrast, or interest; generally mute tones. 1	
influence of adjacent scenery	Adjacent scenery greatly enhances visual quality. 5	Adjacent scenery moderately enhances overall visual quality. 3	Adjacent scenery has little or no influence on overall visual quality. 0	
scarcity	One of a kind; or unusually memorable, or very rare within region. Consistent chance for exceptional wildlife or wildflower viewing, etc. 5	Distinctive, though somewhat similar to others within the region. 3	Interesting within setting, but fairly common within the region. 1	
cultural modifications	Modifications add favorably to visual variety while promoting visual harmony. 2	Modifications add little or no visual variety to the area, & introduce no discordant elements. 0	Modifications add variety but are very discordant and promote strong disharmony. -4	HOMES & ROADS ONLY.
	Sub-totals 5	Sub-totals 3	Sub-totals 3	Total Rating 11

sensitivity factors	highly sensitive	moderately sensitive	not sensitive	
texture	Dominant mono-texture 3	Consistent variety of textures 2	Overwhelming variety of textures 0	
line	Curvelinear 5	Naturally geometric 3	Man-made geometric 0	
variety	Moderate variety of elements 3	No variety in elements 2	Large variety of elements 0	
contrast	Low contrasting elements 3	Moderate contrasts 1	Variety of contrasts 0	
intactness	Natural 5	Disturbed 3	Chaotic 0	
unity	Elements are harmonious 5	Elements are compatible 3	Elements are not harmonious 0	
	Sub-totals 3	Sub-totals 12	Sub-totals	Total Rating 15

GREGORY CANYON
For landscape unit: HU 6

VISUAL IMPACT ASSESSMENT
Date: 6/20/91

SCENIC QUALITY INVENTORY AND SENSITIVITY EVALUATION CHART

scenic quality factors	high quality	moderate quality	low quality	character notes
landform	High vertical relief as expressed in prominent cliffs, spires, or massive rock outcrops; or severe surface variation or highly eroded formations including major badlands or dune systems; or detail features dominant and exceptionally striking and intriguing such as glaciers. 5	Steep canyons, mesas, buttes, cinider cones, and drumlins; or interesting erosional patterns or variety in size and shape of landforms; or detail features which are interesting though not dominant or exceptional. 3	Low rolling hills, foothills, or flat valley bottoms; or few or no interseting landscape features. 1	
vegetation	A variety of vegetation types as expressed in interesting forms, textures, & patterns. 5	Some variety of vegetation, but only one or two major types. 3	Little or no variety or contrast in vegetation. 1	CHAPPARRAL w/ SOME OAKS.
water	Clear and clean appearing, still, or cascading white water, any of which are a dominant factor in the landscape. 5	Flowing, or still, but not dominant in the landscape. 3	Absent, or present, but not noticeable. 0	
color	Rich color combinations, variety or vivid color; or pleasing contrasts in the soil, rock, vegetation, water or snow fields. 5	Some intensity or variety in colors and contrast of the soil, rock, and vegetation, but not a dominant scenic element. 3	Subtle color variations, contrast, or interest; generally mute tones. 1	
influence of adjacent scenery	Adjacent scenery greatly enhances visual quality. 5	Adjacent scenery moderately enhances overall visual quality. 3	Adjacent scenery has little or no influence on overall visual quality. 0	HILLSIDES BEYOND.
scarcity	One of a kind; or unusually memorable, or very rare within region. Consistent chance for exceptional wildlife or wildflower viewing, etc. 5	Distinctive, though somewhat similar to others within the region. 3	Interesting within setting, but fairly common within the region. 1	
cultural modifications	Modifications add favorably to visual variety while promoting visual harmony. 2	Modifications add little or no visual variety to the area, & introduce no discordant elements. 0	Modifications add variety but are very discordant and promote strong disharmony. -4	
	Sub-totals	Sub-totals 12	Sub-totals 1	Total Rating 13

sensitivity factors	highly sensitive	moderately sensitive	not sensitive	
texture	Dominant mono-texture 3	Consistent variety of textures 2	Overwhelming variety of textures 0	
line	Curvelinear 5	Naturally geometric 3	Man-made geometric 0	
variety	Moderate variety of elements 3	No variety in elements 2	Large variety of elements 0	
contrast	Low contrasting elements 3	Moderate contrasts 1	Variety of contrasts 0	
intactness	Natural 5	Disturbed 3	Chaotic 0	EXCEPT ROAD DIRT.
unity	Elements are harmonious 5	Elements are compatible 3	Elements are not harmonious 0	
	Sub-totals 21	Sub-totals 2	Sub-totals	Total Rating 23

GREGORY CANYON
For landscape unit: UD7

VISUAL IMPACT ASSESSMENT
Date: 6/20/91

SCENIC QUALITY INVENTORY AND SENSITIVITY EVALUATION CHART

scenic quality factors	high quality	moderate quality	low quality	character notes
landform	High vertical relief as expressed in prominent cliffs, spires, or massive rock outcrops; or severe surface variation or highly eroded formations including major badlands or dune systems; or detail features dominant and exceptionally striking and intriguing such as glaciers. 5	Steep canyons, mesas, buttes, cinider cones, and drumlins; or interesting erosional patterns or variety in size and shape of landforms; or detail features which are interesting though not dominant or exceptional. 3	Low rolling hills, foothills, or flat valley bottoms; or few or no interseting landscape features. 1	
vegetation	A variety of vegetation types as expressed in interesting forms, textures, & patterns. 5	Some variety of vegetation, but only one or two major types. 3	Little or no variety or contrast in vegetation. 1	ORCHARD, CITRUS & AVO., CALIF. PEPPERS PINES.
water	Clear and clean appearing, still, or cascading white water, any of which are a dominant factor in the landscape. 5	Flowing, or still, but not dominant in the landscape. 3	Absent, or present, but not noticeable. 0	
color	Rich color combinations, variety or vivid color; or pleasing contrasts in the soil, rock, vegetation, water or snow fields. 5	Some intensity or variety in colors and contrast of the soil, rock, and vegetation, but not a dominant scenic element. 3	Subtle color variations, contrast, or interest; generally mute tones. 1	
influence of adjacent scenery	Adjacent scenery greatly enhances visual quality. 5	Adjacent scenery moderately enhances overall visual quality. 3	Adjacent scenery has little or no influence on overall visual quality. 0	SILOUETTED AGAINST
scarcity	One of a kind; or unusually memorable, or very rare within region. Consistent chance for exceptional wildlife or wildflower viewing, etc. 5	Distinctive, though somewhat similar to others within the region. 3	Interesting within setting, but fairly common within the region. 1	
cultural modifications	Modifications add favorably to visual variety while promoting visual harmony. 2	Modifications add little or no visual variety to the area, & introduce no discordant elements. 0	Modifications add variety but are very discordant and promote strong disharmony. -4	
	Sub-totals	Sub-totals 9	Sub-totals 2	Total Rating 11

sensitivity factors	highly sensitive	moderately sensitive	not sensitive	
texture	Dominant mono-texture 3	Consistent variety of textures 2	Overwhelming variety of textures 0	
line	Curvelinear 5	Naturally geometric 3	Man-made geometric 0	FOLLOWS CONTOURS RODS & BLDGS.
variety	Moderate variety of elements 3	No variety in elements 2	Large variety of elements 0	
contrast	Low contrasting elements 3	Moderate contrasts 1	Variety of contrasts 0	
intactness	Natural 5	Disturbed 3	Chaotic 0	
unity	Elements are harmonious 5	Elements are compatible 3	Elements are not harmonious 0	
	Sub-totals 3	Sub-totals 11	Sub-totals 0	Total Rating 14

GREGORY CANYON
For landscape unit: UD 8

VISUAL IMPACT ASSESSMENT
Date: 6/20/91

SCENIC QUALITY INVENTORY AND SENSITIVITY EVALUATION CHART

scenic quality factors	high quality	moderate quality	low quality	character notes
landform	High vertical relief as expressed in prominent cliffs, spires, or massive rock outcrops; or severe surface variation or highly eroded formations including major badlands or dune systems; or detail features dominant and exceptionally striking and intriguing such as glaciers. 5	Steep canyons, mesas, buttes, cinider cones, and drumlins; or interesting erosional patterns or variety in size and shape of landforms; or detail features which are interesting though not dominant or exceptional. 3	Low rolling hills, foothills, or flat valley bottoms; or few or no interseting landscape features. (2) 1	
vegetation	A variety of vegetation types as expressed in interesting forms, textures, & patterns. 5	Some variety of vegetation, but only one or two major types. 3	Little or no variety or contrast in vegetation. (1)	DISTURBED VEG. & INVASIVE GRASSLAND
water	Clear and clean appearing, still, or cascading white water, any of which are a dominant factor in the landscape. 5	Flowing, or still, but not dominant in the landscape. 3	Absent, or present, but not noticeable. (0)	
color	Rich color combinations, variety or vivid color; or pleasing contrasts in the soil, rock, vegetation, water or snow fields. 5	Some intensity or variety in colors and contrast of the soil, rock, and vegetation, but not a dominant scenic element. 3	Subtle color variations, contrast, or interest; generally mute tones. (1)	
influence of adjacent scenery	Adjacent scenery greatly enhances visual quality. 5	Adjacent scenery moderately enhances overall visual quality. (3)	Adjacent scenery has little or no influence on overall visual quality. 0	
scarcity	One of a kind; or unusually memorable, or very rare within region. Consistent chance for exceptional wildlife or wildflower viewing, etc. 5	Distinctive, though somewhat similar to others within the region. 3	Interesting within setting, but fairly common within the region. (1)	
cultural modifications	Modifications add favorably to visual variety while promoting visual harmony. (2)	Modifications add little or no visual variety to the area, & introduce no discordant elements. 0	Modifications add variety but are very discordant and promote strong disharmony. -4	HOME SITE FITS WELL.
	Sub-totals 2	Sub-totals 3	Sub-totals 5	Total Rating 10

sensitivity factors	highly sensitive	moderately sensitive	not sensitive	
texture	Dominant mono-texture 3	Consistent variety of textures (2)	Overwhelming variety of textures 0	
line	Curvelinear 5	Naturally geometric 3	Man-made geometric (0)	
variety	Moderate variety of elements (3)	No variety in elements 2	Large variety of elements 0	
contrast	Low contrasting elements (3)	Moderate contrasts 1	Variety of contrasts 0	
intactness	Natural 5	Disturbed (3)	Chaotic 0	
unity	Elements are harmonious 5	Elements are compatible (3)	Elements are not harmonious 0	
	Sub-totals 6	Sub-totals 7	Sub-totals 0	Total Rating 13

GREGORY CANYON
For landscape unit: LD 9

VISUAL IMPACT ASSESSMENT
Date: 6/20/91

SCENIC QUALITY INVENTORY AND SENSITIVITY EVALUATION CHART

scenic quality factors	high quality	moderate quality	low quality	character notes
landform	High vertical relief as expressed in prominent cliffs, spires, or massive rock outcrops; or severe surface variation or highly eroded formations including major badlands or dune systems; or detail features dominant and exceptionally striking and intriguing such as glaciers. 5	Steep canyons, mesas, buttes, cinider cones, and drumlins; or interesting erosional patterns or variety in size and shape of landforms; or detail features which are interesting though not dominant or exceptional. 3	Low rolling hills, foothills, or flat valley bottoms; or few or no interseting landscape features. 1	
vegetation	A variety of vegetation types as expressed in interesting forms, textures, & patterns. 5	Some variety of vegetation, but only one or two major types. 3	Little or no variety or contrast in vegetation. 1	RIPARIAN AREA REMOVED, LOOKS MORE LIKE FLOOD PLAIN. WAS GRADED.
water	Clear and clean appearing, still, or cascading white water, any of which are a dominant factor in the landscape. 5	Flowing, or still, but not dominant in the landscape. 3	Absent, or present, but not noticeable. 0	
color	Rich color combinations, variety or vivid color; or pleasing contrasts in the soil, rock, vegetation, water or snow fields. 5	Some intensity or variety in colors and contrast of the soil, rock, and vegetation, but not a dominant scenic element. 3	Subtle color variations, contrast, or interest; generally mute tones. 2 1	
influence of adjacent scenery	Adjacent scenery greatly enhances visual quality. 5	Adjacent scenery moderately enhances overall visual quality. 3	Adjacent scenery has little or no influence on overall visual quality. 0	
scarcity	One of a kind; or unusually memorable, or very rare within region. Consistent chance for exceptional wildlife or wildflower viewing, etc. 5	Distinctive, though somewhat similar to others within the region. 3	Interesting within setting, but fairly common within the region. 1	
cultural modifications	Modifications add favorably to visual variety while promoting visual harmony. 2	Modifications add little or no visual variety to the area, & introduce no discordant elements. 0	Modifications add variety but are very discordant and promote strong disharmony. -4	
	Sub-totals	Sub-totals 0	Sub-totals 5	Total Rating 5

sensitivity factors	highly sensitive	moderately sensitive	not sensitive	
texture	Dominant mono-texture 3	Consistent variety of textures 2	Overwhelming variety of textures 0	
line	Curvelinear 5	Naturally geometric 3	Man-made geometric 0	
variety	Moderate variety of elements 3	No variety in elements 2	Large variety of elements 0	
contrast	Low contrasting elements 3	Moderate contrasts 1	Variety of contrasts 0	
intactness	Natural 5	Disturbed 3	Chaotic 0	
unity	Elements are harmonious 5	Elements are compatible 3	Elements are not harmonious 0	
	Sub-totals 11	Sub-totals 6	Sub-totals 0	Total Rating 17

GREGORY CANYON
For landscape unit: UD 10

VISUAL IMPACT ASSESSMENT
Date: 6/20/91

SCENIC QUALITY INVENTORY AND SENSITIVITY EVALUATION CHART

scenic quality factors	high quality	moderate quality	low quality	character notes
landform	High vertical relief as expressed in prominent cliffs, spires, or massive rock outcrops; or severe surface variation or highly eroded formations including major badlands or dune systems; or detail features dominant and exceptionally striking and intriguing such as glaciers. 5	Steep canyons, mesas, buttes, cinider cones, and drumlins; or interesting erosional patterns or variety in size and shape of landforms; or detail features which are interesting though not dominant or exceptional. 3	Low rolling hills, foothills, or flat valley bottoms; or few or no interseting landscape features. 1	
vegetation	A variety of vegetation types as expressed in interesting forms, textures, & patterns. 5	Some variety of vegetation, but only one or two major types. 3	Little or no variety or contrast in vegetation. 1	TREES AT RESIDENCE
water	Clear and clean appearing, still, or cascading white water, any of which are a dominant factor in the landscape. 5	Flowing, or still, but not dominant in the landscape. 3	Absent, or present, but not noticeable. 0	
color	Rich color combinations, variety or vivid color; or pleasing contrasts in the soil, rock, vegetation, water or snow fields. 5	Some intensity or variety in colors and contrast of the soil, rock, and vegetation, but not a dominant scenic element. 3	Subtle color variations, contrast, or interest; generally mute tones. 1	
influence of adjacent scenery	Adjacent scenery greatly enhances visual quality. 5	Adjacent scenery moderately enhances overall visual quality. 3	Adjacent scenery has little or no influence on overall visual quality. 0	
scarcity	One of a kind; or unusually memorable, or very rare within region. Consistent chance for exceptional wildlife or wildflower viewing, etc. 5	Distinctive, though somewhat similar to others within the region. 4 3	Interesting within setting, but fairly common within the region. 1	
cultural modifications	Modifications add favorably to visual variety while promoting visual harmony. 2	Modifications add little or no visual variety to the area, & introduce no discordant elements. 0	Modifications add variety but are very discordant and promote strong disharmony. -2 -4	
	Sub-totals	Sub-totals 7	Sub-totals 0	Total Rating 7

sensitivity factors	highly sensitive	moderately sensitive	not sensitive	
texture	Dominant mono-texture 3	Consistent variety of textures 2	Overwhelming variety of textures 0	
line	Curvelinear 5	Naturally geometric 3	Man-made geometric 0	
variety	Moderate variety of elements 3	No variety in elements 2	Large variety of elements 0	
contrast	Low contrasting elements 3	Moderate contrasts 1	Variety of contrasts 0	
intactness	Natural 5	Disturbed 3	Chaotic 0	
unity	Elements are harmonious 5	Elements are compatible 3	Elements are not harmonious 0	
	Sub-totals	Sub-totals 7	Sub-totals 0	Total Rating 7

GREGORY CANYON
For landscape unit: LD 12

VISUAL IMPACT ASSESSMENT
Date: 6/20/91

SCENIC QUALITY INVENTORY AND SENSITIVITY EVALUATION CHART

scenic quality factors	high quality	moderate quality	low quality	character notes
landform	High vertical relief as expressed in prominent cliffs, spires, or massive rock outcrops; or severe surface variation or highly eroded formations including major badlands or dune systems; or detail features dominant and exceptionally striking and intriguing such as glaciers. 5	Steep canyons, mesas, buttes, cinider cones, and drumlins; or interesting erosional patterns or variety in size and shape of landforms; or detail features which are interesting though not dominant or exceptional. 3	Low rolling hills, foothills, or flat valley bottoms; or few or no interseting landscape features. 1	
vegetation	A variety of vegetation types as expressed in interesting forms, textures, & patterns. 5	Some variety of vegetation, but only one or two major types. 3	Little or no variety or contrast in vegetation. 1	BASICALLY DISTURBED PASTURE/ GRASSLAND.
water	Clear and clean appearing, still, or cascading white water, any of which are a dominant factor in the landscape. 5	Flowing, or still, but not dominant in the landscape. 3	Absent, or present, but not noticeable. 0	
color	Rich color combinations, variety or vivid color; or pleasing contrasts in the soil, rock, vegetation, water or snow fields. 5	Some intensity or variety in colors and contrast of the soil, rock, and vegetation, but not a dominant scenic element. 3	Subtle color variations, contrast, or interest; generally mute tones. 1	
influence of adjacent scenery	Adjacent scenery greatly enhances visual quality. 5	Adjacent scenery moderately enhances overall visual quality. 3	Adjacent scenery has little or no influence on overall visual quality. 0	AREAS SURROUNDING LOOK GOOD.
scarcity	One of a kind; or unusually memorable, or very rare within region. Consistent chance for exceptional wildlife or wildflower viewing, etc. 5	Distinctive, though somewhat similar to others within the region. 3	Interesting within setting, but fairly common within the region. 1	
cultural modifications	Modifications add favorably to visual variety while promoting visual harmony. 2	Modifications add little or no visual variety to the area, & introduce no discordant elements. 0	Modifications add variety but are very discordant and promote strong disharmony. -4	
	Sub-totals	Sub-totals 3	Sub-totals 4	Total Rating 7

sensitivity factors	highly sensitive	moderately sensitive	not sensitive	
texture	Dominant mono-texture 3	Consistent variety of textures 2	Overwhelming variety of textures 0	
line	Curvelinear 5	Naturally geometric 3	Man-made geometric 0	STRUCTURE & FENCES
variety	Moderate variety of elements 3	No variety in elements 2	Large variety of elements 0	
contrast	Low contrasting elements 3	Moderate contrasts 1	Variety of contrasts 0	
intactness	Natural 5	Disturbed 3	Chaotic 0	
unity	Elements are harmonious 5	Elements are compatible 3	Elements are not harmonious 0	
	Sub-totals 3	Sub-totals 9	Sub-totals 0	Total Rating 12

GREGORY CANYON
For landscape unit: HD 13

VISUAL IMPACT ASSESSMENT
Date: 6/20/91

SCENIC QUALITY INVENTORY AND SENSITIVITY EVALUATION CHART

scenic quality factors	high quality	moderate quality	low quality	character notes
landform	High vertical relief as expressed in prominent cliffs, spires, or massive rock outcrops; or severe surface variation or highly eroded formations including major badlands or dune systems; or detail features dominant and exceptionally striking and intriguing such as glaciers. 5	Steep canyons, mesas, buttes, cinider cones, and drumlins; or interesting erosional patterns or variety in size and shape of landforms; or detail features which are interesting though not dominant or exceptional. 3	Low rolling hills, foothills, or flat valley bottoms; or few or no interseting landscape features. 1	
vegetation	A variety of vegetation types as expressed in interesting forms, textures, & patterns. 5	Some variety of vegetation, but only one or two major types. 3	Little or no variety or contrast in vegetation. 1	OAKS, GRASSLAND INTRO. EUCS @ HOUSES
water	Clear and clean appearing, still, or cascading white water, any of which are a dominant factor in the landscape. 5	Flowing, or still, but not dominant in the landscape. 3	Absent, or present, but not noticeable. 0	
color	Rich color combinations, variety or vivid color; or pleasing contrasts in the soil, rock, vegetation, water or snow fields. 5	Some intensity or variety in colors and contrast of the soil, rock, and vegetation, but not a dominant scenic element. 3	Subtle color variations, contrast, or interest; generally mute tones. 2 1	
influence of adjacent scenery	Adjacent scenery greatly enhances visual quality. 5	Adjacent scenery moderately enhances overall visual quality. 3	Adjacent scenery has little or no influence on overall visual quality. 0	
scarcity	One of a kind; or unusually memorable, or very rare within region. Consistent chance for exceptional wildlife or wildflower viewing, etc. 5	Distinctive, though somewhat similar to others within the region. 3	Interesting within setting, but fairly common within the region. 1	
cultural modifications	Modifications add favorably to visual variety while promoting visual harmony. 2	Modifications add little or no visual variety to the area, & introduce no discordant elements. 0	Modifications add variety but are very discordant and promote strong disharmony. -4	HOUSES ONLY POSSIBLE PROBLEM
	Sub-totals	Sub-totals 6	Sub-totals 4	Total Rating 10

sensitivity factors	highly sensitive	moderately sensitive	not sensitive	
texture	Dominant mono-texture 3	Consistent variety of textures 2	Overwhelming variety of textures 0	
line	Curvelinear 5	Naturally geometric 3	Man-made geometric 0	HOUSES INTRODUCE MINOR GEOMETRIC MAN MADE
variety	Moderate variety of elements 3	No variety in elements 2	Large variety of elements 0	
contrast	Low contrasting elements 3	Moderate contrasts 1	Variety of contrasts 0	
intactness	Natural 5	Disturbed 3	Chaotic 0	
unity	Elements are harmonious 5	Elements are compatible 3	Elements are not harmonious 0	
	Sub-totals 5	Sub-totals 7	Sub-totals 0	Total Rating 12

GREGORY CANYON
For landscape unit: LU 14

VISUAL IMPACT ASSESSMENT
Date: 6/20/91

SCENIC QUALITY INVENTORY AND SENSITIVITY EVALUATION CHART

scenic quality factors	high quality	moderate quality	low quality	character notes
landform	High vertical relief as expressed in prominent cliffs, spires, or massive rock outcrops; or severe surface variation or highly eroded formations including major badlands or dune systems; or detail features dominant and exceptionally striking and intriguing such as glaciers. 5	Steep canyons, mesas, buttes, cinider cones, and drumlins; or interesting erosional patterns or variety in size and shape of landforms; or detail features which are interesting though not dominant or exceptional. 3	Low rolling hills, foothills, or flat valley bottoms; or few or no interseting landscape features. (2) 1	AT EDGE OF HILLSIDE
vegetation	A variety of vegetation typea as expressed in interesting forms, textures, & patterns. (5)	Some variety of vegetation, but only one or two major types. 3	Little or no variety or contrast in vegetation. 1	OAKS, POPLARS, ELDERBERRY, SYCAMORES.
water	Clear and clean appearing, still, or cascading white water, any of which are a dominant factor in the landscape. 5	Flowing, or still, but not dominant in the landscape. 3	Absent, or present, but not noticeable. (0)	
color	Rich color combinations, variety or vivid color; or pleasing contrasts in the soil, rock, vegetation, water or snow fields. 5	Some intensity or variety in colors and contrast of the soil, rock, and vegetation, but not a dominant scenic element. 3	Subtle color variations, contrast, or interest; generally mute tones. (2) 1	FOLIAGE VARIATION.
influence of adjacent scenery	Adjacent scenery greatly enhances visual quality. 5	Adjacent scenery moderately enhances overall visual quality. (3)	Adjacent scenery has little or no influence on overall visual quality. 0	FOREGROUND MORE IMPORTANT.
scarcity	One of a kind; or unusually memorable, or very rare within region. Consistent chance for exceptional wildlife or wildflower viewing, etc. 5	Distinctive, though somewhat similar to others within the region. 3	Interesting within setting, but fairly common within the region. (1)	
cultural modifications	Modifications add favorably to visual variety while promoting visual harmony. 2	Modifications add little or no visual variety to the area, & introduce no discordant elements. (0)	Modifications add variety but are very discordant and promote strong disharmony. -4	
	Sub-totals 5	Sub-totals 3	Sub-totals 5	Total Rating 13

sensitivity factors	highly sensitive	moderately sensitive	not sensitive	
texture	Dominant mono-texture 3	Consistent variety of textures (2)	Overwhelming variety of textures 0	
line	Curvelinear (5)	Naturally geometric 3	Man-made geometric 0	
variety	Moderate variety of elements (3)	No variety in elements 2	Large variety of elements 0	
contrast	Low contrasting elements 3	Moderate contrasts 1	Variety of contrasts (0)	
intactness	Natural (5)	Disturbed 3	Chaotic 0	ROAD ONLY DISTURBANCE
unity	Elements are harmonious (5)	Elements are compatible 3	Elements are not harmonious 0	
	Sub-totals 19	Sub-totals 2	Sub-totals 0	Total Rating 20

GREGORY CANYON
For landscape unit: LD 17

VISUAL IMPACT ASSESSMENT
Date: 6/20/91

SCENIC QUALITY INVENTORY AND SENSITIVITY EVALUATION CHART

scenic quality factors	high quality	moderate quality	low quality	character notes
landform	High vertical relief as expressed in prominent cliffs, spires, or massive rock outcrops; or severe surface variation or highly erodad formations including major badlands or dune systems; or detail features dominant and exceptionally striking and intriguing such as glaciers. 5	Steep canyons, mesas, buttes, cinider cones, and drumlins; or interesting erosional patterns or variety in size and shape of landforms; or detail features which are interesting though not dominant or exceptional. 3	Low rolling hills, foothills, or flat valley bottoms; or few or no interseting landscape features. 1	
vegetation	A variety of vegetation types as expressed in interesting forms, textures, & patterns. 5	Some variety of vegatation, but only one or two major types. 3	Little or no variety or contrast in vegetation. 1	DISTURBED OLD PASTURE / DIRT PENS.
water	Clear and clean appearing, still, or cascading white water, any of which are a dominant factor in the landscape. 5	Flowing, or still, but not dominant in the landscape. 3	Absent, or present, but not noticeable. 0	
color	Rich color combinations, variety or vivid color; or pleasing contrasts in the soil, rock, vegetation, water or snow fields. 5	Some intensity or variety in colors and contrast of the soil, rock, and vegetation, but not a dominant scenic element. 3	Subtle color variations, contrast, or interest; generally mute tones. 1	BLDG. ROOFS ONLY CONTRAST
influence of adjacent scenery	Adjacent scenery greatly enhances visual quality. 5	Adjacent scenery moderately enhances overall visual quality. 3	Adjacent scenery has little or no influence on overall visual quality. 0	
scarcity	One of a kind; or unusually memorable, or very rare within region. Consistent chance for exceptional wildlife or wildflower viewing, etc. 5	Distinctive, though somewhat similar to others within the region. 3	Interesting within setting, but fairly common within the region. 1	
cultural modifications	Modifications add favorably to visual variety while promoting visual harmony. 2	Modifications add little or no visual variety to the area, & introduce no discordant elements. 0	Modifications add variety but are very discordant and promote strong disharmony. -4	HIGH MAN MADE DISRUPTION.
	Sub-totals	Sub-totals	Sub-totals 0	Total Rating 0

sensitivity factors	highly sensitive	moderately sensitive	not sensitive	
texture	Dominant mono-texture 3	Consistent variety of textures 2	Overwhelming variety of textures 0	
line	Curvelinear 5	Naturally geometric 3	Man-made geometric 0	
variety	Moderate variety of elements 3	No variety in elements 2	Large variety of elements 0	
contrast	Low contrasting elements 3	Moderate contrasts 1	Variety of contrasts 0	
intactness	Natural 5	Disturbed 3	Chaotic 0	IF IN OPERATION WOULD HAVE BEEN BETTER
unity	Elements are harmonious 5	Elements are compatible 3	Elements are not harmonious 0	
	Sub-totals	Sub-totals	Sub-totals 0	Total Rating 0

GREGORY CANYON
For landscape unit: UD 18

VISUAL IMPACT ASSESSMENT
Date: 6/20/91

SCENIC QUALITY INVENTORY AND SENSITIVITY EVALUATION CHART

scenic quality factors	high quality	moderate quality	low quality	character notes
landform	High vertical relief as expressed in prominent cliffs, spires, or massive rock outcrops; or severe surface variation or highly erodad formations including major badlands or dune systems; or detail features dominant and exceptionally striking and intriguing such as glaciers. 5	Steep canyons, mesas, buttes, cinider cones, and drumlins; or interesting erosional patterns or variety in size and shape of landforms; or detail features which are interesting though not dominant or exceptional. 3	Low rolling hills, foothills, or flat valley bottoms; or few or no interseting landscape features. 1	
vegetation	A variety of vegetation types as expressed in interesting forms, textures, & patterns. 5	Some variety of vegetation, but only one or two major types. 3	Little or no variety or contrast in vegetation. 1	
water	Clear and clean appearing, still, or cascading white water, any of which are a dominant factor in the landscape. 5	Filowing, or still, but not dominant in the landscape. 3	Absent, or present, but not noticeable. 0	
color	Rich color combinations, variety or vivid color; or pleasing contrasts in the soil, rock, vegetation, water or snow fields. 5	Some intensity or variety in colors and contrast of the soil, rock, and vegetation, but not a dominant scenic element. 3	Subtle color variations, contrast, or interest; generally mute tones. 1	
influence of adjacent scenery	Adjacent scenery greatly enhances visual quality. 5	Adjacent scenery moderately enhances overall visual quality. 3	Adjacent scenery has little or no influence on overall visual quality. 0	
scarcity	One of a kind; or unusually memorable, or very rare within region. Consistent chance for exceptional wildlife or wildflower viewing, etc. 5	Distinctive, though somewhat similar to others within the region. 3	Interesting within setting, but fairly common within the region. 1	
cultural modifications	Modifications add favorably to visual variety while promoting visual harmony. 2	Modifications add little or no visual variety to the area, & introduce no discordant elements. 0	Modifications add variety but are very discordant and promote strong disharmony. -2 -4	
	Sub-totals 5	Sub-totals 6	Sub-totals 0	Total Rating 11

sensitivity factors	highly sensitive	moderately sensitive	not sensitive	
texture	Dominant mono-texture 3	Consistent variety of textures 2	Overwhelming variety of textures 0	
line	Curvelinear 5	Naturally geometric 3	Man-made geometric 0	
variety	Moderate variety of elements 3	No variety in elements 2	Large variety of elements 0	
contrast	Low contrasting elements 3	Moderate contrasts 1	Variety of contrasts 0	SHADE & SHADOW
intactness	Natural 5	Disturbed 3	Chaotic 0	TRAILERS ETC.
unity	Elements are harmonious 5	Elements are compatibla 3	Elements are not harmonious 0	
	Sub-totals	Sub-totals 3	Sub-totals 0	Total Rating 3

GREGORY CANYON
For landscape unit: LD 19

VISUAL IMPACT ASSESSMENT
Date: 6/20/91

SCENIC QUALITY INVENTORY AND SENSITIVITY EVALUATION CHART

scenic quality factors	high quality	moderate quality	low quality	character notes
landform	High vertical relief as expressed in prominent cliffs, spires, or massive rock outcrops; or severe surface variation or highly eroded formations including major badlands or dune systems; or detail features dominant and exceptionally striking and intriguing such as glaciers. 5	Steep canyons, mesas, buttes, cinider cones, and drumlins; or interesting erosional patterns or variety in size and shape of landforms; or detail features which are interesting though not dominant or exceptional. 3	Low rolling hills, foothills, or flat valley bottoms; or few or no interseting landscape features. 1	
vegetation	A variety of vegetation types as expressed in interesting forms, textures, & patterns. 5	Some variety of vegetation, but only one or two major types. 4 3	Little or no variety or contrast in vegetation. 1	WILLOWS, BUGS, ELDERBERRY,
water	Clear and clean appearing, still, or cascading white water, any of which are a dominant factor in the landscape. 5	Flowing, or still, but not dominant in the landscape. 3	Absent, or present, but not noticeable. 0	PONDS
color	Rich color combinations, variety or vivid color; or pleasing contrasts in the soil, rock, vegetation, water or snow fields. 5	Some intensity or variety in colors and contrast of the soil, rock, and vegetation, but not a dominant scenic element. 3	Subtle color variations, contrast, or interest; generally mute tones. 1	GREENS, BROWNS, GRAYS,
influence of adjacent scenery	Adjacent scenery greatly enhances visual quality. 5	Adjacent scenery moderately enhances overall visual quality. 3	Adjacent scenery has little or no influence on overall visual quality. 0	HILLSIDE BEYOND
scarcity	One of a kind; or unusually memorable, or very rare within region. Consistent chance for exceptional wildlife or wildflower viewing, etc. 5	Distinctive, though somewhat similar to others within the region. 3	Interesting within setting, but fairly common within the region. 1	DISTURBED.
cultural modifications	Modifications add favorably to visual variety while promoting visual harmony. 2	Modifications add little or no visual variety to the area, & introduce no discordant elements. 0	Modifications add variety but are very discordant and promote strong disharmony. -2 -4	GRAVEL PIT OPERATION DISHARMONIOUS
	Sub-totals	Sub-totals 10	Sub-totals 1	Total Rating 11

sensitivity factors	highly sensitive	moderately sensitive	not sensitive	
texture	Dominant mono-texture 3	Consistent variety of textures 2	Overwhelming variety of textures 0	
line	Curvelinear 5	Naturally geometric 3	Man-made geometric 0	SOME MAN-MADE GEOMETRY.
variety	Moderate variety of elements 3	No variety in elements 2	Large variety of elements 0	
contrast	Low contrasting elements 3	Moderate contrasts 1	Variety of contrasts 0	LIGHTS & DARKS.
intactness	Natural 5	Disturbed 3	Chaotic 0	
unity	Elements are harmonious 5	Elements are compatible 3	Elements are not harmonious 0	SIMILAR CHARACTER
	Sub-totals 8	Sub-totals 9	Sub-totals	Total Rating 17

GREGORY CANYON
For landscape unit: LD 20

VISUAL IMPACT ASSESSMENT
Date: 6/20/91

SCENIC QUALITY INVENTORY AND SENSITIVITY EVALUATION CHART

scenic quality factors	high quality	moderate quality	low quality	character notes
landform	High vertical relief as expressed in prominent cliffs, spires, or massive rock outcrops; or severe surface variation or highly eroded formations including major badlands or dune systems; or detail features dominant and exceptionally striking and intriguing such as glaciers. 5	Steep canyons, mesas, buttes, cinider cones, and drumlins; or interesting erosional patterns or variety in size and shape of landforms; or detail features which are interesting though not dominant or exceptional. 3	Low rolling hills, foothills, or flat valley bottoms; or few or no interseting landscape features. 1	EXCAVATED RIVER BED.
vegetation	A variety of vegetation types as expressed in interesting forms, textures, & patterns. 5	Some variety of vegetation, but only one or two major types. 3	Little or no variety or contrast in vegetation. 1	VERY DISRUPTED.
water	Clear and clean appearing, still, or cascading white water, any of which are a dominant factor in the landscape. 5	Flowing, or still, but not dominant in the landscape. 3	Absent, or present, but not noticeable. 0	POSITIVE HOWEVER MAN-MADE FROM EXCAVATION.
color	Rich color combinations, variety or vivid color; or pleasing contrasts in the soil, rock, vegetation, water or snow fields. 5	Some intensity or variety in colors and contrast of the soil, rock, and vegetation, but not a dominant scenic element. 3	Subtle color variations, contrast, or interest; generally mute tones. 1	EXCEPT WATER.
influence of adjacent scenery	Adjacent scenery greatly enhances visual quality. 5	Adjacent scenery moderately enhances overall visual quality. 3	Adjacent scenery has little or no influence on overall visual quality. 0	HILLSIDE BEHIND
scarcity	One of a kind; or unusually memorable, or very rare within region. Consistent chance for exceptional wildlife or wildflower viewing, etc. 5	Distinctive, though somewhat similar to others within the region. 3	Interesting within setting, but fairly common within the region. 1	WATER FEATURE UNIQUE
cultural modifications	Modifications add favorably to visual variety while promoting visual harmony. 2	Modifications add little or no visual variety to the area, & introduce no discordant elements. 0	Modifications add variety but are very discordant and promote strong disharmony. -4	HIGHLY DISTURBED.
	Sub-totals 15	Sub-totals	Sub-totals -1	Total Rating 14

sensitivity factors	highly sensitive	moderately sensitive	not sensitive	
texture	Dominant mono-texture 3	Consistent variety of textures 2	Overwhelming variety of textures 0	
line	Curvelinear 5	Naturally geometric 3	Man-made geometric 0	
variety	Moderate variety of elements 3	No variety in elements 2	Large variety of elements 0	
contrast	Low contrasting elements 3	Moderate contrasts 1	Variety of contrasts 0	WATER/SAND
intactness	Natural 5	Disturbed 3	Chaotic 0	
unity	Elements are harmonious 5	Elements are compatible 3	Elements are not harmonious 0	MINING / NATURAL AREAS!
	Sub-totals 8	Sub-totals 2	Sub-totals 0	Total Rating 10

GREGORY CANYON
For landscape unit: HU 21

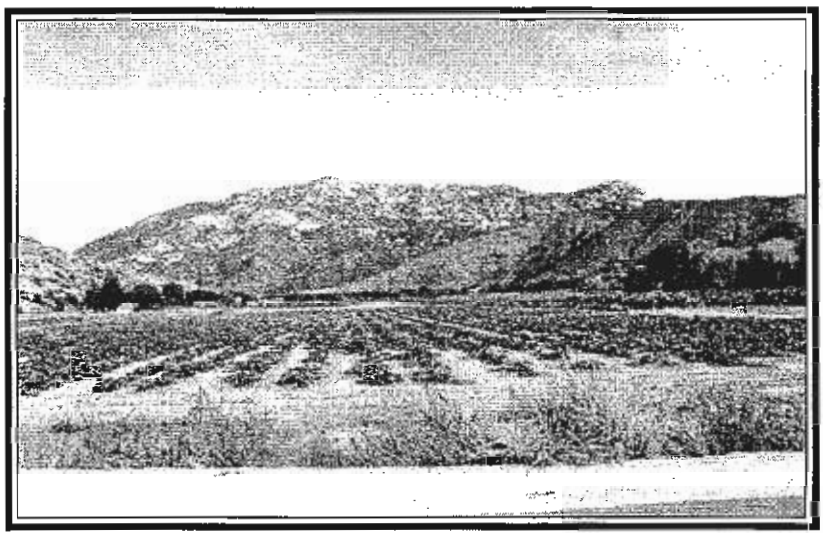
VISUAL IMPACT ASSESSMENT
Date: 6/20/91

SCENIC QUALITY INVENTORY AND SENSITIVITY EVALUATION CHART

scenic quality factors	high quality	moderate quality	low quality	character notes
landform	High vertical relief as expressed in prominent cliffs, spires, or massive rock outcrops; or severe surface variation or highly eroded formations including major badlands or dune systems; or detail features dominant and exceptionally striking and intriguing such as glaciers. 5	Steep canyons, mesas, buttes, cinider cones, and drumlins; or interesting erosional patterns or variety in size and shape of landforms; or detail features which are interesting though not dominant or exceptional. 3	Low rolling hills, foothills, or flat valley bottoms; or few or no interseting landscape features. 1	
vegetation	A variety of vegetation types as expressed in interesting forms, textures, & patterns. 5	Some variety of vegetation, but only one or two major types. 3	Little or no variety or contrast in vegetation. 1	
water	Clear and clean appearing, still, or cascading white water, any of which are a dominant factor in the landscape. 5	Flowing, or still, but not dominant in the landscape. 3	Absent, or present, but not noticeable. 0	
color	Rich color combinations, variety or vivid color; or pleasing contrasts in the soil, rock, vegetation, water or snow fields. 5	Some intensity or variety in colors and contrast of the soil, rock, and vegetation, but not a dominant scenic element. 3	Subtle color variations, contrast, or interest; generally mute tones. 1	
influence of adjacent scenery	Adjacent scenery greatly enhances visual quality. 5	Adjacent scenery moderately enhances overall visual quality. 3	Adjacent scenery has little or no influence on overall visual quality. 0	MOUNTAIN SILLOUETTE AGAINST SKY.
scarcity	One of a kind; or unusually memorable, or very rare within region. Consistent chance for exceptional wildlife or wildflower viewing, etc. 5	Distinctive, though somewhat similar to others within the region. 3	Interesting within setting, but fairly common within the region. 1	
cultural modifications	Modifications add favorably to visual variety while promoting visual harmony. 2	Modifications add little or no visual variety to the area, & introduce no discordant elements. 0	Modifications add variety but are very discordant and promote strong disharmony. -4	
	Sub-totals 10	Sub-totals 9	Sub-totals 1	Total Rating 20

sensitivity factors	highly sensitive	moderately sensitive	not sensitive	
texture	Dominant mono-texture 3	Consistent variety of textures 2	Overwhelming variety of textures 0	ROCKS/BOULDERS.
line	Curvelinear 5	Naturally geometric 3	Man-made geometric 0	
variety	Moderate variety of elements 3	No variety in elements 2	Large variety of elements 0	ROCKS.
contrast	Low contrasting elements 3	Moderate contrasts 1	Variety of contrasts 0	
intactness	Natural 5	Disturbed 3	Chaotic 0	
unity	Elements are harmonious 5	Elements are compatible 3	Elements are not harmonious 0	
	Sub-totals 18	Sub-totals 3	Sub-totals	Total Rating 21

APPENDIX 2



CONTRAST / IMPACT WORKSHEETS

KEYVIEW 1

Gregory Canyon Contrast Worksheet for the South Pala Mesa Viewshed

Primary Landscape Unit	Adjacent Landscape Units	Sensitivity Rating	Resource Class	Project Elements Seen
21	13, 15, 16, 20	H	II	3a,3b, & 5

Degree of Contrast	Without Mitigations			
	Initial Construction	Mid Term	Permanent	With Mitigations
Form	1	2	3	2
Line	1	1	2	1
Texture	1	1	2	1
Contrast (Color & Value)	1	1	2	2
Character (Variety, Unity)	2	2	3	2
Subtotal Ratings	**6**	**7**	**12**	**8**
Impact Category	**I**	**A**	**A**	**A**

Meets Resource Management Objectives? **No**

KEYVIEW 2

Gregory Canyon Contrast Worksheet for West San Luis Rey Canyon

Primary Landscape Unit	Adjacent Landscape Units	Sensitivity Rating	Resource Class	Project Elements Seen
21	6, 15	H	II	3b, 6

Degree of Contrast	Without Mitigations			
	Initial Construction	Mid Term	Permanent	With Mitigations
Form	1	2	2	1
Line	1	2	2	1
Texture	1	2	2	1
Contrast (Color & Value)	2	2	3	2
Character (Variety, Unity)	1	2	2	1
Subtotal Ratings	**6**	**10**	**11**	**6**
Impact Category	**I**	**A**	**A**	**I**

Meets Resource Management Objectives? **Yes**

LEGEND

PROJECT ELEMENTS LEGEND

SR-76 Highway Realignment	*1*
Access Road & Bridge	*2*
Lower Stockpile	*3a*
Upper Stockpile	*3b*
Ancillary Facilities	*4*
Landfill	*5*
Powerline Realignment	*6*

IMPACT SUMMARY RATING LEGEND

Significant (S)	*Above 12*
Adverse but less than Significant (A)	*7-12*
Insignificant (I)	*0-6*

CONTRAST RATING LEGEND

Strong	*3*
Moderate	*2*
Weak	*1*
None	*0*

KEYVIEW 3

Gregory Canyon Contrast Worksheet for Central San Luis Rey Canyon Viewshed

Primary Landscape Unit	Adjacent Landscape Units	Sensitivity Rating	Resource Class	Project Elements Seen
21	6, 8, 14, 15, 16, 20	H	II	3a, 4, 5 & 6

Degree of Contrast	Without Mitigations			
	Initial Construction	Mid Term	Permanent	With Mitigations
Form	2	3	3	2
Line	2	3	3	2
Texture	2	3	3	2
Contrast (Color & Value)	2	2	2	1
Character (Variety, Unity)	2	2	2	2
Subtotal Ratings	**10**	**13**	**13**	**9**
Impact Category	**A**	**S**	**S**	**A**
			Meets Resource Management Objectives?	**No**

KEYVIEW 4

Gregory Canyon Contrast Worksheet for the Rice Canyon Viewshed

Primary Landscape Unit	Adjacent Landscape Units	Sensitivity Rating	Resource Class	Project Elements Seen
15	6, 21	M	III	5,6

Degree of Contrast	Without Mitigations			
	Initial Construction	Mid Term	Permanent	With Mitigations
Form	1	2	3	2
Line	1	2	2	1
Texture	1	2	2	1
Contrast (Color & Value)	2	2	3	1
Character (Variety, Unity)	2	3	3	2
Subtotal Ratings	**7**	**11**	**13**	**7**
Impact Category	**A**	**A**	**S**	**A**
			Meets Resource Management Objectives?	**No**

LEGEND

PROJECT ELEMENTS LEGEND

SR-76 Highway Realignment	*1*
Access Road & Bridge	*2*
Lower Stockpile	*3a*
Upper Stockpile	*3b*
Ancillary Facilities	*4*
Landfill	*5*
Powerline Realignment	*6*

IMPACT SUMMARY RATING LEGEND

Significant (S)	*Above 12*
Adverse but less than Significant (A)	*7-12*
Insignificant (I)	*0-6*

CONTRAST RATING LEGEND

Strong	*3*
Moderate	*2*
Weak	*1*
None	*0*

KEYVIEW 5

Gregory Canyon Contrast Worksheet for Eastbound Highway 76 Viewshed

Primary Landscape Unit	Adjacent Landscape Units	Sensitivity Rating	Resource Class	Project Elements Seen
21	6, 12, 13, 14, 15	H	II	4, 5 & 6

Degree of Contrast	Without Mitigations			
	Initial Construction	Mid Term	Permanent	With Mitigations
Form	2	3	3	2
Line	3	3	3	2
Texture	3	3	3	2
Contrast (Color & Value)	3	3	2	1
Character (Variety, Unity)	3	3	2	1
Subtotal Ratings	**14**	**15**	**13**	**8**
Impact Category	**S**	**S**	**S**	**A**

Meets Resource Management Objectives? **No**

KEYVIEW 6

Gregory Canyon Contrast Worksheet for the Westbound Highway 76 Viewshed

Primary Landscape Unit	Adjacent Landscape Units	Sensitivity Rating	Resource Class	Project Elements Seen
15	13, 21	M	III	4, 5, 6

Degree of Contrast	Without Mitigations			
	Initial Construction	Mid Term	Permanent	With Mitigations
Form	2	3	3	3
Line	2	3	3	1
Texture	3	3	3	1
Contrast (Color & Value)	3	3	3	1
Character (Variety, Unity)	3	3	3	2
Subtotal Ratings	**13**	**15**	**15**	**8**
Impact Category	**S**	**S**	**S**	**A**

Meets Resource Management Objectives? **No**

LEGEND

PROJECT ELEMENTS LEGEND

SR-76 Highway Realignment	*1*
Access Road & Bridge	*2*
Lower Stockpile	*3a*
Upper Stockpile	*3b*
Ancillary Facilities	*4*
Landfill	*5*
Powerline Realignment	*6*

IMPACT SUMMARY RATING LEGEND

Significant (S)	*Above 12*
Adverse but less than Significant (A)	*7-12*
Insignificant (I)	*0-6*

CONTRAST RATING LEGEND

Strong	*3*
Moderate	*2*
Weak	*1*
None	*0*

KEYVIEW 7

Gregory Canyon Contrast Worksheet for the North Hillside Viewshed

Primary Landscape Unit	Adjacent Landscape Units	Sensitivity Rating	Resource Class	Project Elements Seen
21	13, 15, 16, 19, 20	H	II	2, 3a, 4, 5, 6

Degree of Contrast	Without Mitigations			
	Initial Construction	Mid Term	Permanent	With Mitigations
Form	1	2	3	2
Line	2	2	3	1
Texture	2	3	3	1
Contrast (Color & Value)	2	3	3	1
Character (Variety, Unity)	2	3	3	2
Subtotal Ratings	**9**	**13**	**15**	**7**
Impact Category	**A**	**S**	**S**	**A**

Meets Resource Management Objectives? **Yes**

KEYVIEW 8

Gregory Canyon Contrast Worksheet for the East San Luis Rey Canyon Viewshed

Primary Landscape Unit	Adjacent Landscape Units	Sensitivity Rating	Resource Class	Project Elements Seen
21	6, 15	H	II	4, 6

Degree of Contrast	Without Mitigations			
	Initial Construction	Mid Term	Permanent	With Mitigations
Form	1	2	2	1
Line	1	2	2	1
Texture	2	2	2	1
Contrast (Color & Value)	2	2	3	2
Character (Variety, Unity)	2	3	3	2
Subtotal Ratings	**8**	**11**	**12**	**7**
Impact Category	**A**	**A**	**A**	**A**

Meets Resource Management Objectives? **Yes**

LEGEND

PROJECT ELEMENTS LEGEND

SR-76 Highway Realignment	*1*
Access Road & Bridge	*2*
Lower Stockpile	*3a*
Upper Stockpile	*3b*
Ancillary Facilities	*4*
Landfill	*5*
Powerline Realignment	*6*

IMPACT SUMMARY RATING LEGEND

Significant (S)	*Above 12*
Adverse but less than Significant (A)	*7-12*
Insignificant (I)	*0-6*

CONTRAST RATING LEGEND

Strong	*3*
Moderate	*2*
Weak	*1*
None	*0*

KEYVIEW 9

Gregory Canyon Contrast Worksheet for the Lower Couser Canyon Viewshed

Primary Landscape Unit	Adjacent Landscape Units	Sensitivity Rating	Resource Class	Project Elements Seen
6	5, 21	H	III	3b

Degree of Contrast	Without Mitigations			
	Initial Construction	Mid Term	Permanent	With Mitigations
Form	2	3	3	1
Line	3	3	3	1
Texture	3	3	3	1
Contrast (Color & Value)	3	3	3	1
Character (Variety, Unity)	3	3	3	2
Subtotal Ratings	**14**	**15**	**15**	**6**
Impact Category	**S**	**S**	**S**	**I**

Meets Resource Management Objectives? **Yes**

KEYVIEW 10

Gregory Canyon Contrast Worksheet for the Upper Couser Canyon Viewshed

Primary Landscape Unit	Adjacent Landscape Units	Sensitivity Rating	Resource Class	Project Elements Seen
21	5, 6	H	II	5

Degree of Contrast	Without Mitigations			
	Initial Construction	Mid Term	Permanent	With Mitigations
Form	0	0	3	3
Line	0	0	3	2
Texture	0	0	2	1
Contrast (Color & Value)	0	0	3	1
Character (Variety, Unity)	0	0	3	2
Subtotal Ratings	**0**	**0**	**14**	**9**
Impact Category	**I**	**I**	**S**	**A**

Meets Resource Management Objectives? **Yes**

LEGEND

PROJECT ELEMENTS LEGEND

SR-76 Highway Realignment	*1*
Access Road & Bridge	*2*
Lower Stockpile	*3a*
Upper Stockpile	*3b*
Ancillary Facilities	*4*
Landfill	*5*
Powerline Realignment	*6*

IMPACT SUMMARY RATING LEGEND

Significant (S)	*Above 12*
Adverse but less than Significant (A)	*7-12*
Insignificant (I)	*0-6*

CONTRAST RATING LEGEND

Strong	*3*
Moderate	*2*
Weak	*1*
None	*0*

Alternative Analysis for the Gregory Canyon Landfill

Aspen Road Alternative

Visual Impact Assessment Technical Report
Fallbrook Community Planning Area
San Diego County, California

Prepared by:

KTU+A
Planning + Landscape Architecture

Prepared for:

US Army Corps of Engineers®

March 2012

VISUAL IMPACT ASSESSMENT TECHNICAL REPORT:
GREGORY CANYON LANDFILL,
ASPEN ROAD ALTERNATIVE

March 2012

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CERTIFICATION

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Appendix

Appendix A: Visual Quality Inventory Evaluation Worksheets

1.0 Introduction

The Aspen Road alternative to the Gregory Canyon Landfill is located to the northeast of the community of Fallbrook, in north San Diego county. The is site is bordered by the Santa Margarita River valley to the north and west, Red Mountain to the south, and Rainbow Glen Road/Interstate 15 (I-15) to the east. The central portion of the site is accessed by Aspen Road (see Figure 1: Vicinity Map and Site Boundaries).

1.1 Purpose of the Visual Resources Report

The Aspen Road Visual Impact Assessment Technical Report assesses the potential visual impacts of the construction of a landfill at the Aspen Road alternative site. The report also proposes measures to mitigate any adverse visual impacts associated with the alternative.

1.2 Key Issues

The Aspen Road alternative presents the following key issues that will need to be addressed in this study:

- Introduction of a massive man-made landform, located high in the viewing scene, that dominates the landscape below
- Creation of a man-made ridgeline, visible from both east and west of the site
- Elimination of a viewing corridor to regionally significant mountains to the east and west of the site
- Removal of visual resources such as trees/vegetation and rock outcroppings

1.3 Principal Key Views to be Covered

The land surrounding the site of the Aspen Road is primarily vacant/undeveloped land and rural residential/agricultural land. The regional thoroughfare of I-15 passes within the vicinity of the site to the east and the community of Fallrook lies to the southwest. Because of the area's varied topography, views of the site abound. Many of these views, however, are private views. Although there are publicly accessible parks and trails near the site, views to the site are blocked by vegetation and/or topography. The most significant public viewing locations, therefore, are public roadways. This study primarily analyzes visual impacts to public viewing locations to the north, east, and west of the site (views from the south are largely obscured by existing terrain). Secondarily, the study analyzes views from private viewing locations.

The primary key views analyzed include:

- Via Vaquero Road (with key views from north of the site)
- Rainbow Glen Road (with key views from east of the site)
- Rainbow Heights Road (with key views from southeast of the site)
- Riverview Drive (with key views from southwest of the site)
- Stage Coach Lane (with key views from west of the site)

2.0 Alternative Description and Regulatory Framework

The following sections provide an overview of the alternative and the land use/development regulations governing the alternative site and its surroundings.

2.1 Alternative Description

The Aspen Road alternative would be a Class III sanitary landfill and the conceptual site boundary covers approximately 456 acres, although the final footprint of the landfill is expected to be less than 165 acres. While a fully developed alternative would include site plans detailing access roads, ancillary facilities, and various utility-related structures, this visual impact analysis is based on conceptual plan information. This site is being reviewed for comparison purposes with Gregory Canyon and is not currently being pursued by a project applicant. The conceptual plans referenced in this report include basic details such as maximum fill contours and potential zones for stockpiles and ancillary facilities.

It is expected that than an average of 3,200 tons per day (tpd), or one million tons annually, will be deposited at the landfill over its life. Accounting for the volume occupied by the containment system, daily, intermediate, and final covers, the estimated site life is approximately 25 years. The finished elevation of the landfill is expected to be 1,465 feet Mean Sea Level (MSL).

The analysis includes two estimates of an interim condition. The viewshed analysis provides two scenarios, one with the landfill form and three interim borrow/stockpile locations (based on estimated maximum height during activity) and one final landfill form without the borrow/stockpiles. Additionally, one of the simulation models shown later in this study displays an estimated 50% full landfill form for comparison to the 100% landfill form.

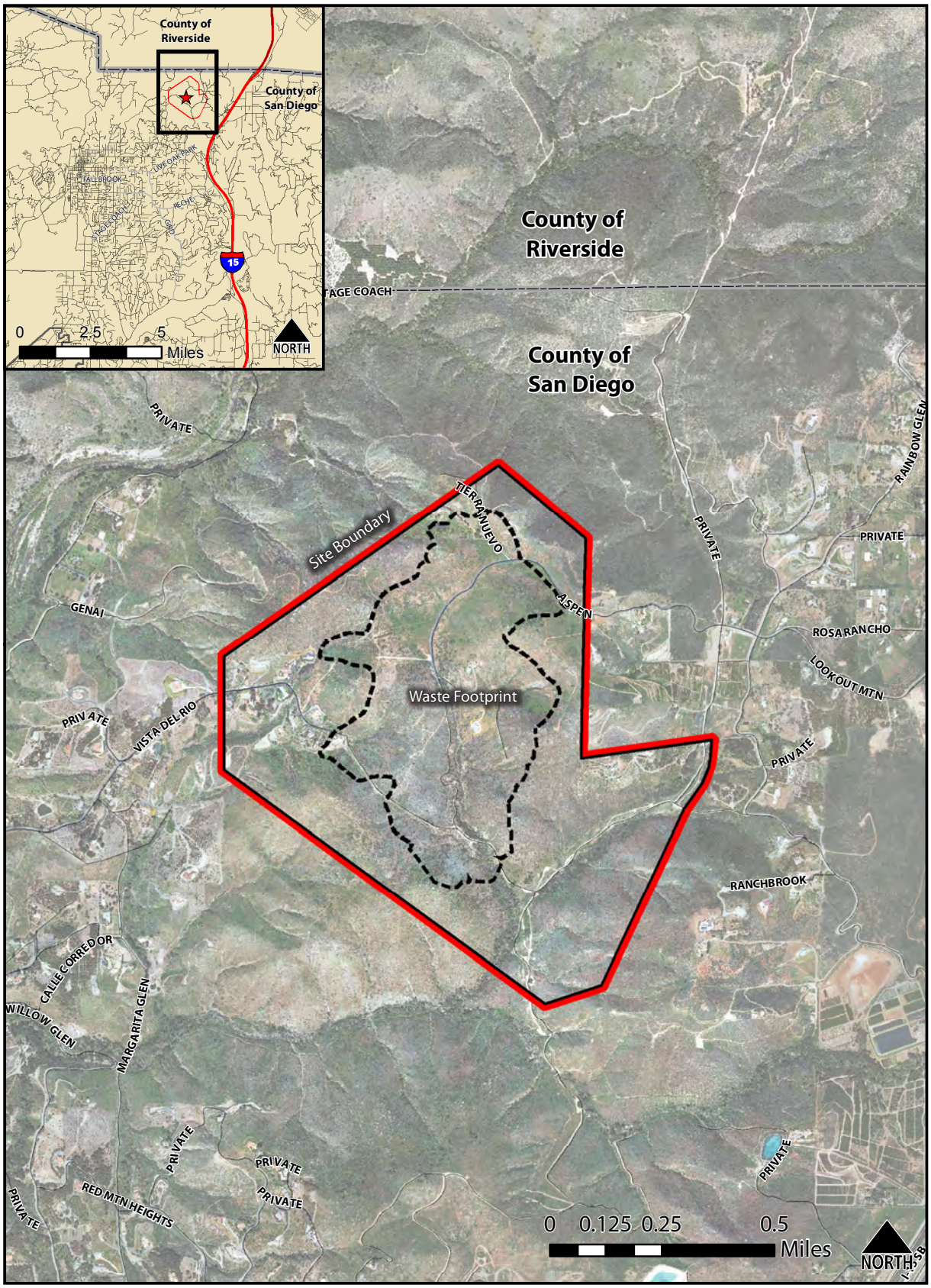


Figure 1: Vicinity Map and Site Boundaries

2.2 Land Use Designations and Zoning

The visual character surrounding a site is primarily influenced by the adjacent land uses. Existing land uses establish the current visual environment, while planned land uses and zoning provide clues as to the nature of the future visual environment.

2.2.1 Existing Land Use

The Aspen Road alternative site is currently vacant/undeveloped land. A few buildings/trailers are located on the site, and limited access is provided by Aspen Road, but the vast majority of the site remains in its natural state.

The area surrounding the site is characterized by low-intensity uses of a rural and/or agricultural nature. According to San Diego Association of Governments (SANDAG) data from 2009, existing land uses near the alternative site include: rural residential, mobile home park, strip commercial, orchard/vineyard, open space park/preserve, reservoir, intensive agriculture, field crops, and vacant/undeveloped.

2.2.2 Proposed Land Use

General plans provide a community a vision for growth for 20-30 years. These documents establish common goals and policies that guide the more specific development guidelines and regulations contained in documents like the zoning ordinance. San Diego County adopted an update of its General Plan in August 2011. The land uses proposed by the 2011 San Diego County General Plan for the vicinity of the site include:

- Public Agency Lands (Santa Margarita Preserve)
- Public/Semi-Public Facilities (Red Mountain Reservoir)
- Rural Lands (RL-20)
- Rural Lands (RL-40)
- Semi-Rural Residential (SR-1)
- Semi-Rural Residential (SR-2)
- Semi-Rural Residential (SR-10)
- Village Residential (VR-4.3)
- Rural Commercial

Below is a brief discussion of the differences between the existing and proposed land uses near the alternative site. Please note, the General Plan designations are applied to areas larger than the existing land use designations mentioned in Section 2.2.1. As such, proposed land use categories that are in keeping with the character of exiting land use descriptions are not considered to represent a change of land use.

Differences in existing and proposed land uses include:

- Both the existing land use and proposed land use indicate various intensities of semi-rural, rural, and agricultural land uses surrounding the site, as well as preservation of open space along the Santa Margarita River.

2.2.3 Zoning

Zoning within San Diego County has various mechanisms for controlling land use and development standards. Zones are commonly named or referred to by their Use Designation (A70, RR, S88, etc.). The standards for land use within these designations are shared, while the standards for development depend on a number of different factors. Detailed discussion of the zoning regulations affecting the visual aspects of the Aspen Road alternative site is included in Section 2.3.2.3. Below is a discussion of significant differences between the existing zoning and proposed land use discussed in the previous section:

- Both the existing zoning and proposed land use indicate rural/limited agricultural uses on and immediately surrounding the site. Zoning is expected to be conformed to the 2011 General Plan land use designations in the coming years.

2.3 Regulatory Framework

The Aspen Road alternative is within the jurisdictional control of the County of San Diego. A variety of plans and policies were reviewed in order to determine conformance with visual goals and policies.

2.3.1 Visual Resource Guidance

The County of San Diego provides guidelines for determining significance in relation to visual resource impacts. The guidelines address impacts related to landform quality, visual quality, view quality, and community plans and policies.

2.3.2 General Plan

<u>Land Use Element</u>

Goal LU-2: Maintenance of the County's Rural Character

Policy LU 2.8: Mitigation of Development Impacts. Require measures that minimize significant impacts to surrounding areas from uses or operations that cause excessive noise, vibrations, dust, odor, aesthetic impairment and/or are detrimental to human health and safety.

Goal LU-12: Infrastructure and Services Supporting Development

Policy LU 12.4: Planning for Compatibility. Plan and site infrastructure for public utilities and public facilities in a manner compatible with community character, minimize visual and environmental impacts, and whenever feasible, locate any facilities and supporting infrastructure outside preserve areas.

Conservation and Open Space Element

Goal COS-11: Preservation of Scenic Resources

Policy COS 11.1: Protection of Scenic Resources. Require the protection of scenic highways, corridors, regionally significant scenic vistas, and natural features, including prominent ridgelines, dominant landforms, reservoirs, and scenic landscapes.

Interstate 15, between Escondido city limits and Riverside County line;

Mission Road, between SR76 and Interstate 15

Policy COS 11.3: Development Siting and Design. Requirement development within visually sensitive areas to minimize visual impacts and to preserve unique or special visual features, particularly in rural areas, through the following:

- Creative site planning
- Integration of natural features into the project
- Appropriate scale, materials, and design to complement the surrounding natural landscape
- Minimal disturbance of topography
- Clustering of development so as to preserve a balance of open space vistas, natural features, and community character
- Creation of contiguous open space networks

Goal COS-12: Preservation of Ridgelines and Hillsides

Policy 12.1: Hillside and Ridgeline Development Density. Protect undeveloped ridgelines and steep hillsides by maintaining semi-rural or rural designations on these areas.

Policy 12.2: Development Location on Ridges. Require development to preserve the physical features by being located down and away from ridgelines so that structures are not silhouetted against the sky.

2.3.3 Fallbrook Community Plan

The Fallbrook Community Plan supplements all existing Elements of the San Diego County General Plan with specific emphasis on the planning needs of the Fallbrook subregion. The Plan reflects, to the maximum possible extent, consistency with General Plans of each of the six incorporated cities located within the Subregion.

Land Use

Goal LU 2.4: New development within Fallbrook that is designed to be sensitive to the community character, while encouraging the upgrade and beautification of existing development.

Policy LU 2.4.1: Require development to preserve viable mature trees and significant landforms in all public and private development projects, to the maximum extent feasible.

Policy LU 2.4.6: Require grading impacts to be minimized and require landscaped areas disturbed by grading to be revegetated, control drainage and runoff so as not to exceed the rate associated with the property prior to grading.

Conservation and Open Space

Goal COS 1.2: Community Forests

Policy COS 1.2.1: Protect heritage and large native trees

Policy COS 1.2.2: Encourage planting trees, while discouraging the unnecessary removal of trees in association with new development, as well as in public rights-of-way and parking lots.

Goal COS 1.2 Preservation of open space areas unsuitable for intense development

Policy COS 1.2.2: Restrict the construction of concrete lined flood control channels to only where such channels are necessary because of existing improvements that block flood flow and make the channelization mandatory.

Goal COS 1.3 Water Resources

Policy COS 1.3.2: Support the enhancement (restoration, invasive species removal, etc.) of natural drainage systems and natural hydrologic regimes of waterways.

Goal COS 1.4 Appropriate use and conservation of mineral resources consistent with preservation of the natural landscape

Policy COS 1.4.1: Require restoration of terrain (vegetation, topography) to natural state within twelve months after completion of a mineral resource extraction project.

Resource Conservation Areas

The Resource Conservation Area (RCA) designation is applied to protect sensitive biological, archaeological, aesthetic, mineral, and water resources. Projects requiring environmental analysis under the California Environmental Quality Act (CEQA) that occur within RCAs should be carefully analyzed to assess their impact on the RCA.

The Santa Margarita River and its surrounding terrain/tributaries are designated as resource conservation area #3.

2.3.4 Zoning Ordinance

Portions of the County Zoning Ordinance that may affect the assessment of visual impacts include:

Agricultural Use Regulations: Limited Agricultural Use Regulations (A70) - Aspen

Building Type (C): Attached and Detached Non-Residential Structures Permitted

Max Height (G): 35 feet

Setback (C): Ranges from 15 feet to 60 feet

Special Regulations (C): Airport Land Use Compatibility Area. Requires additional review for compatibility of the proposed use with nearby airport operations. No specific design regulations provided.

2.3.5 Resource Protection Ordinance (2007)

In order to protect and preserve the unique topography, ecosystems, and natural characteristics of San Diego County, the Board of Supervisors created the Resource Protection Ordinance. This ordinance creates special controls on development impacting the County's wetlands, floodplains, steep slopes, sensitive biological habitats, and prehistoric and historic sites.

The County requires a Resource Protection Study be conducted as a part of certain discretionary permitting processes. If the Resource Protection Study identifies the presence of sensitive resources, one or more of the following actions may be required as a condition of approval:

- Apply open space easements to portions of the project site that contain sensitive lands;
- Rezone the entire project site through the application of a special area designator for sensitive lands; or
- Other actions as determined by the decision-making body.

2.3.6 County of San Diego Board of Supervisors Hillside Development Policy (I-73)

It is the policy of the County that the development of building sites in hillside areas be planned and constructed in such a manner as to preserve, enhance, or improve the physical features of the area consistent with providing building sites while at the same time optimizing the aesthetic quality of the final product. Physical site resources may include: existing natural terrain; established vegetation; visually significant geologic displays; and portions of a site that have significant on-site vista points.

3.0 Visual Environment

Understanding the existing visual environment of the alternative site and its surroundings is key in assessing changes produced by the alternative. The following sections discuss the setting of the alternative, describe existing landscape character units, and analyze site visibility from within the region.

3.1 Setting

The Aspen Road alternative site is located in northern San Diego County, northeast of the community of Fallbrook and west of the community of Rainbow. The site itself is characterized by undeveloped hillsides and canyons and is surrounded by an open space/river preserve, agriculture, and rural residential development. The land surrounding the site exhibits varied topography, with both minor and major riparian corridors, surrounded by hills and mountains of all scales.

3.2 Landscape Units

In order to better understand the visual context of the area surrounding the Aspen Road alternative, visual landscape units have been established and described. These landscape units possess consistent visual elements that produce a unique experience for the viewer. Landscape units can vary greatly in size, but even in very large landscape units, the visual environment should exhibit consistent visual character within its delineated boundaries. The following is a discussion of the landscape units in the vicinity of the site. Figure 2 shows the geographic limits of the landscape character units and is supplemented by photos of typical conditions within each unit.

Agriculture

North San Diego County has historically been a center of productive agricultural use. Orchards and vineyards populate much of the region, including valleys, plains, and hillsides. Common agricultural products include avocados, citrus, strawberries, mushrooms, nursery trees/plants, and sod. The region is also used to raise livestock such as horses and poultry. The character of the agricultural landscape unit is typified by the existence of crop/orchard rows, open fields, livestock pens, canals/water delivery systems, and accessory structures such as barns, storage shelters, and tanks/wells. While these elements vary in appearance, they maintain a cohesive identity through the scarcity of man-made structures and overall urbanization.

The agriculture landscape unit is only moderately sensitive to change based on the numerous uses generally associated with a rural/agrarian landscape. The landscape unit is compatible with most uses provided they do not introduce elements associated with a more urban environment such as closely spaced structures, widened roadways, increased number of roadways, parking areas, man-made lighting, and overall reduction of visual access to land. The areas of the most intensive agriculture are the nurseries to the southeast of the site in the community of Rainbow, east of Interstate 15, and to the north of the site along the ridgeline north of the Santa Margarita River.

Freeway

The freeway landscape unit refers to the I-15 corridor that transects the study area. The dominant element in the landscape unit is the concrete surface of the northbound and southbound lanes. With four lanes in each direction, the majority of the viewing corridor is dominated by the lightly colored, leveled roadway. Additional features are asphalt emergency parking shoulders, gravel shoulders, and intermittent utilities/infrastructure such as call boxes, street lighting, roadway signage, etc. The extent of I-15 included in this visual analysis does not include freeway landscaping beyond the native/invasive species that have spontaneously established themselves in the median and shoulder zones.

The freeway landscape unit itself is not sensitive to change. Freeways occur in every type of environment and the minimal aesthetic quality of the freeway allows for integration of almost any element. Although the I-15 corridor is designated as scenic corridor by the County of San Diego, the sensitive visual resources protected by the designation relate to the landscape units adjacent to the freeway, rather than the freeway itself. The freeway landscape unit is to the east of the site and runs northeast/southwest through the study area.

Rural Residential

The rural residential landscape unit is characterized by large-lot, low-density residential development that exhibits the informal building style of the agricultural landscape unit, but not the dominance of agricultural uses. Rural residential development may have some limited agricultural production on-site, but is defined primarily by single family residences, large landscaped areas, and recreational amenities such as basketball courts, tennis courts, swimming pools, etc. While the development pattern of the rural residential landscape unit is low-density, the proliferation and density of landscaping can limit views and view corridors, creating a more enclosed viewing experience than in an agricultural setting.

The rural residential landscape unit is moderately sensitive to change. It is compatible with agricultural uses, but adversely affected by other non-residential uses and more densely developed residential uses. The rural residential landscape unit characterizes the development nearest the site, to the east, south, and west.

Semi-Rural Residential

The semi-rural residential landscape unit represents a further urbanization of the rural residential landscape unit: lot sizes are not as large (although still large by urban standards), roads are wider, and agricultural use of property generally disappears. Public improvements such as curbs, sidewalks, and street lighting can occur. Semi-rural residential structures tend to be unique and can vary greatly in scale and building materials, negating a consistent character in terms of built form.

The semi-rural residential landscape unit is moderately sensitive to change. It is a transition zone between urban/suburban densities and more rural uses, but is potentially compatible with both. The greatest sensitivity is to non-residential uses and building types typical in commercial or industrial development. The only concentration of the semi-rural residential landscape unit is to the southwest of the site, in the community of Fallbrook.

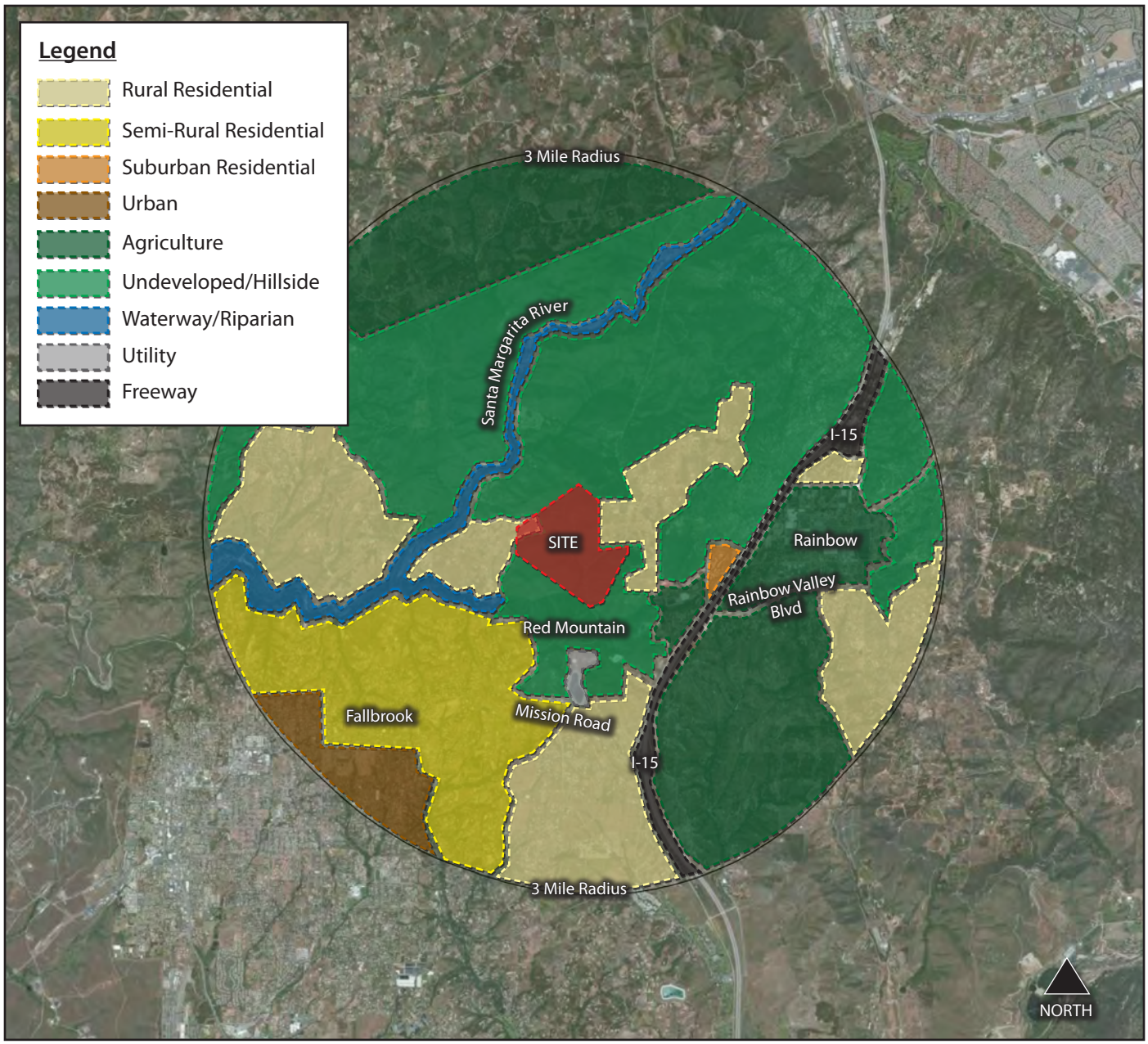


Figure 2: Landscape Character Units

Suburban Residential

The suburban residential landscape unit is typical of single-family residential development in many cities. Lot sizes are smaller than in rural and semi-rural residential areas and use of property for agriculture disappears entirely. Public improvements such as curbs, sidewalks, and street lighting are typical, and many times provide distinctive character elements. Suburban residential neighborhoods are usually developed as part of a single development, and thus, the homes exhibit many of the same characteristics. For the purposed of this report, mobile home developments are classified as the suburban residential landscape character unit.

The suburban residential landscape unit is moderately sensitive to change. It is a transition zone between urban densities and more rural uses, but shares more characteristics with an urban setting than rural. The greatest sensitivity is to non-residential uses and building types typical in commercial or industrial development.

The only suburban residential landscape unit in the study area is the mobile home park located next to I-15, north of Rainbow Glen Road.

Agriculture

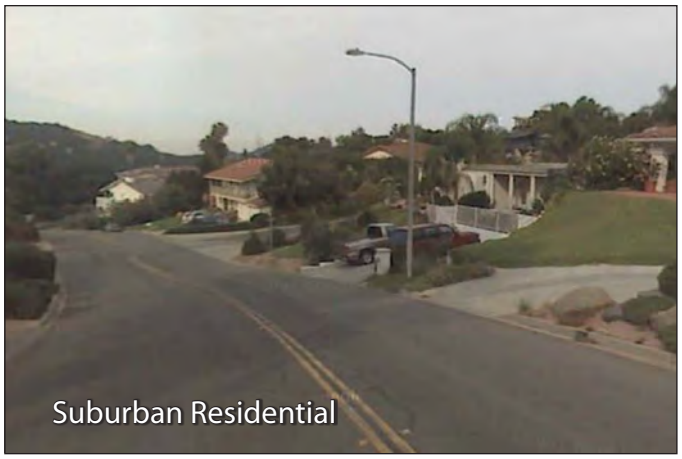
Agriculture

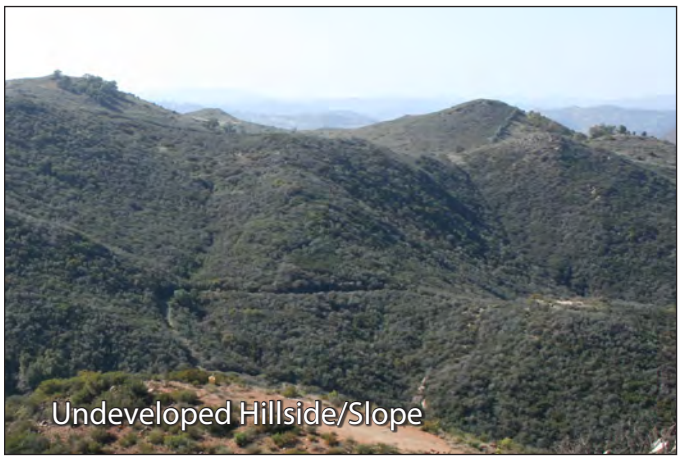
Agriculture

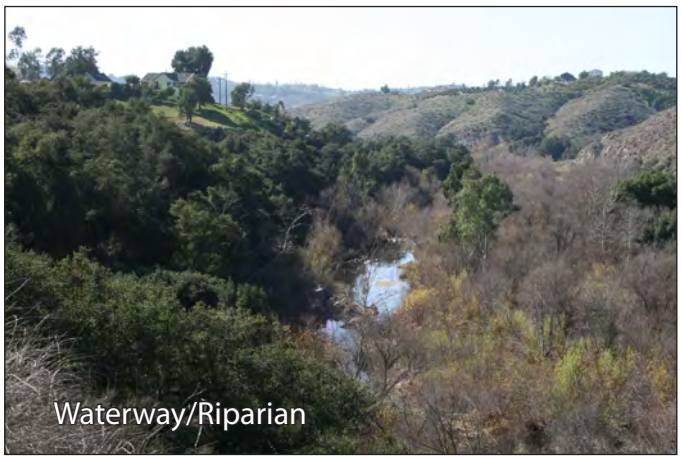
Freeway

Rural Residential

Semi-Rural Residential







Utility

The facilities and infrastructure associated with the utility landscape unit are industrial in nature. The utility campuses near the alternative site are specifically water utility facilities. The sites are typically free of vegetation and feature large expanses on paved surfaces. There are facilities of varying sizes used for varying purposes, including holding tanks and basins.

The utility landscape unit is not sensitive to change. The quality of the visual environment on and off the site does not impact its operations. Conversely, its use of the land changes the visual environment in substantial ways, but this change is expected and integral with the quarry's economic purpose.

The Red Mountain Reservoir and associated facilities constitute the only utility landscape unit in the study area.

Urban

The urban landscape unit is varied and contains many subunits that have their own visual qualities, however, because the urban environment is near the periphery of the study area and has almost no visibility to the site (discussed in greater detail later), it is identified as one landscape unit. The urban landscape unit is primarily characterized by its density of development and dominance of man-made structures. Roadways can be multi-lane, and right-of-way improvements can include sidewalks, landscaping, transit shelters, etc. Walls typically denote the boundary between properties and structures, rather than vegetation, and prove the most frequent obstruction to views and viewing corridors. Public viewing locations, however, can be more numerous than in rural settings as the number of public roadways increases and public amenities such as trails and parks become more prevalent.

The urban environment is defined by a mix of land uses and building types, and as a whole, has a low sensitivity to change. The closest urban environment exists in the community of Fallbrook, to the southwest of the site.

Undeveloped/Hillside

The undeveloped/hillside landscape character area refers to the natural, undisturbed slopes of the hills and mountains surrounding the site. The unique visual environment created by these hillsides comes from the oak/chaparral plant communities and distinctive rock outcroppings. The hills/mountains themselves serve as landmarks to the surrounding lowlands and canyons and create a dynamic visual backdrop.

The undeveloped hillside landscape unit is highly sensitive to change. Changes to the topography of the hillsides disrupt their natural geometry and, if located high on the slope, can be seen from great distances. Likewise, changes in the native vegetative cover can expose the light soil and/or rock below, creating an inconsistency in texture and color.

The site is surrounded by undeveloped hillsides to the north and south. There are also important contiguous stretches of undeveloped hillsides along the Santa Margarita River and to the east of the community of Rainbow.

Waterway/Riparian

The waterway/riparian landscape character area refers to the corridors of canyon and valley floors which convey either constant or intermittent water. The two key elements that distinguish this character area are water and dense plant growth. The waterway/riparian area supports an entire community of plant species that cannot survive even a short distance from water. Characteristics species include sycamores, cottonwoods, alders, California blackberries, horsetails, and willows. The dense plant growth provides critical habitat to animal species as well, and the corridors are used for both permanent habitation and as migratory routes.

Waterway/riparian landscape units are highly sensitive to change. Many of the riparian corridors are narrow, and thus, any interruption of the plant cover disrupts the visual continuity of the corridor. The dominance of natural elements such as rocks, trees, leaves, and water contrasts with the typically more sparsely vegetated canyon slopes, and contrasts even further with man-made structures. The primary riparian landscape unit within the study area is the Santa Margarita River and its tributaries. The Santa Margarita River is a regionally significant waterway and provides both habitat and migratory routes for local wildlife. The river is located to the north and west of the site.

3.3 Viewshed

In establishing visual impacts of the alternative, the planning team conducted a viewshed analysis to determine which areas in the vicinity of the alternative would have a view of the site. Because the active use of a landfill is likely to last decades, the visual assessment also discusses areas with views of alternative elements in their interim stages.

3.3.1 Theoretical Viewshed Limits

A viewshed is defined as the geographical area within which at least some components or elements of the alternative are visible. The viewshed for the Aspen Road alternative was analyzed using aerial photographs, USGS topographic maps, and computer viewshed methodologies.

A theoretical model was developed utilizing Digital Elevation Models (DEM). These DEM files consist of x, y, and z data (north south, east west and elevational data) representing an area 10 meters by 10 meters per data point. This analysis is considered a theoretical limit since it only takes into account the position of the viewer, the location of the element being viewed, and the intervening topography. It does not analyze the effects of buildings, trees, and other structures that can severely limit the visibility of elements. It also does not take into account the effects of distance on the visibility of these elements. It does, however, represent the worst-case visibility of the alternative's elements. In reality, intervening uses, structures and plant materials, as well as distance, can affect the overall significance of visual impacts.

The viewshed was limited to a three-mile radius from the site and the computer model used a total of 100 observation points to determine the degree of visibility of the site. Observation points were arranged to reflect two scenarios: one where the landfill is under construction, including borrow/stockpiles areas and one where the landfill is completed and there are no remaining borrow/stockpiles. The borrow/stockpile locations are generalized for this analysis as specific locations and grading information were not available. Approximate maximum heights were provided by Geosyntec for each location.

Ancillary facilities (maintenance facilities, scales, basins, flares, etc.) were not modeled in either scenario because of their relatively minor scale in comparison to the landfill and borrow/stockpile elements (maximum of approximately 30 feet for ancillary facilities vs. hundreds of feet for the landfill and stockpiles).

3.3.2 Viewing Conditions

Viewing conditions can be determined by physical conditions including topography, temporary and permanent obstructions, lighting, and atmospheric conditions.

Lighting can have a significant effect on views. Clouds and fog can also change viewing conditions by increasing or decreasing contrast. Atmospheric conditions in San Diego County tend to be hazy a large percentage of the time. A combination of fog, mist, haze, and smog combine to decrease visibility. Often, details of visual features are not discernible when more than three miles away. Based on typical viewing conditions in this area, objects more than two miles away generally will not be considered visually prominent. If these objects are large enough to be visible, they would not be prominent, since the distance decreases scale and contrast that is normally perceived by changes in texture, color, and pattern.

3.3.3 Views of the Site

The viewshed analysis indicates that the Aspen Road alternative is highly visible from locations to north/northeast, west/southwest, and southeast (see Figure 3). The areas in the Gavilan Mountain vicinity (to the northwest), south of Red Mountain, along I-15, and in the community of Rainbow either have no visibility, or extremely limited visibility of the alternative, even at its finished elevation.

Of an estimated 2,855 dwelling units situated within the three mile radius of the site, approximately 1,260 fall within the viewshed of the completed landfill (see Figure 4 and Table 1). The percentage of roughly half of the dwelling units in the study area demonstrates that the alternative has relatively high visibility. In addition, a cursory analysis of the zoning that falls within the viewshed shows that the number of dwelling units allowed could increase more than fourfold (to 7,878) if maximum densities were allowed on a dwelling unit/acre basis.

Although the viewshed analysis shows that large areas around the site of the alternative would have a view of the finished landfill, field investigation determined that many of these viewing locations are private, including private roadways - some of which even restrict access by means of a gate. Also, some high visibility areas were discovered to be undeveloped, with no potential viewers. Many public viewing locations, on the other hand, do not have views to the site as indicated on the viewshed analysis because of significant vegetation. These "real world" factors significantly reduce the public viewing locations that would be impacted by the alternative.

The second viewshed analysis, including borrow/stockpile locations and elevations, reveals that the stockpiles will not increase visibility to areas that do not already have a view to the landfill (see Figure 5).

4.0 Existing Visual Resources and Viewer Response

When determining potential impacts to the visual environment, a common vocabulary must be established to describe the aspect of a setting that could be altered or impacted by the alternative. Likewise, characteristics of potential viewers must be discussed and defined. The following sections provide these distinctions.

4.1 Existing Visual Resources

Visual resources are defined by their character and their quality. The character describes the elements that make the resource unique in terms of appearance, while the quality refers to the public perception of the resource and their reaction to the resource.

4.1.1 Visual Character

The character of a visual resource can be further subdivided into pattern element and pattern character to better describe the distinctive features of a resource.

4.1.1.1 Pattern Elements

Visual character is generally defined by pattern elements such as form, spatial position relative to the viewer, line, color, texture, and detail.

The landforms of the area are large scale and dominant. The typical angle of slope is between 15 and 20 degrees with slopes ranging from 10-35%. The bottom of slopes are generally concave and gentle and convex toward the top. A strong contrast between these slopes and the ground plane exists. The abrupt change in slope at the floodplain level is very apparent. The valleys and ridgelines of the nearby mountains provide the distinguishing background for views in the area.

The site is spatially positioned above viewers or at eye level, although interceding ridges block parts of the landfill mass. This position high in the viewing scene acts to emphasize and magnify changes on the site.

Line characteristics that naturally occur consist of the hillside slopes, ridgelines, and the curvilinear path of the Santa Margarita River. I-15 represents a significant man-made visual and physical division in the landscape, as well as the edges of development in Fallbrook and Rainbow.

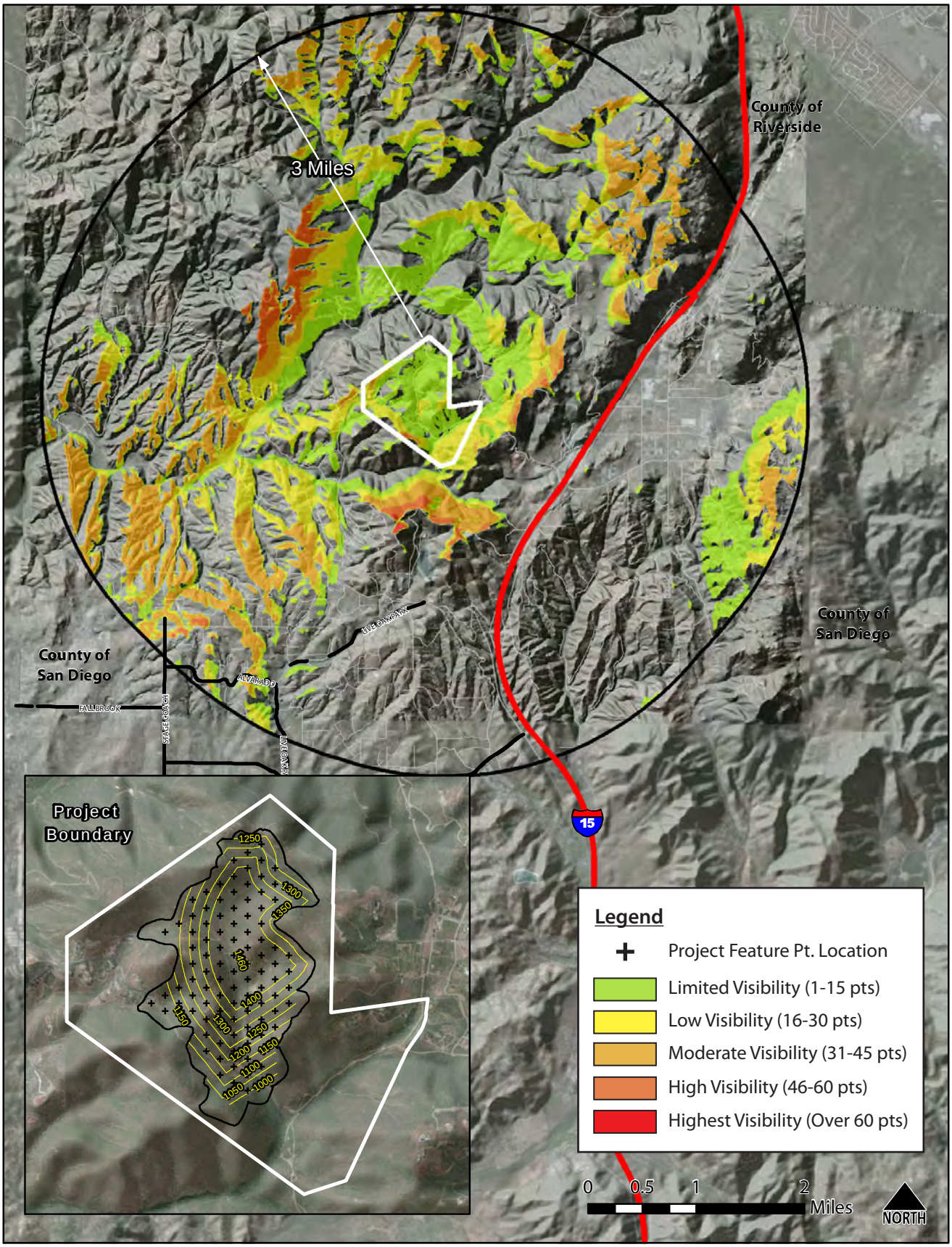


Figure 3: Viewshed of Final Landfill Form

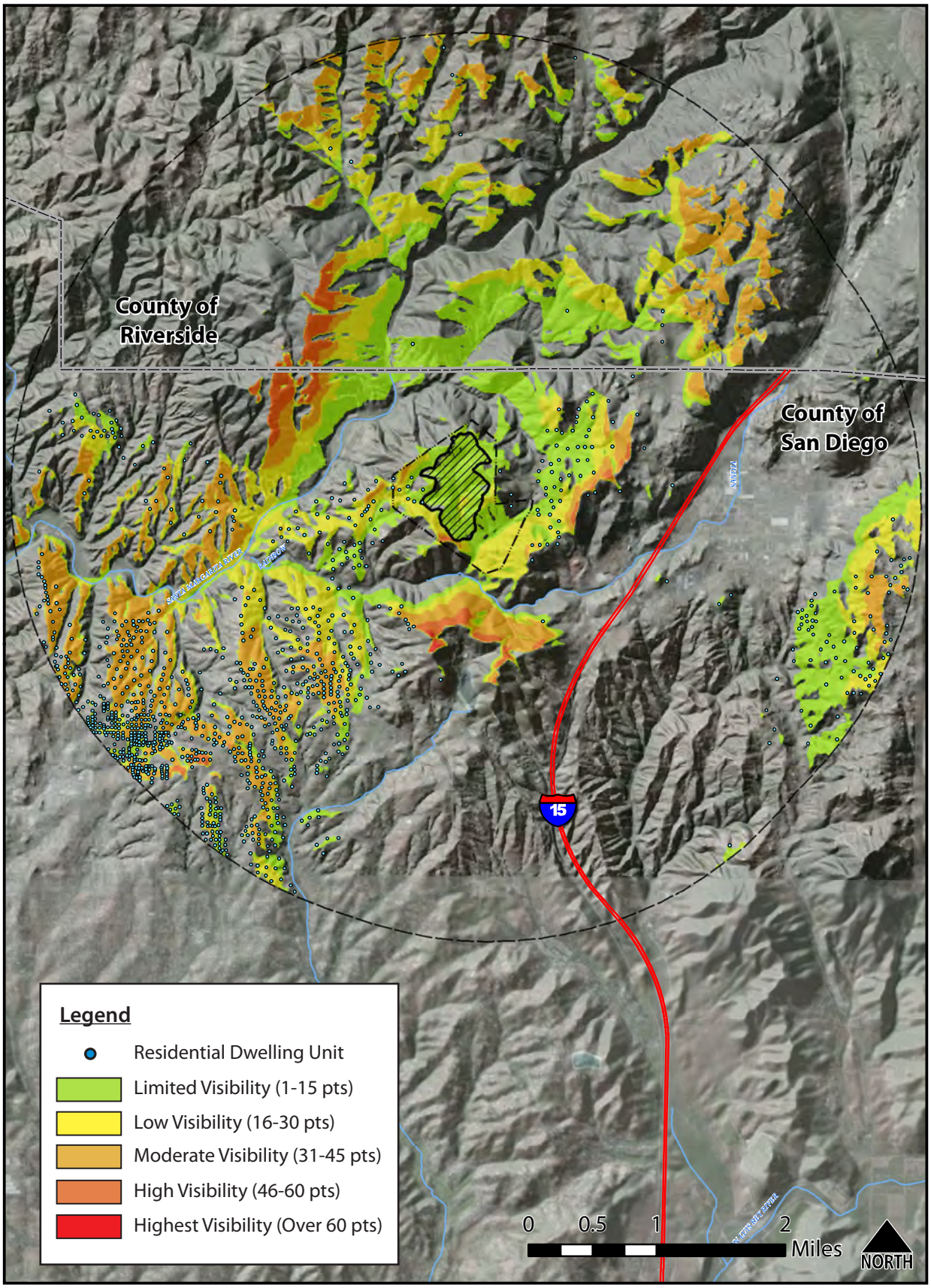


Figure 4: Viewshed with Dwelling Units

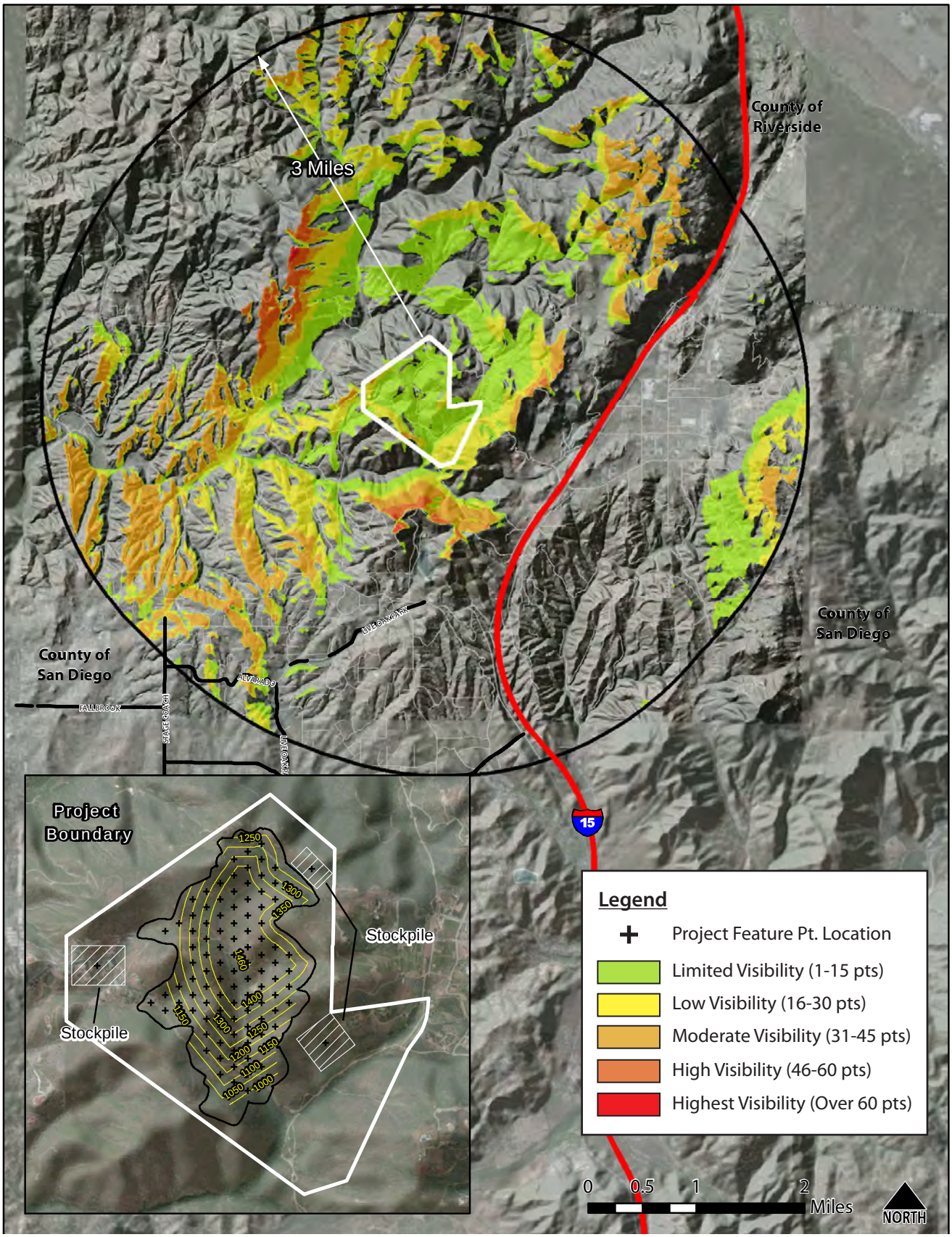


Figure 5: Viewshed of Landfill with Stockpiles

Zoning*	Acres In Viewshed	Existing Dwelling Units**	Density Allowed in Zone (DU/ Acre)***	Dwelling Units Allowed in Zone****	Potential Additional Houses
A70 - Limited Agricultural	3,696	951	0.125 - 1	3,696	2,745
RR - Rural Residential	2,067	306	1 - 2	4,134	3,828
S80 - Open Space Use	379	0	0.125	47	47
TOTAL	**6,142**	**1,257**		**7,878**	**6,621**

* Riverside County zoning categories translated into San Diego County equivalent

** Dwelling unit numbers reflect SANDAG data from 2009 and Riverside County data from 2003-2004

*** Densities can vary within each zoning use category.

**** Assumes maximum density.

Table 1: Viewshed Acreage and Residential Viewer Projection

There is no dominant color pattern to the visual context of the site. Although large areas are relatively undisturbed and exhibit the typical native chaparral, sage cover, and rock outcroppings, other areas introduce the myriad colors associated with man-made structures and agricultural development. Likewise, texture and detail vary depending on viewing location.

4.1.1.2 Pattern Character

Pattern character can be described in terms of harmony, variety, contrast, and scale. The natural elements of the hillsides and the valleys can be considered harmonious. Likewise, the agricultural uses of pastures, orchards, and row crops are also harmonious with each other and the native landscape. Non-harmonious elements include the quarries, roadways, and development at suburban and urban densities.

Variety and contrast exist within the context of the alternative site. To a certain extent, the existing residential development surrounding the site balances the forms of man-made and natural elements, creating a complimentary mix of both forms. For instance, residential development in the northeast portion of Fallbrook follows canyon ridgelines, balancing the natural form of the tributaries of the Santa Margarita River with the character of semi-rural residential development. Some exceptions include roadway cuts on the area hillsides, where man-made lines contrast with those of the existing landform.

The context of the alternative site is memorable, due to the distinctive canyons and ridgelines. The change in vertical elevation from valley floor to the ridgelines, combined with their undeveloped nature, greatly contribute to the experience.

The scale of the area varies from the broad mountains to the narrow, linear riparian corridors in the valleys. Man-made/ cultural elements also vary in scale, from the small-lot mobile home development along I-15, to the large scale agricultural/ nursery operations in the community of Rainbow. The I-15 freeway corridor, while narrow, is regional in scale in terms of its connectivity and views.

4.1.2 Visual Quality

The visual quality of the area is described in terms of its vividness, intactness, and scarcity of the specific visual elements.

The planning team evaluated each landscape unit in terms of its physical and perceptual quality, individually assessing elements such as landform, vegetation, water, harmony, vividness, and scarcity (see Appendix A for evaluation forms). Figure 6 shows the results of this evaluation in terms of high, moderate, and low visual character of each landscape unit. The point totals for each landscape unit in terms of physical and perceptual quality are provided in Table 2.

The areas with the highest visual quality are scattered throughout the study area. The landscape character unit representing the largest area of high visual quality is the undeveloped hillside character unit. This unit also surrounds the alternative site on the north and south. The Santa Margarita River corridor, while a smaller land area, also represents a landscape character unit with high visual quality. The freeway in the southeastern portion of the study area has a low visual quality.

The many residential and agricultural areas further away from the alternative site have a moderate visual quality. These areas have desirable/unique characteristics, but their visual quality is tempered by disorganization and/or a variety of forms within the character unit. The low visual quality areas are the landscape units of quarry, utility, and urban. The utility landscape character unit is rated as having low visual quality because of the chaotic appearance it presents and the disruption it causes to other landscapes nearby. The urban landscape unit is rated as low because of its lack of a single, cohesive identity, form, or character.

4.2 Viewer Response Assessment

The response of viewers to a change in the viewing scene can be estimated by analyzing elements such as viewing distances, viewer sensitivity, and viewing duration. Table 3 displays theses elements as they relate to the various viewer groups present near the site.

The viewer group with the highest sensitivity to change is residents near the alternative site. Residents are most sensitive because of the length of the duration of their exposure, the close proximity to the site (for some residents), their significant investment in property, and the value they place on the visual setting. The greatest concentration of residents near the site is to the southwest in Fallbrook, with fewer numbers of homes to the east and north. Residents, however, are viewing from private viewing locations.

The closest public viewing location would be along public roadways in the vicinity of the site. The most highly traveled roadways near the site, I-15 and Mission Road, are shielded from views to the site by either topography, vegetation, or other man-made obstructions. The remaining roadways provide glimpses of the site, but are traveled by a host of drivers with varying levels of interest in the surrounding visual environment.

5.0 Visual Impact Assessment

The visual impacts of the alternative are determined by assessing changes to existing visual resources by the alternative and predicting viewer response to any visual losses or contrasts. Visual resource change can result from the loss of visual resources which contribute to the visual character of the area and/or the introduction of visually prominent elements that contrast negatively with the visual quality/character of the area. These impacts can be to landform, the visual quality or the visual character of the site.

The viewer response to changes in the visual environment created by the alternative is determined by viewer exposure and viewer sensitivity to the alternative. The resulting level of visual impact is determined by combining the severity of resource change with the degree to which people are likely to oppose or be disturbed by the change, weighted by the quantity and viewing duration of the changes.

Later sections of the report include realistic computer simulations of the alternative, along with simplified photographic integration of computer models placed over top of existing visual resources shown in the photographs.

The following sections detail the terminology used to analyze these simulations, as well as the process followed to select the simulated key views from numerous candidate key view photos/locations.

5.1 Definitions of Visual Impact Levels

The definitions below will be used in the remainder of this report:

No Impact

Changes in the visual environment have no impact on existing visual resources. NOTE: If improvements in the visual environment occur as a result of the alternative, the impact would also be classified as "no impact."

Less than significant impact

Impacts below that of significance can result when the changes to existing visual resources are not be perceived negatively by viewers, the number of viewers is low, the contrast with existing resources is too small, or the contrast occurs in an area with low visual quality/low sensitivity to visual changes. NEPA requires mitigation for all levels of adversity, even those considered to be below a level of significance.

Significant Impact

Changes in the visual environment produce a significant impact when they introduce a moderate or high level of contrast to the visual resource, resulting in a viewer response that is moderately or highly negative. Mitigation will be required to reduce the impact to a less-than-significant level.

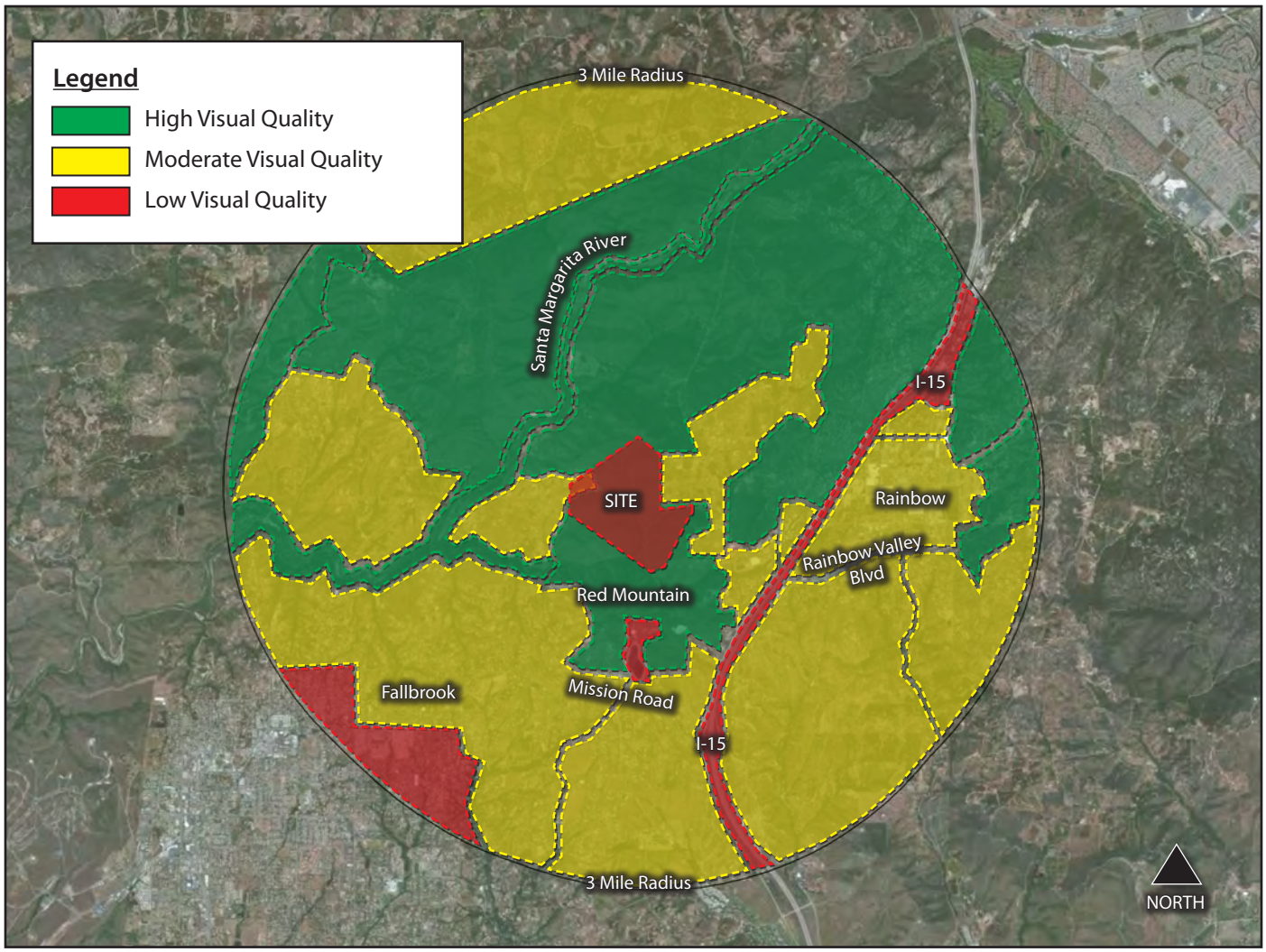


Figure 6: Landscape Character Unit Visual Quality

Unit Name	Physical	Perceptual	Total	Quality Category
Agriculture	11	2	13	Moderate
Freeway	4	3	7	Low
Rural Residential	11	3	14	Moderate
Semi-Rural Residential	11	3	14	Moderate
Suburban Residential	11	5	16	Moderate
Undeveloped Hillside	11	12	23	High
Utility	5	-3	2	Low
Urban	11	-3	8	Low
Waterway/Riparian	18	10	28	High

Table 2: Visual Quality Inventory Evaluation Summary

Viewer Group	Viewer Quantity	View Distance	View Duration	Viewer Sensitivity	Note
Residents	Moderate	Foreground to background	12 -14 hours daily	High	Residents are highly sensitive to change based on their investment in their homes. Views from their homes are private views, although they would also frequently travel public roadways in the vicinity (and within the viewshed) of the project.
Agricultural Workers	Low	Middle ground to background	Up to 9 hours daily	Low	Workers may have intermittent views to the site while working and traveling to/from their place of employment, although their stake in the visual quality of the surrounding properties is limited.
Roadway Drivers	Moderate	Middle ground to background	Intermittent; 30 second intervals	Moderate	Regional residents and visitors to the area likely constitute the majority of the roadway drivers in the area. These viewers would appreciate the context of the project for its rural/agrarian aesthetic, but would have limited investment otherwise. View durations would also be brief given the varied topography and dense vegetation in the area.

Table 3: Viewer Group Response Analysis

5.2 Guidelines for Determining Significance

The visual impact assessment of the Aspen Road alternative is based on impact to the following visual elements: visual quality, landform quality, view quality, and community plans and policies. These significance criteria are set under guidance provided by the United States Army Corps of Engineers (USACE) as approved in the Gregory Canyon Landfill Study Plan.

An alternative will be considered to have a significant effect if it proposes any of the changes listed below. Conversely, if an alternative does not propose any of the following, it will not be considered to have a significant effect on visual resources.

Impact to Landform Quality

1. The alternative would result in a permanent adverse change in the natural landform character of a scenic area. This change must not only be noticeable to a moderate to large number of viewers, but the contrast must dominate other adjacent landforms.

Impacts to Visual Quality

2. The alternative would clearly contrast with the existing visual resources of a moderate or high quality landscape assessment unit. This contrast must be clearly visible to a moderate to large number of viewers and the contrast must dominate the visual scene to the point where the character and quality of the visual resources, or the scene as a whole, are permanently and significantly degraded.

Impacts on View Quality

3. The alternative would block a substantial percentage of an existing view corridor of a regionally or subregionally important view scene, or prevent the physical or visual access to a viewing point from which the viewing scene can be seen. An adverse effect would also occur if an alternative highly contrasts and dominates the viewing scene to the point where the view scene quality is substantially degraded.

Community Plans and Policies

4. The alternative would prevent the attainment of a design or other aesthetic goal that is part of an adopted community plan or other County approved document. This visual character type is determined by line, form, color, contrast, texture, cultural features, scale and other elements that contribute to the character of the neighborhood and that are identified as important to the community.

In order to assess these impacts thoroughly and provide a basis of comparison with the Gregory Canyon visual impact analysis, this study utilizes the following questions to establish significance at each of the key view viewing locations:

1. Is the view available to 1,000 or more viewers per day?
2. Would the alternative result in an adverse change to the natural landform?
3. Would the alternative clearly contrast with existing moderate or high quality landscape units that make up the visual quality of the area?
4. Will the alternative result in the loss of physical visual resources?
5. Will the alternative block and existing view corridor, change a regionally important view scene, or cause the removal of access to viewing locations for the general public that would affect the overall view quality of the area?
6. Will the alternative prevent the attainment of adopted design, planning, or aesthetic goals found in adopted policies that protect neighborhood/community character?

These questions attempt to quantify a number of viewers above which would represent a "moderate" quantity of viewers (potentially resulting in a cumulative impact), as well as provide more specificity to the ways impacts could affect landform quality, view quality, visual quality, and community plans and policies.

5.3 Key Views

Because it is not feasible to analyze all the possible views in which the landfill alternative would be seen, it is necessary to select a number of key view points that most clearly display the visual effects of the alternative.

Figure 7 shows key views that represent typical views and viewing angles as seen by the different viewer groups. These are referred to as "Candidate Key Views." Each of the candidate key views on the following page includes an overlay of the landfill massing. These are not intended to be full simulations, just graphics that help to portray the general location, scale, and extent of the proposed improvements. Please note that the simulated massing of the landfill includes a solid yellow tone for visible portions of the landfill and a semi-transparent yellow tone for portions of the landfill behind foreground objects. Table 4 summarizes each of these key views. The following pages include all of the key view photos that represent the full range of views of the site. Three of these key views have been refined into full simulations with suggested mitigations.

5.4 Visual Simulation Review

Figures 8 through 10 represent photo realistic computer simulations of the landfill alternative. They were developed through the use of a three-dimensional computer model of the landform with the landfill topographical contours. This model was then transposed over top of a photo image of the site. Additional texture, color, details and shadowing were added to increase the realistic look of the simulation. Foreground elements are added that would normally block out parts of the background view. The simulations reveal that the alternative is highly visible and creates visual impacts from many viewing locations. The placement of the landfill high in the viewing scene accentuates its presence. In the interim stages, the light color of the minimally revegetated slopes makes the landfill even more noticeable. Visibility from close to the site has more variation; some ridgelines obscure the landfill form, while others open to reveal much of the landfill mass. In some cases, the landfill blocks views of the background landforms, creating a view corridor blockage issue.

Figure 8 shows the potential impacts to the viewing scene as seen from Rainbow Glen Road, less than a mile to the east of the site. The position of the landfill at a high elevation increases its prominence and decreases the vividness of the existing hills and canyons. The landfill mass creates a new ridgeline in the middle ground of the view, and blocks an existing view corridor to the mountains to the west. The existing viewing scene has only moderate intactness and unity because of the mix of uses, structures, and topography, although the addition of the landfill further reduces the limited cohesion exhibit by the viewing scene.

This key view represents the view for residents and local area drivers, although quantities would be low given the low density of development nearby.

Figure 9 shows the potential impacts to views from the southwest, on the outer edges of the community of Fallbrook. Again, the high elevation of the landfill mass accentuates

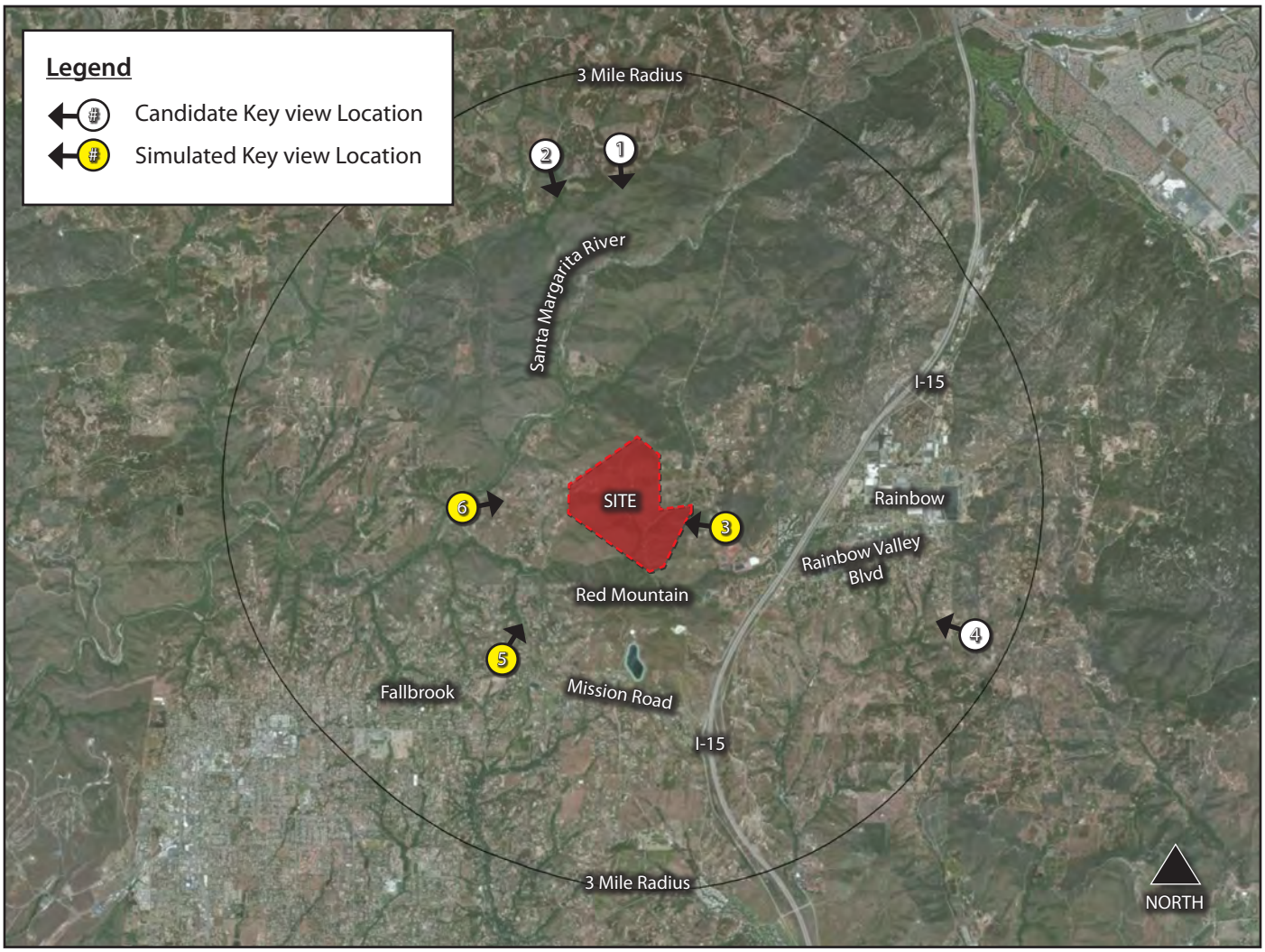


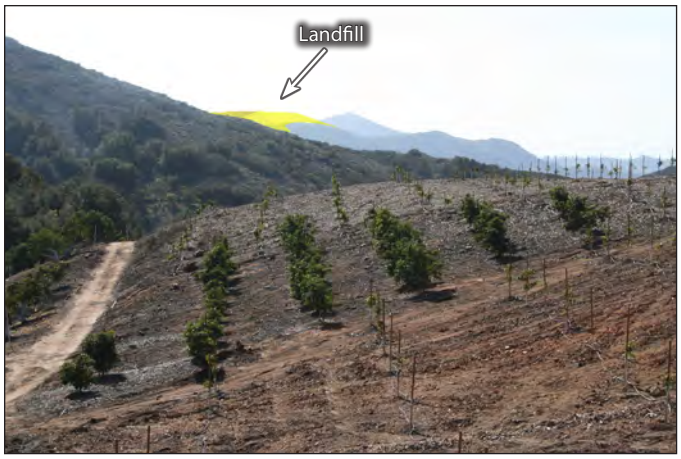
Figure 7: Key view Photo Locations

its presence and magnifies changes to the existing middle ground. The undeveloped hillsides, which characterize the landfill site, have a high visual quality given their undeveloped character and visual order. They also provide a high quality visual backdrop for the residential development in the area. The addition of the landfill interrupts the intactness and unity of the hillsides, changes the existing ridgeline, and blocks views to the mountains to the east. In addition, the ridgeline created by the landfill stands in stark contrast to the forms of the distant mountains. Viewers from this location include residents and local area drivers.

Figure 9 also provides a simulation of the landfill at an estimated 50% volume. The simulation shows that at 50% capacity, the elevation of the landfill is starting to eclipse existing ridgelines but is only partially visible from this viewing location. Views beyond the landfill site to the mountains to the east are still possible at this stage of landfill development.

Figure 10 represents the view from Stage Coach Lane, approximately one mile to the west of the site. The upper portions of the landfill are in plain view. The landfill dramatically changes the character of the viewing scene because of the high, engineered ridgeline it creates. This new ridgeline encloses a viewing scene that had previously been open. Further, while the existing visual quality of the area is only moderate because of a lack of unity and uniqueness of line, form, and texture, the introduction of the landfill mass is a "tipping point" that creates an impression of visual chaos.

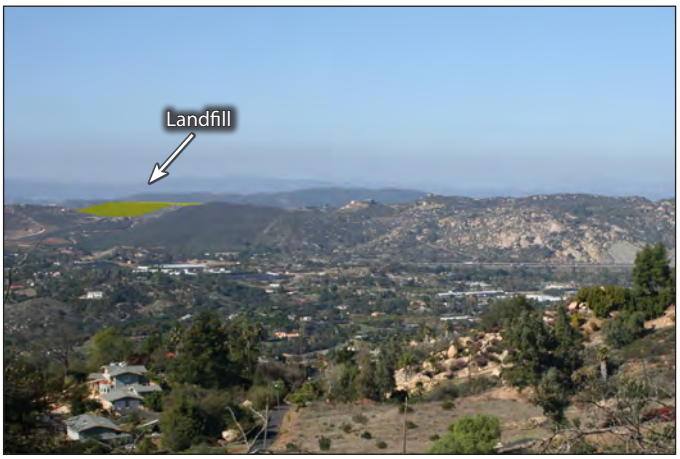
This simulation shows a view typical for residents and local area drivers. While previous viewshed analysis shows that the Santa Margarita River and its associated trails are either farther than three miles from the site, or shielded from view by existing landforms, Stage Coach Lane runs along a portion of the river, potentially attracting viewers seeking the quality of the waterway/riparian landscape unit. These users



Candidate Key View 1
Looking south from Via Vaquero

Candidate Key View 2
Looking south from Calle Cuero (hidden by existing terrain)

Candidate Key View 3
Looking west from Rainbow Glen Road



Candidate Key View 4
Looking west/northwest from Rainbow Heights Road

Candidate Key View 5
Looking northeast from Riverview Drive

Candidate Key View 6
Looking east from Stage Coach Lane

Candidate Key View Number	Character Unit Taken From	Dominant Viewer Group	Quantity of Viewers	View Duration	Distance from Viewer to Site	Notes	Recommended for Simulation
1	Via Vaquero (Agriculture)	Residents, Farm Workers	Low	Short	Background	Alternative is visible, but distance from site greatly reduces prominence	No
2	Calle Cuero (Agriculture)	Residents, Farm Workers	Low	Short	Background	Interceding ridge-lines obscure view of landfill	No
3	Rainbow Glen Road (Rural Residential)	Residents	Low	Long	Middle ground	Represents a sensitive viewer group, close proximity, and long viewing duration	Yes
4	Rainbow Heights Road (Rural Residential)	Residents	Moderate	Moderate to Long	Background	View is representative of a sensitive viewer group, but distance and shorter viewing duration decrease landfill prominence	No
5	Riverview Drive (Semi-Rural Residential)	Residents	Moderate	Moderate to Long	Middle ground	Representative of a sensitive viewer group, and although in the background, landfill is closer than in key view #4	Yes
6	Stage Coach Lane (Riparian/ Rural Residential)	Residents	Low	Moderate to Long	Background	Viewing location near the Santa Margarita is regionally significant (although established trails would not have this clear of a view), represents sensitive viewers	Yes

Table 4: Key View Photo Summary and Simulation Recommendations

PROPOSED CONDITIONS (MITIGATED)

EXISTING CONDITIONS

PROPOSED CONDITIONS (UNMITIGATED)

Visual Setting Information / Contrast Assessment of Project Elements	Existing			Proposed		
	High Quality	Moderate Quality	Low Quality	High Contrast	Moderate Contrast	Improves/Low Cont.
Visual Quality						
Vividness	X			X		
Intactness		X			X	
Unity		X			X	
Visual Organization		X			X	
Other Elements						
Viewing Scene Quality	X			X		
Landform Quality	X			X		
Viewing Corridor Quality		X			X	

NA: Not Affected or Not Applicable

* Simulation Notes: These simulations represent approximate renderings of project elements based on currently available information from conceptual plans.

KEY VIEW PHOTOGRAPH LOCATION North ▲

Alternative to Gregory Canyon Landfill

Aspen Road Key View 3

View looking west from Rainbow Glen Road

Figure **8**

PROPOSED CONDITIONS (100% FULL, UNMITIGATED)

PROPOSED CONDITIONS (100% FULL, MITIGATED)

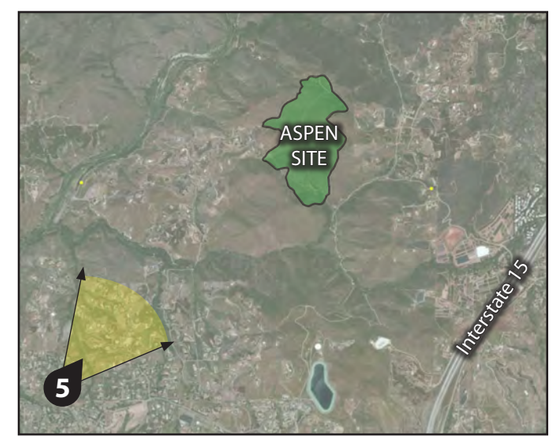
Visual Setting Information / Contrast Assessment of Project Elements	Existing			Proposed		
	High Quality	Moderate Quality	Low Quality	High Contrast	Moderate Contrast	Improves/Low Cont.
Visual Quality						
Vividness	X			X		
Intactness		X		X		
Unity	X				X	
Visual Organization		X			X	
Other Elements						
Viewing Scene Quality	X			X		
Landform Quality	X			X		
Viewing Corridor Quality		X				NA

NA: Not Affected or Not Applicable

* Simulation Notes: These simulations represent approximate renderings of project elements based on currently available information from conceptual plans.

EXISTING CONDITIONS

PROPOSED CONDITIONS (50% FULL, UNMITIGATED)



KEY VIEW PHOTOGRAPH LOCATION

North ▲

Alternative to Gregory Canyon Landfill

Aspen Road Key View 5

View looking west from Riverview Drive

Figure **9**

PROPOSED CONDITIONS (MITIGATED)

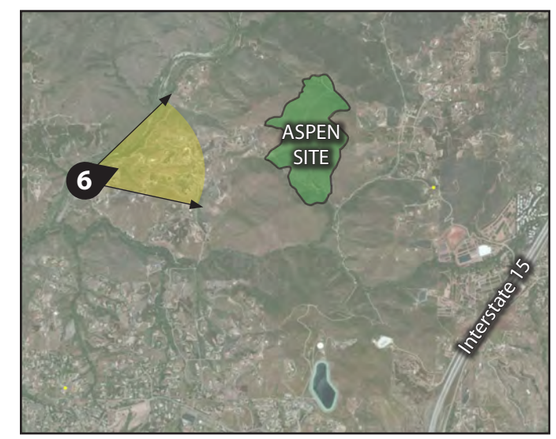
EXISTING CONDITIONS

PROPOSED CONDITIONS (UNMITIGATED)

Visual Setting Information / Contrast Assessment of Project Elements	Existing			Proposed		
	High Quality	Moderate Quality	Low Quality	High Contrast	Moderate Contrast	Improves/Low Cont.
Visual Quality						
Vividness		X			X	
Intactness			X		X	
Unity		X			X	
Visual Organization			X		X	
Other Elements						
Viewing Scene Quality		X			X	
Landform Quality		X		X		
Viewing Corridor Quality			X			NA

NA: Not Affected or Not Applicable

* Simulation Notes: These simulations represent approximate renderings of project elements based on currently available information from conceptual plans.



KEY VIEW PHOTOGRAPH LOCATION North ▲

Alternative to Gregory Canyon Landfill

Aspen Road Key View 6

View looking east from Stage Coach Lane

Figure **10**

are seeking relaxation/recreation in an intact, undeveloped setting and would be sensitive to changes that increase the presence of man-made structures and reduce the openness of the setting.

5.5 Assessment of Visual Character and Visual Quality

The first step in determining visual resource change is to assess the compatibility of the alternative with the visual character of the existing landscape. The following analyses utilize Figures 8 through 10 to assess potential character attributes of the alternative and determine impacts.

5.5.1 Assessment of Visual Character

The alternative has a visual character that is both compatible and contrary to existing visual resources. The form and scale of the landfill are similar to some of the hills and small mountains in the area, although the landfill would likely have an angled, engineered appearance rather than the rounded and gentle slopes of the existing topography. The high elevation of the site in this alternative, however, places the landfill high in the viewing scene, reconstructing existing ridgelines and dominating the scene from many viewing angles.

The color, diversity, and texture of the alternative would vary from the existing hillsides. Standard revegetation that would be used on completed slopes is essentially monochromatic and devoid of the diversity and variation present in native plant communities. During construction, bare soil would introduce a starker contrast to the existing color, diversity, and texture of the hillsides surrounding the site.

5.5.2 Assessment of Visual Quality

The site and its surroundings have a mixed appearance in terms of intactness and unity. Residential and agricultural development encroaches on the site from the west, south, and east and contribute elements that diversify the viewing scene. The landfill creates additional elevated land mass, but because of the already varied nature of the viewing scene, it does not cause a degradation in terms of intactness and/or unity.

The vividness of the existing viewing scene relates to the composition of middle ground and background mountain ridges, with low density residential/agricultural development in the foreground. The introduction of the landfill reduces visibility to some distant mountains, thus reducing vividness.

5.6 Assessment of Viewer Response

As discussed in Section 4.2 Viewer Response, the viewer group with the highest sensitivity to change is local residents. For these viewers, the close proximity to the landfill, the long duration of the view, and the vested interest in minimizing changes to the existing visual resource of the hillsides/mountains would likely produce major opposition to the alternative.

Both public and private views are included in visual impact considerations, although primary weight is given to public views. The primary public viewer, therefore, would be local area drivers. A large percentage of these drivers would be areas residents, but would also include agricultural workers and visitors to the area.

5.7 Community Plans and Policies

The following section highlights community goals and policies listed in Section 2.3, Regulatory Framework with which the alternative conflicts. Any goals and policies for which the alternative is compatible are not relisted in this section.

5.7.1 General Plan

<u>Land Use Element</u>

Goal LU-2: Maintenance of the County's Rural Character

Policy LU 2.8: Mitigation of Development Impacts. Require measures that minimize significant impacts to surrounding areas from uses or operations that cause excessive noise, vibrations, dust, odor, aesthetic impairment and/or are detrimental to human health and safety.

The alternative creates an aesthetic impairment of the site because of the alteration of existing ridgelines and the introduction of substantial visible land mass.

Goal LU-12: Infrastructure and Services Supporting Development

Policy LU 12.4: Planning for Compatibility. Plan and site infrastructure for public utilities and public facilities in a manner compatible with community character, minimize visual and environmental impacts, and whenever feasible, locate any facilities and supporting infrastructure outside preserve areas.

The alternative is located within a currently undeveloped set of mountains/hillsides and visual impacts cannot be minimized because of the extremely large scale of the landfill.

Conservation and Open Space Element

Goal COS-11: Preservation of Scenic Resources

Policy COS 11.3: Development Siting and Design. Require development within visually sensitive areas to minimize visual impacts and to preserve unique or special visual features, particularly in rural areas, through the following:

- Creative site planning
- Integration of natural features into the project
- Appropriate scale, materials, and design to complement the surrounding natural landscape
- Minimal disturbance of topography
- Clustering of development so as to preserve a balance of open space vistas, natural features, and community character
- Creation of contiguous open space networks

The alternative, because of its landfill function and massive scale, does not accommodate some of the site planning techniques listed in this policy. Site features cannot be integrated except at the periphery of the landfill mass, existing topography cannot be minimally disturbed, landfill mass can only partially be clustered, and usable open space networks on site cannot be created.

Goal COS-12: Preservation of Ridgelines and Hillsides

Policy 12.2: Development Location on Ridges. Require development to preserve the physical features by being located down and away from ridgelines so that structures are not silhouetted against the sky.

The alternative creates a new, artificial ridgeline for viewers from most viewing locations. The scale of impact to the viewing scene will be determined by the final form and the silhouette of the new landform against the sky and background ridgelines. Standard landfill topography would not match existing landscape forms and would create a visual impact.

5.7.2 Fallbrook Community Plan

Land Use

Goal LU 2.4: New development within Fallbrook that is designed to be sensitive to the community character, while encouraging the upgrade and beautification of existing development.

Policy LU 2.4.1: Require development to preserve viable mature trees and significant landforms in all public and private development projects, to the maximum extent feasible.

The alternative does not preserve any vegetation that lies within the waste footprint of the landfill.

Policy LU 2.4.6: Require grading impacts to be minimized and require landscaped areas disturbed by grading to be revegetated, control drainage and runoff so as not to exceed the rate associated with the property prior to grading.

The alternative is characterized by extensive excavation and fill grading that does not respond to vegetation. The periphery of the landfill mass can be slightly adjusted to respond to existing topography.

Conservation and Open Space

Goal COS 1.2: Community Forests

Policy COS 1.2.1: Protect heritage and large native trees

The alternative does not preserve any vegetation that lies within the waste footprint of the landfill.

Policy COS 1.2.2: Encourage planting trees, while discouraging the unnecessary removal of trees in association with new development, as well as in public rights-of-way and parking lots.

The alternative does not preserve any vegetation that lies within the waste footprint of the landfill, although, depending on mitigation measures, trees could be replanted in some locations.

Goal COS 1.2 Preservation of open space areas unsuitable for intense development

Policy COS 1.2.2: Restrict the construction of concrete lined flood control channels to only where such channels are necessary because of existing improvements that block flood flow and make the channelization mandatory.

The alternative will include concrete drainage channels along the landfill benches/contours and supplemental piping. The channels would be only be visible from above and the visibility of the piping could be reduced with mitigation measures.

Goal COS 1.3 Water Resources

Policy COS 1.3.2: Support the enhancement (restoration, invasive species removal, etc.) of natural drainage systems and natural hydrologic regimes of waterways.

The alternative will create new landforms that necessitate engineered drainage systems including pipes, channels, and basins. The channels/basins would be only be visible from above and the visibility of the piping could be reduced with mitigation measures.

Goal COS 1.4 Appropriate use and conservation of mineral resources consistent with preservation of the natural landscape

Policy COS 1.4.1: Require restoration of terrain (vegetation, topography) to natural state within twelve months after completion of a mineral resource extraction project.

The alternative is characterized by extensive excavation and fill grading that does not respond to vegetation. The periphery of the landfill mass can be slightly adjusted to respond to existing topography.

Resource Conservation Areas

The Resource Conservation Area (RCA) designation is applied to protect sensitive biological, archaeological, aesthetic, mineral, and water resources. Projects requiring environmental analysis under the California Environmental Quality Act (CEQA) that occur within RCAs should be carefully analyzed to assess their impact on the RCA.

The Santa Margarita River and its surrounding terrain/tributaries are designated as resource conservation area #3.

Most of the Aspen Road alternative site falls within the designated resource conservation area #3. While the goal of the RCA is to design projects in a way that minimally impacts sensitive resources, the landfill alternative has few variables that can be sufficiently changed to avoid impacts, especially to visual resources. Conflicts with RCA goals are the same as those listed for COS 11.3.

5.7.3 Zoning Ordinance

Portions of the County Zoning Ordinance that may affect the assessment of visual impacts include:

Agricultural Use Regulations: Limited Agricultural Use Regulations (A70) - Aspen

Building Type (C): Attached and Detached Non-Residential Structures Permitted

Max Height (G): 35 feet

Setback (C): Ranges from 15 feet to 60 feet

Special Regulations (C): Airport Land Use Compatibility Area. Requires additional review for compatibility of the proposed use with nearby airport operations. No specific design regulations provided.

This zoning designation applies to the entire site. Heights of ancillary facilities would likely be below the 35-foot limit. The alternative proposes a landfill mass that matches the elevation of the nearest existing peak. It is unclear whether this would conflict with the Airport Land Use Compatibility regulations.

5.8 Determination of Significance

Below is a discussion of the criteria/questions used to determine if the visual impacts created by the alternative constitute a significant impact or less than significant impact. These are the significance criteria discussed in Section 5.2, Guidelines for Determining Significance and they have been applied to the viewing locations simulated in Figures 8 - 10.

Please note, because of the high proportion of residents in the vicinity of the landfill alternative, the Aspen Road Visual Impact Analysis Technical Report takes into consideration viewers in the vicinity of the viewing location as well as those likely to visit the exact viewing location depicted in the photo simulation. Although none of the viewing locations were judged to be visited by more than 1,000 viewers per day, the number of residential viewers estimated within the viewshed of the landfill (1,260 households x 4 viewers per household = 5,040 viewers) greatly exceeds the threshold. While this group primarily experiences private views, it also represents potential viewers on public local area roadways. This cumulative public exposure was considered along with the standard criteria in determining impact significance.

Rainbow Glen Road

1. Is the view available to 1,000 or more viewers per day?

No. Traffic count data is not available for Rainbow Glen Road, but there are approximately 50 houses that use Rainbow Glen Road for access to I-15/Rainbow Hills Road. Assuming an average household of four people, viewers would total approximately 200.

2. Would the alternative result in an adverse change to the natural landform?

Yes. The alternative would fill an existing canyon and create a man-made surface that would contrast highly with other nearby landforms.

3. Would the alternative clearly contrast with existing moderate or high quality landscape units that make up the visual quality of the area?

Yes. The area surrounding the alternative site is characterized as undeveloped hillside (high visual quality) and rural residential development (moderate visual quality). The scale of the landfill dominates the viewing scene and introduces man-made slopes, angles, and textures that contrast with existing elements.

4. Will the alternative result in the loss of visual resources?

Yes. The alternative will remove all existing vegetation and rock outcroppings and replace them with landfill forms.

5. Will the alternative block an existing view corridor, change a regionally significant view scene or cause the removal of access to viewing locations for the general public that would affect the overall view quality of the area?

Yes. The alternative will block an existing view corridor that provides views to the west of the site. It will also change the view scene of the mountains themselves by introducing a new land mass into an existing view scene that contrasts with form, color, texture, scale, hue, value and context.

6. Will the alternative prevent the attainment of adopted design, planning, or aesthetic goals found in adopted policies that protect neighborhood/community character?

Yes. See discussion from previous section on Community Goals and Policies.

Based on the analysis represented by the above significance criteria, and other considerations, the ***alternative will have a significant impact to views from Rainbow Glen Road.***

Riverview Drive

1. Is the view available to 1,000 or more viewers per day?

No. Traffic count data is not available for Riverview Drive, but there are approximately 80 houses that use Riverview Drive for access to Mission Road. Assuming an average household of four people, viewers would total approximately 320.

2. Would the alternative result in an adverse change to the natural landform?

Yes. The alternative would fill an existing canyon and create a man-made surface that would contrast highly with other nearby landforms.

3. Would the alternative clearly contrast with existing moderate or high quality landscape units that make up the visual quality of the area?

Yes. The area surrounding the alternative site is characterized as undeveloped hillside (high visual quality) and rural residential development (moderate visual quality). The scale of the landfill dominates the viewing scene and introduces man-made slopes, angles, and textures that contrast with existing elements.

4. Will the alternative result in the loss of visual resources?

Yes. The alternative will remove all existing vegetation and rock outcroppings and replace them with landfill forms.

5. Will the alternative block an existing view corridor, change a regionally significant view scene or cause the removal of access to viewing locations for the general public that would affect the overall view quality of the area?

Yes. The alternative will block an existing view corridor that provides views to the east of the site. It will also change the view scene of the mountains themselves by introducing a new land mass into an existing view scene that contrasts with form, color, texture, scale, hue, value and context.

6. Will the alternative prevent the attainment of adopted design, planning, or aesthetic goals found in adopted policies that protect neighborhood/community character?

Yes. See discussion from previous section on Community Goals and Policies.

Based on the analysis represented by the above significance criteria, and other considerations, the ***alternative will have a significant impact to views from Riverview Drive.***

Stage Coach Lane

1. Is the view available to 1,000 or more viewers per day?

No. Traffic count data is not available for Stage Coach Lane, but there are approximately 15 houses that use Stage Coach Lane for access to Willow Glen Road. Assuming an average household of four people, viewers would total less than 100. Visitors to the area near the Santa Margarita River would represent additional visitors, but these might represent a number even lower than that of residents.

2. Would the alternative result in an adverse change to the natural landform?

Yes. The alternative would create a man-made surface and ridgeline that would contrast highly with other nearby landforms.

3. Would the alternative clearly contrast with existing moderate or high quality landscape units that make up the visual quality of the area?

Yes. The area in the foreground and middle ground of the viewing scene is of rural residential development (moderate visual quality). While the viewing scene lacks a sense of integrity and unity, the addition of the landfill mass would add another inharmonious element in terms of scale, form, and texture.

4. Will the alternative result in the loss of visual resources?

Yes. The alternative will remove all existing vegetation and rock outcroppings and replace them with landfill forms.

5. Will the alternative block an existing view corridor, change a regionally significant view scene or cause the removal of access to viewing locations for the general public that would affect the overall view quality of the area?

Yes. The alternative blocks some views to hilltops to the east of the site, but more importantly, it also blocks access to the sky near the existing eastern horizon. The result is greater sense of enclosure than currently exists.

6. Will the alternative prevent the attainment of adopted design, planning, or aesthetic goals found in adopted policies that protect neighborhood/community character?

Yes. See discussion from previous section on Community Goals and Policies.

Based on the analysis represented by the above significance criteria, and other considerations, the ***alternative will have a significant impact to views from Stage Coach Lane.***

5.9 Cumulative Impact Analysis

There are no known projects in the area that would create a cumulative impact in association with the Aspen Road alternative.

5.10 Summary of Alternative Visual Impacts Significance

The Aspen Road alternative will have a significant impact on the visual quality of the site and its surroundings. Impacts include:

- **Landform quality impacts *will be significant*** since the topography of the alternative is not compatible with the existing topography/landforms that define the character of the existing site. The proposed landforms contrast with existing terrain in terms of shape and scale, and their high position against the sky further accentuates these differences.

- **Visual quality impacts *will be significant*** since they will remove visually prominent visual resources that are considered to be of a high quality and are major determinants in setting the existing visual quality of the area. The alternative's visually prominent elements will introduce man-made geometry into an area of undeveloped and rounded slopes, peaks, and valleys. While some of the surrounding landscape character units have a moderate visual quality and are not as sensitive as high visual quality character units, the addition of the landfill will still have an adverse effect on the area's visual quality and character.

- **View quality impacts *will be significant*** since the landfill interrupts the viewing corridor of regionally and subregionally significant mountain ranges to the east and west.

- **Community Plans and Policies impacts *will also be significant*** since a broad variety of goals, guidelines, ordinances, and policies will not be met with the alternative. Goals and policies not met under the alternative include:
    - Removal of existing visual resources, including vegetation;
    - Introduction of inharmonious elements into a natural viewing scene;
    - Extensive grading/alteration of existing topography;
    - Existing/natural drainage systems will be replaced with engineered drainage systems; and
    - The alternative does not provide dedicated open space on the site, nor public access to the site.

6.0 Visual Mitigations

The simulations for the three key views assumed a standard amount of revegetation efforts for all phases of the landfill. This revegetation effort would be required as a part of slope stabilization and erosion control. Hydroseeding of temporary slopes was also considered mandatory to reduce dust, prevent erosion, and reduce the amount of visual contrast of the landfill. Additional mitigations will be required for visual impacts and can take a variety of forms. The following sections describe a palette of potential mitigations and where/how these mitigations should be applied.

6.1 Potential Mitigations

Recommended Visual Mitigation Measures (VMM) beyond the minimum slope stabilization include the following:

1. Landscape Screening (VMM 1). This screening could occur at strategic locations along the perimeter of the site. Existing mature trees could be transplanted (up to 6-12' transplanted box size) or replaced with large trees (24" -36" box). If not replacing existing impacted trees, then new trees (mixture of seedling, 15 gallon, 24" box and 36" box) could be newly planted in key locations to block views of the landfill.

2. Landform Screening (VMM 2). Given the large scale and inescapable mass of the landfill, this technique could be used to block views of portions of the landfill from strategic locations, on or off the site. Without control of adjacent sites, however, off-site mitigation would be difficult to implement. On-site, landform screening placed at the perimeter of the site may be able to block some of the views of the landfill. This mitigation should be done in conjunction with landscape screening.

3. Landform Grading (VMM 3). The form of the landfill mass could be contoured to help blend in with the natural topography found in the immediate area. The landfill face, in particular, could be made to incorporate gentle grading and curvilinear shapes to mimic the surrounding hillsides. The highest elevations of the landfill, usually finished as a flat "mesa," could be mounded to avoid introducing straight lines and flat landforms. Likewise, the slope and run of the face of the landfill could be altered to avoid creation of an undifferentiated pyramid-like wall. Benching notches could be backfilled up against the base of the slope to round out the obvious bench notches that show up when silhouetted against the sky. Tight right angle corners and straight line benches (as seen from above) should also be avoided and replaced with more curvilinear forms. It is recognized that these additional landforms are above and beyond the minimum cover and capping requirements. The surcharge of this landform weight and volume would also need to be taken into account.

4. Rock Outcrop Replacement (VMM 4). Since a large amount of rock outcrops occur throughout the area, and since these materials will need to be removed from the landfill footprint, they should be stockpiled and placed in strategic locations to help blend graded surfaces with the dominant textures of the area. This would need to occur primarily around the edges of the landfill face and top surface. Relatively large boulders are needed to appear in natural arrangements. Most of these boulders should be located on additional clay-capped fill with subsurface drainage to ensure no runoff enters into the landfill from around the rock formations.

5. Major Tree Groupings (VMM 5). Groups of tree plantings could be used on the landfill mass to blend the transition between landfill and surrounding landform. For a mass to be noticeable, 6-12 trees should be considered the minimum, depending on location.

6. Native revegetation and landscaping (VMM 6). The use of natives not only increases the long term survivability of revegetative plant material, but also increases compatibility with surrounding vegetation in terms of color and texture. All revegetation areas will need this treatment. Existing vegetation species in the vicinity of the alternative would be used or emulated for landscape plantings. The plant communities found on surrounding hilltops, slopes, and valleys adjacent to the landfill would be matched. Where a tree, shrub, or groundcover is needed to serve a specific purpose, and native material is not appropriate, then non-native species will be allowed. It is important to make sure that the non-native species have naturalized to the local conditions or have

the appearance of relating to the adjacent native species. Appearance of color and texture are most important for matching, followed by relative size and form.

7. Contrast and Color Matching (VMM 7). All areas would be replanted in such a manner that will decease the amount of color contrast with surrounding areas. This would be accomplished through the use of native plant materials including grassland species and through the use of paint on visible buildings, structures, poles and fencing. Temporary revegetation of slopes will also help to reduce contrast, especially if the proper color and textures are utilized in the plant selection process.

8. Texture Matching (VMM 8). All revegetation efforts would attempt to match the texture of the surrounding areas. If the mitigation measures are taken as listed above, then the rocks, native plants, trees, color, and landforms will all produce compatible textures.

9. Engineering Structures Adjustments (VMM 9). Construct brow ditches with outside bench lips slightly higher than inside edges and use integral concrete color that matches a darker soil type for all gunite ditches. Pipelines connecting brow ditches need to blend with final landfill slope colors and not be allowed to stay a reflective tin or galvanized color. Pipe paintings should use a combination of colors that match the context of the area that the pipeline section is passing through. Variations in color will be necessary.

6.2 Application of Mitigations

The goal of mitigations is to reduce the severity of visual impacts caused by the alternative. The impacts discussed in Section 5.10, Summary of Alternative Visual Impact Significance, are listed in terms of landform quality, visual quality, view quality, and conformance with community goals and policies. A unique blend of mitigation techniques is necessary to reduce the impact of the alternative in terms of each of these categories. The discussion below details the mitigation combination for each category.

Landform Quality

The alternative's significant impact on the landform quality of the viewing scene relates to the introduction of a highly visible land mass that does not relate to the existing topography in terms of color, variation, form, and shape.

Landform grading **(VMM 3)** should add topographical undulations to the top of the landfill to eliminate the flat "mesa" look to the alternative. Mounding could also be added on the stepped slopes of the landfill to visually interrupt the rhythm of equally spaced benches. Because the standard surface of landfill cover is four to six feet thick, manipulation of this face will require additional fill material. The creation of ridges or swales may concentrate the flow of water and could cause erosion of the buried fill materials, so additional surface lined swales or sub-surface drainage may be needed.

While this mounding would more closely relate to some of the hilltops surrounding the site, it would not mitigate the high visibility and bulk of the landfill. **Therefore, the enormous mass of the landfill and its overall contrast with the landforms of the adjacent area preclude this impact from being reduced to less than significant**.

Visual Quality

The alternative's significant impact on the visual quality of the viewing scene relates primarily to the introduction of man-made landforms and colors that dominate the viewing scene because of the landfill's high elevation.

Major tree groupings **(VMM 5)** as well as native revegetation and rock outcrop replacement **(VMM 4)** would be effective along some of the landfill edges, particularly the eastern slopes where existing hillsides abut the landfill. A transitional blending of the landfill face should also be undertaken along the base of the landfill for the southern, western, and northern exposures **(VMM 3)**. While not widespread in the surrounding landscape, large boulders and trees should be strategically placed to resemble natural drainage channels. Special accommodations will be required for trees set along the edge of the landfill, as roots could penetrate the landfill containment soil layer and allow water into the fill, speeding decomposition. Based on drainage and settlement problems, the elements of trees and boulders are not recommended for inclusion in the middle of the landfill.

While it will not hide the prominent upper portion of the landfill, revegetating these slopes with a native plant palette will at least match the color **(VMM 7)** and texture **(VMM 8)** of the surrounding undisturbed hillsides. Permanent slopes will need to be stabilized with native grasses and other shallow rooted plants representative of the Inland Sage Scrub plant community **(VMM 6)**. In some cases, there may be changes and/or transition to these slopes based upon the phasing of the landfill development. In these areas, more temporary erosion control techniques will be utilized. Drainage and methane extraction structures and pipes should be painted or be made of materials that fit into the local color environment that match adjacent textures. On the active face of the landfill, temporary revegetation will be required. Any interim slope that is anticipated to remain beyond one full year will need to receive revegetation through at least hydroseeding.

The permanent slopes and all areas of the landfill that are considered to be visually prominent would need to be permanently revegetated as soon as practical, with a combination of plant materials including hydroseeding, seedlings, and containerized plants.

The plantings will be irrigated by a temporary above ground spray irrigation system. All supplemental irrigation will be removed once the planting has completely covered the landfill face and is established (generally 3-5 years from installation).

Once closure of the landfill is achieved and final cover is completed, a vegetative surface cover utilizing native plant species shall be established. The species must exhibit rapid germination and be self-sowing. The cover should be comprised of low volume fire retardant species with low maintenance requirements. The following are erosion control and revegetation techniques which will be implemented:

- Application of non-living mulching materials;
- Application of living mulching materials such as mycorrhizal soil components;
- Installation of geotextile netting and/or grids;
- Chemical soil stabilization;
- Temporary vegetative nurse crop establishment;
- Surface soil scarification;
- Slope grading and terracing techniques;
- Drainage collection techniques;
- Permanent irrigated refined seed mix plantings;
- Temporary non-irrigated nurse crop plantings; and/or
- Transitional temporarily irrigated native seed mix plantings.

With these mitigations, the differentiation of the landfill and the surrounding context would be reduced. However, the high elevation of the landfill, along with the new ridgeline, maintain the landfill's prominence. **The impact to visual quality would remain above a level of significance.**

View Quality

The alternative's significant impact on view quality results from the filling of the existing view corridor which allows views to regionally significant mountains to the east and west. This impact is considered significant since it not only blocks the view corridor but also changes the quality of the viewing scene.

The only way to decrease the amount of view blockage created by the landfill would be to substantially reduce the mass of the landfill, which is not feasible. In addition, while the recommendation under visual quality mitigations to vary the topography of the landfill ridgeline would decrease visual quality impacts, it would also add to the mass of the landfill and create minor additional view blockages. Therefore, the limited level of acceptable landform alteration dictated by the need to meet the program requirements of the landfill, as well as the mitigation requirements of visual quality impacts, **would not reduce the impact to a level below significance**.

Community Plans and Policies

The alternative's visual changes contrast highly with the goals established by the community plans and policies, particularly with respect to:

- Removal of existing visual resources, including vegetation;
- Introduction of inharmonious elements into a natural viewing scene;
- Extensive grading/alteration of existing topography;
- Existing/natural drainage systems will be replaced with engineered drainage systems; and
- The alternative does not provide dedicated open space on the site, nor public access to the site.

Mitigations previously discussed in terms of lessening landform and visual quality impacts apply to several of the community goals above, while others remain unaddressed. The replacement of natural drainage features and lack of public open space will not be able to be accommodated given standard landfill construction and maintenance practices. **In terms of the goals established by community plans and policies, the visual quality impacts could be mitigated to below a level of significance. The view quality and landform quality impacts, however, remain significant and would create a significant impact to community plans and policies.**

6.3 Conclusion

The Aspen Road alternative will be partially mitigable and mitigations will reduce the severity of the impacts to the visual environment. Mitigations to the visual quality of the site will be most effective, followed by mitigations to landform quality. However, the landform impacts will remain significant after mitigations. The view quality impacts, as well as impacts to some community goals, are unmitigable. The result is an alternative which is highly visible to viewers in the area, and in particular, residents. While the mitigations will reduce the visual contrast of the alternative, it will still be prominent, will result in a loss of visual access to distant views, and will change the visual scene negatively.

Alternative Analysis for the Gregory Canyon Landfill

Gopher Canyon Alternative

Visual Impact Assessment Technical Report
Bonsall Community Planning Area
San Diego County, California

Prepared by:

KTU+A
Planning + Landscape Architecture

Prepared for:

US Army Corps of Engineers®

March 2012

VISUAL IMPACT ASSESSMENT TECHNICAL REPORT:
GREGORY CANYON LANDFILL,
GOPHER CANYON ALTERNATIVE

March 2012

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Appendix A: Visual Quality Inventory Evaluation Worksheets

1.0 Introduction

The Gopher Canyon alternative to the Gregory Canyon Landfill is located in unincorporated north San Diego County, approximately a half-mile northeast of the City of Vista and two miles west of Interstate 15 (I-15). The site is generally bordered by Gopher Canyon Road on the north, Twin Oaks Valley Road to the east, the San Marcos Mountains to the south, and Warmlands Avenue to the west (see Figure 1: Vicinity Map and Site Boundaries).

1.1 Purpose of the Visual Resources Report

The Gopher Canyon Visual Impact Assessment Technical Report assesses the potential visual impacts of the construction of a landfill at the Gopher Canyon alternative site. The report also proposes measures to mitigate any adverse visual impacts associated with the alternative.

1.2 Key Issues

The Gopher Canyon alternative presents the following key issues that will need to be addressed in this study:

- Creation of a man-made ridgeline, primarily visible from the south along Twin Oaks Valley Road
- Disruption of the existing visual continuity of the San Marcos Mountains, especially when viewed from the east

1.3 Principal Key Views to be Covered

The area surrounding the Gopher Canyon alternative site is generally characterized as private large-lot agricultural and rural residential land uses. While these large-scale land uses can create viewing corridors, they also limit the number of public viewing locations. In such an environment, the primary public viewing location is public roadways. However, because of the remote nature of the location, even the street network is a patchwork of public and private roadways. Therefore, this study primarily analyzes visual impacts to public viewing locations to the north, east, and south of the site (views from the west are largely obscured by existing terrain). Secondarily, the study analyzes views from private viewing locations.

The primary key views analyzed include:

- Hoxie Ranch Road (key views from north of the site)
- Silverleaf Lane (key views from east of the site)
- Twin Oaks Valley Road (key views from south of the site)
- Huckleberry Lane (key views from southeast of the site)
- Pico Road (private, but included for comparison, key views from northeast of the site)

2.0 Alternative Description and Regulatory Framework

The following sections provide an overview of the alternative and the land use/development regulations governing the alternative site and its surroundings.

2.1 Alternative Description

The Gopher Canyon alternative would be a Class III sanitary landfill. The conceptual site boundary covers approximately 474 acres, although the final waste footprint of the landfill is expected to be less than 180 acres. While a fully developed alternative would include site plans detailing access roads, ancillary facilities, and various utility-related structures, this visual impact analysis is based on conceptual plan information. This site is being reviewed for comparison purposes with Gregory Canyon and is not currently being pursued by a project applicant. The conceptual plans referenced in this report include basic details such as maximum fill contours and potential zones for stockpiles and ancillary facilities.

It is expected that than an average of 3,200 tons per day (tpd), or one million tons annually, will be deposited at the landfill over its life. Accounting for the volume occupied by the containment system, daily, intermediate, and final covers, the estimated site life is approximately 23 years. The finished elevation of the landfill is expected to be 1,150 feet Mean Sea Level (MSL).

The analysis includes two estimates of an interim condition. The viewshed analysis provides two scenarios, one with the landfill form and two interim borrow/stockpile locations (based on estimated maximum height during activity) and one final landfill form without the borrow/stockpiles. Additionally, one of the simulation models shown later in this study displays an estimated 50% full landfill form for comparison to the 100% landfill form.

2.2 Land Use Designations and Zoning

The visual character surrounding a site is primarily influenced by the adjacent land uses. Existing land uses establish the current visual environment, while planned land uses and zoning provide clues as to the nature of the future visual environment.

2.2.1 Existing Land Use

The Gopher Canyon alternative site is currently vacant/undeveloped land. Improvements such as roadways and limited utility infrastructure exist on portions of the site, but the majority remains in its natural state.

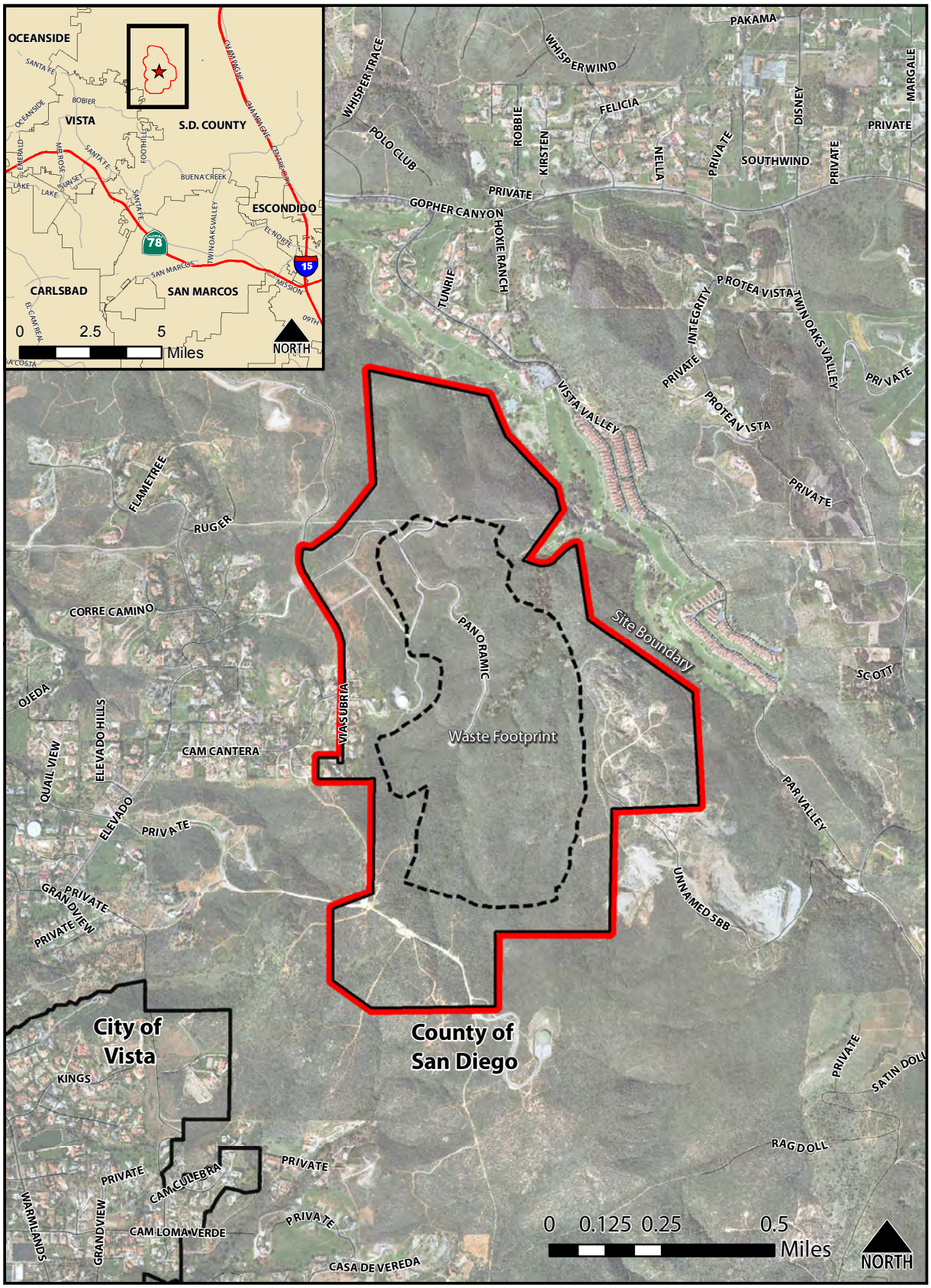


Figure 1: Vicinity Map and Site Boundaries

According to the San Diego Association of Governments (SANDAG) data from 2009, the site is surrounded by a mix of land uses: vacant/undeveloped, rural residential, orchard/vineyard, open space, extractive, golf course, single family detached, landscaped open space, and communications/utilities.

2.2.2 Proposed Land Use

General plans provide a community a vision for growth for 20-30 years. These documents establish common goals and policies that guide the more specific development guidelines and regulations contained in documents like the zoning ordinance. San Diego County adopted an update of its General Plan in August 2011. The land uses proposed by the 2011 San Diego County General Plan for the vicinity of the site include:

- Public Agency Lands
- Public/Semi-Public Facilities
- Rural Lands (RL-20)
- Semi-Rural Residential (SR-2)
- Semi-Rural Residential (SR-4)
- Semi-Rural Residential (SR-10)
- Specific Plan Area

Below is a brief discussion of the differences between the existing and proposed land uses near the alternative site. Please note, the General Plan designations are applied to areas larger than the existing land use designations mentioned in Section 2.2.1. As such, proposed land use categories that are in keeping with the character of existing land use descriptions are not considered to represent a change of land use.

Differences in existing and proposed land uses include:

- The existing Cal-a-Vie Health Spa, to the northwest of the site, appears to be recognized as Semi-Rural Residential (SR-10) in the proposed land use map, whereas the 2009 SANDAG land use data shows vacant/undeveloped.

- Existing vacant/undeveloped areas north of Gopher Canyon Road are proposed to be Semi-Rural Residential (SR-2, SR-4).

2.2.3 Zoning

Zoning within San Diego County has various mechanisms for controlling land use and development standards. Zones are commonly named or referred to by their Use Designation (A70, RR, S88, etc.). The standards for land use within these designations are shared, while the standards for development depend on a number of different factors. Detailed discussion of the zoning regulations affecting the visual aspects of the Gopher Canyon alternative site is included in Section 2.3.2.3. Below is a discussion of significant differences between the existing zoning and proposed land use discussed in the previous section:

- Both the existing zoning and proposed land use indicate various intensities of semi-rural, rural, and agricultural land uses surrounding the site. Zoning is expected to be conformed to the 2011 General Plan land use designations in the coming years.

2.3 Regulatory Framework

The Gopher Canyon alternative is within the jurisdictional control of the County of San Diego. A variety of plans and policies were reviewed in order to determine conformance with visual goals and policies.

2.3.1 Visual Resource Guidance

The County of San Diego provides guidelines for determining significance in relation to visual resource impacts. The guidelines address impacts related to landform quality, visual quality, view quality, and community plans and policies.

2.3.2 General Plan

<u>Land Use Element</u>

Goal LU-2: Maintenance of the County's Rural Character

Policy LU 2.8: Mitigation of Development Impacts. Require measures that minimize significant impacts to surrounding areas from uses or operations that cause excessive noise, vibrations, dust, odor, aesthetic impairment and/or are detrimental to human health and safety.

Goal LU-12: Infrastructure and Services Supporting Development

Policy LU 12.4: Planning for Compatibility. Plan and site infrastructure for public utilities and public facilities in a manner compatible with community character, minimize visual and environmental impacts, and whenever feasible, locate any facilities and supporting infrastructure outside preserve areas.

Conservation and Open Space Element

Goal COS-11: Preservation of Scenic Resources

Policy COS 11.1: Protection of Scenic Resources. Require the protection of scenic highways, corridors, regionally significant scenic vistas, and natural features, including prominent ridgelines, dominant landforms, reservoirs, and scenic landscapes.

Twin Oaks Valley road, between Gopher Canyon Road and San Marcos city limits; and

Gopher Canyon Road, between Vista city limits and Lilac Road

Policy COS 11.3: Development Siting and Design. Require development within visually sensitive areas to minimize visual impacts and to preserve unique or special visual features, particularly in rural areas, through the following:

- Creative site planning
- Integration of natural features into the project
- Appropriate scale, materials, and design to complement the surrounding natural landscape
- Minimal disturbance of topography
- Clustering of development so as to preserve a balance of open space vistas, natural features, and community character
- Creation of contiguous open space networks

Goal COS-12: Preservation of Ridgelines and Hillsides

Policy 12.1: Hillside and Ridgeline Development Density. Protect undeveloped ridgelines and steep hillsides by maintaining semi-rural or rural designations on these areas.

Policy 12.2: Development Location on Ridges. Require development to preserve the physical features by being located down and away from ridgelines so that structures are not silhouetted against the sky.

2.3.3 Bonsall Community Plan

The Bonsall Community Plan supplements all existing Elements of the San Diego County General Plan with specific emphasis on the planning needs of the Bonsall subregion. The Plan reflects, to the maximum possible extent, consistency with General Plans of each of the six incorporated cities located within the Subregion.

Land Use

Goal LU-1.1 Balance of Bonsall's rural land uses within the community

Policy LU1.1.3: Require development to be sensitive to the topography, physical context, and community character of Bonsall.

Goal LU-5.1 A physical environment where degraded riparian areas have been restored and the natural topography retained.

Policy LU-5.1.2: Require grading to be contoured to blend with natural topography, rather than consist of straight edges.

Policy LU-5.1.3: Minimize grading to preserve natural landforms, major rock outcroppings and areas of existing mature trees. Integrate hillside development with existing topography and landforms.

Policy LU-5.1.4: Restrict, to the maximum extent feasible, extensive grading for development projects in areas with slopes that are 20 percent or greater, in order to preserve and protect the environment, and to lessen grading and erosion.

Policy LU-5.1.5: Require development on slopes to be stepped to follow and preserve topography to the maximum extent feasible.

Policy LU-5.1.6: Minimize cut and fill grading for roads and access ways to the absolute minimum necessary.

Goal LU-7.2 Bonsall's solid waste disposal needs are met on a timely basis with the least possible impact on the environment.

Policy LU-7.2.1: Encourage the use of transfer stations to reduce overall truck traffic to landfills, allow increased recycling, and reduce solid waste volumes. Coordinate the siting of transfer stations with the location of new landfill sites to minimize truck traffic through predominantly residential areas.

Circulation and Mobility

Goal CM-5.1 Preserve scenic routes

Policy CM-5.1.3: Require new development to provide trees, in compliance with the suggested trees for defensible space, within the development but along and outside of the public right of way.

Conservation and Open Space

Goal COS-1.1 The preservation of the unique natural and cultural resources of Bonsall

Policy COS-1.1.5: Require that landscaping be designed to prevent erosion on graded sites and, if adjacent to sensitive habitats, require re-vegetation with the appropriate drought tolerant plant species with specific restrictions on the use of any invasive species.

Policy COS-1.1.6: Encourage development to plant an appropriate variety of trees to stabilize soil conditions and contribute to atmospheric oxygen production.

Resource Conservation Areas

The Resource Conservation Area (RCA) designation is applied to protect sensitive biological, archaeological, aesthetic, mineral, and water resources. Projects requiring environmental analysis under the California Environmental Quality Act (CEQA) that occur within RCAs should be carefully analyzed to assess their impact on the RCA.

Gopher Canyon is designated as resource conservation area #20.

The San Marcos Mountains are designated as resource conservation area #22.

2.3.4 Zoning Ordinance

Portions of the County Zoning Ordinance that may affect the assessment of visual impacts include:

Agricultural Use Regulations: Limited Agricultural Use Regulations (A70)

Building Type (C): Attached and Detached Non-Residential Structures Permitted
Max Height (G): 35 feet
Setback (W): Ranges from 25 feet to 60 feet
Special Regulations (-): N/A

Extractive Use Regulations (S82)

Building Type (W): Attached and Detached Non-Residential Structures Permitted
Max Height (G): 35 feet
Setback (W): Ranges from 25 feet to 60 feet
Special Regulations (-): N/A

Specific Planning Area Use Regulations (S88)

Building Type (K): Only residential structures permitted
Max Height (G): 35 feet
Setback (V): Varies: Setbacks established during discretionary review process
Special Regulations (-): N/A

2.3.5 Resource Protection Ordinance (2007)

In order to protect and preserve the unique topography, ecosystems, and natural characteristics of San Diego County, the Board of Supervisors created the Resource Protection Ordinance. This ordinance creates special controls on development impacting the County's wetlands, floodplains, steep slopes, sensitive biological habitats, and prehistoric and historic sites.

The County requires a Resource Protection Study be conducted as a part of certain discretionary permitting processes. If the Resource Protection Study identifies the presence of sensitive resources, one or more of the following actions may be required as a condition of approval:

- Apply open space easements to portions of the project site that contain sensitive lands;
- Rezone the entire project site through the application of a special area designator for sensitive lands; or
- Other actions as determined by the decision-making body.

2.3.6 County of San Diego Board of Supervisors Hillside Development Policy (I-73)

It is the policy of the County that the development of building sites in hillside areas be planned and constructed in such a manner as to preserve, enhance, or improve the physical features of the area consistent with providing building sites while at the same time optimizing the aesthetic quality of the final product. Physical site resources may include: existing natural terrain; established vegetation; visually significant geologic displays; and portions of a site that have significant on-site vista points.

3.0 Visual Environment

Understanding the existing visual environment of the alternative site and its surroundings is key in assessing changes produced by the alternative. The following sections discuss the setting of the alternative, describe existing landscape character units, and analyze site visibility from within the region.

3.1 Setting

The Gopher Canyon alternative site is located between the City of Vista and the Interstate 15 corridor in northern San Diego County. The context of the site is characterized by agricultural and large-lot rural residential development, with other land uses/activities including quarries, day spas/resorts, and regional utility infrastructure for communications and water treatment. The land is characterized by varied topography, with both minor and major riparian corridors surrounded by hills and mountains of all scales.

3.2 Landscape Units

In order to better understand the visual context of the area surrounding the proposed Gopher Canyon Landfill Alternative, visual landscape units have been established and described. These landscape units possess consistent visual elements that produce a unique experience for the viewer. Landscape units can vary greatly in size, but even in very large landscape units, the visual environment should exhibit consistent visual character within its delineated boundaries. The following is a discussion of the landscape units in the vicinity of the site. Figure 2 shows the geographic limits of the landscape character units and is supplemented by photos of typical conditions within each unit.

Agriculture

North San Diego County has historically been a center of productive agricultural use. Orchards and vineyards populate much of the region, including valleys, plains, and hillsides. Common agricultural products include avocados, citrus, strawberries, mushrooms, nursery trees/plants, and sod. The region is also used to raise livestock such as horses and poultry. The character of the agricultural landscape unit is typified by the existence of crop/orchard rows, open fields, livestock pens, canals/water delivery systems, and accessory structures such as barns, storage shelters, and tanks/wells. While these elements vary in appearance, they maintain a cohesive identity through the scarcity of man-made structures and overall urbanization.

The agriculture landscape unit is only moderately sensitive to change based on the numerous uses generally associated with a rural/agrarian landscape. The landscape unit is compatible with most uses provided they do not introduce elements associated with a more urban environment such as closely spaced structures, widened roadways, increased number of roadways, parking areas, man-made lighting, and overall reduction of visual access to land.

The majority of the agriculture landscape unit is located to the east and northeast of the site.

Golf Course

The golf course landscape unit is characterized by the fairways, greens, water features, and man-made landscaping that constitutes the majority of the property. Golf courses are generally much more lush than the surrounding terrain, including non-native trees, expansive turf, and other plants that help define the course and either provide views to desirable off-site features or screen the course for privacy. Accessory structures include club houses, restrooms, gift shops, maintenance buildings, bridges, paved cart paths, and fencing.

Golf courses are also many times a central feature of a master-planned community, and can include associated residential development at varying densities, and thus, are classified as belonging to the appropriate residential development landscape unit rather than the golf course landscape unit.

While the visual environment of the golf course landscape unit is carefully crafted and potentially sensitive to visual changes to its surroundings, the golf courses near the alternative are private land. As previously mentioned, private views are considered secondarily to public views.

For reference, the site is adjacent to the Vista Valley Country Club (private). Also within the three miles of the site are the San Luis Rey Downs Country Club (open to the public), Lawrence Welk Resort Golf Course (open to the public), and the Castle Creek Golf Course (open to the public).

Quarry

The quarry landscape unit represents land that has been used for an extractive use, and in the context of the Gopher Canyon study, refers to open-pit style of extraction. Quarries are large-scale industrial operations that are distinguished by the significant amounts of rock face that they expose. Unweathered rock exhibits a much lighter color than the weathered/vegetated surfaces around it. The extraction process also introduces straight lines and right angles to slopes and hillsides that are normally curvilinear. Although not as visible as the quarry itself, extraction equipment such as cranes, vehicles, conveyors, storage facilities, etc. create a distinctly industrial character to the landscape unit.

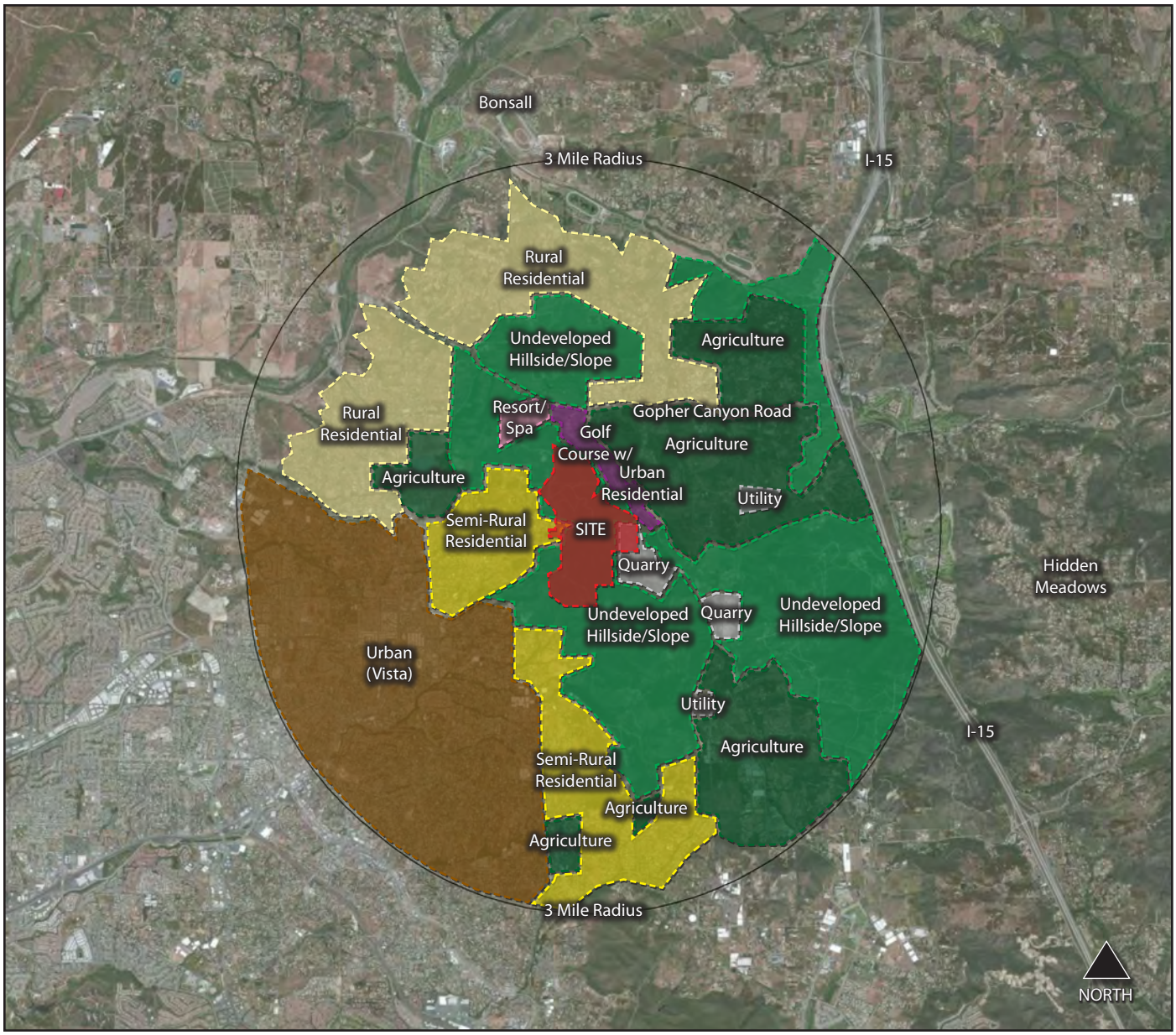


Figure 2: Landscape Character Units

The quarry landscape unit is not sensitive to change. The quality of the visual environment on and off the site does not impact its operations. Conversely, its use of the land changes the visual environment in substantial ways, but this change is expected and integral with the quarry's economic purpose.

There are two quarries near the alternative: one immediately to the southeast, and one on the western slopes of the Merriam Mountains, near Twin Oaks Valley Road.

Resort/Spa

The resort/spa landscape unit refers to small to medium scale master-planned development designed to provide a pastoral setting for relaxation and recreation. Elements utilized in creating this setting include man-made landscaping, thematically tied buildings/structures, balance of open space and built space, and situation within a low-density or remote context.

Agriculture

Agriculture

Agriculture

Golf Course

Quarry

Rural Residential

The resort/spa landscape unit is sensitive to change, although, like the golf course, it is privately owned and views from the property are therefore not public views.

The closest resort/spa to the alternative is the Cal-a-Vie Health Spa, located to the northwest of the site, but south of Gopher Canyon Road. Cal-a-Vie is located on a private road and access is restricted, so no photos of this landscape character unit could be taken.

Rural Residential

The rural residential landscape unit is characterized by large-lot, low-density residential development that exhibits the informal building style of the agricultural landscape unit, but not the dominance of agricultural uses. Rural residential development may have some limited agricultural production on-site, but is defined primarily by single family residences, large landscaped areas, and recreational amenities such as basketball courts, tennis courts, swimming pools, etc. While the development pattern of the rural residential landscape unit is low-density, the proliferation and density of landscaping can limit views and view corridors, creating a more enclosed viewing experience than in an agricultural setting.

The rural residential landscape unit is moderately sensitive to change. It is compatible with agricultural uses, but adversely affected by other non-residential uses and more densely developed residential uses.

The rural residential landscape unit represents a small fraction of the land near the alternative, being concentrated to the north of the site, but south of Camino del Rey Road.

Semi-Rural Residential

The semi-rural residential landscape unit represents a further urbanization of the rural residential landscape unit: lot sizes are not as large (although still large by urban standards), roads are wider, and agricultural use of property generally disappears. Public improvements such as curbs, sidewalks, and street lighting can occur. Semi-rural residential structures tend to be unique and can vary greatly in scale and building materials, negating a consistent character in terms of built form.

The semi-rural residential landscape unit is moderately sensitive to change. It is a transition zone between urban/suburban densities and more rural uses, but is potentially compatible with both. The greatest sensitivity is to non-residential uses and building types typical in commercial or industrial development.

Semi-rural residential landscape unit blocks are located to the west and south of the alternative.

Utility

The facilities and infrastructure associated with the utility landscape unit are industrial in nature. The utility campuses near the alternative are specifically water utility facilities. The sites are typically free of vegetation and feature large expanses on paved surfaces. There are facilities of varying sizes used for varying purposes, including holding tanks and basins.

The utility landscape unit is not sensitive to change. The quality of the visual environment on and off the site does not impact its operations. Conversely, its use of the land changes the visual environment in substantial ways, but this change is expected and integral with the quarry's economic purpose.

There are two utility landscape units near the alternative: one east of the site on Silverleaf Lane and one south of the site off Twin Oaks Valley Road.

Urban

The urban landscape unit is varied and contains many subunits that have their own visual qualities, however, because the urban environment is near the periphery of the study area and has almost no visibility to the site (discussed in greater detail later), it is identified as one landscape unit. The urban landscape unit is primarily characterized by its density of development and dominance of man-made structures. Roadways can be multi-lane, and right-of-way improvements can include sidewalks, landscaping, transit shelters, etc. Walls typically denote the boundary between properties and structures, rather than vegetation, and prove the most frequent obstruction to views and viewing corridors. Public viewing locations, however, can be more numerous than in rural settings as the number of public roadways increases and public amenities such as trails and parks become more prevalent.

The urban environment is defined by a mix of land uses and building types, and as a whole, has a low sensitivity to change.

The closest urban environment exists in the City of Vista, to the southwest of the site.

Undeveloped Hillside/Slope

The undeveloped hillside landscape character area refers to the natural, undisturbed slopes of the hills and mountains surrounding the alternative. The unique visual environment created by these hillsides comes from the oak/chaparral plant communities and distinctive rock outcroppings. The hills/mountains themselves serve as landmarks to the surrounding lowlands and canyons and create a dynamic visual backdrop.

The undeveloped hillside landscape unit is highly sensitive to change. Changes to the topography of the hillsides disrupt their natural geometry and, if located high on the slope, can be seen from great distances. Likewise, changes in the native vegetative cover can expose the light soil and/or rock below, creating an inconsistency in texture and color.

The alternative is surrounded by undeveloped hillsides to the northwest, west and south. The western slopes of the Merriam Mountains, to the southwest, also fall into the undeveloped hillside landscape unit.

3.3 Viewshed

In establishing visual impacts of the alternative, the planning team conducted a viewshed analysis to determine which areas in the vicinity of the alternative would have a view of the site. Because the active use of a landfill is likely to be decades long, the visual assessment also discusses areas with views of project elements in their interim stages.

3.3.1 Theoretical Viewshed Limits

A viewshed is defined as the geographical area within which at least some components or elements of the alternative are visible. The viewshed for the Gopher Canyon alternative was analyzed using aerial photographs, USGS topographic maps, and computer viewshed methodologies.

A theoretical model was developed utilizing Digital Elevation Models (DEM). These DEM files consist of x, y, and z data (north south, east west and elevational data) representing an area 10 meters by 10 meters per data point. This analysis is considered a theoretical limit since it only takes into account the position of the viewer, the location of the element being viewed, and the intervening topography. It does not analyze

the effects of buildings, trees, and other structures that can severely limit the visibility of elements. It also does not take into account the effects of distance on the visibility of these elements. It does, however, represent the worst-case visibility of the alternative's elements. In reality, intervening uses, structures and plant materials, as well as distance, can affect the overall significance of visual impacts.

The viewshed was limited to a three-mile radius from the site and the computer model used a total of 100 observation points to determine the degree of visibility of the site. Observation points were arranged to reflect two scenarios: one where the landfill is under construction, including borrow/stockpiles areas and one where the landfill is completed and there are no remaining borrow/stockpiles. The borrow/stockpile locations are generalized for this analysis as specific locations and grading information were not available. Approximate maximum heights were provided by Geosyntec for each location.

Ancillary facilities (maintenance facilities, scales, basins, flares, etc.) were not modeled in either scenario because of their relatively minor scale in comparison to the landfill and borrow/stockpile elements (maximum of approximately 30 feet for ancillary facilities vs. hundreds of feet for the landfill and stockpiles).

3.3.2 Viewing Conditions

Viewing conditions can be determined by physical conditions including topography, temporary and permanent obstructions, lighting, and atmospheric conditions.

Lighting can have a significant effect on views. Clouds and fog can also change viewing conditions by increasing or decreasing contrast. Atmospheric conditions in San Diego County tend to be hazy a large percentage of the time. A combination of fog, mist, haze, and smog combine to decrease visibility. Often, details of visual features are not discernible when more than three miles away. Based on typical viewing conditions in this area, objects more than two miles away generally will not be considered visually prominent. If these objects are large enough to be visible, they would not be prominent, since the distance decreases scale and contrast that is normally perceived by changes in texture, color and pattern.

3.3.3 Views of the Site

The viewshed analysis indicates that the Gopher Canyon alternative is highly visible from locations to the east, northeast, and north of the site, with areas to the southeast and northwest having limited visibility of the alternative's features (see Figure 3). The urbanized area of Vista and the southern portions of the San Luis Rey valley either have no visibility, or extremely limited visibility of the alternative, even at its finished elevation.

Of an estimated 23,000 dwelling units situated within the three mile radius of the site, approximately 845 fall within the viewshed of the completed landfill (see Figure 4 and Table 1). The large difference between these two numbers reflects the fact that the most densely populated areas within the three mile radius (mainly the City of Vista, to the southwest) are shielded from the proposed landfill by existing topography. A cursory analysis of the zoning that falls within the viewshed shows that the number of dwelling units allowed could almost triple (to 2,355) if maximum densities were allowed on a dwelling unit/acre basis.

The second viewshed analysis, including borrow/stockpile locations and elevations, reveals that visibility will increase from the southwest (see Figure 5). Although this area is sizeable in terms of extent and population, its only view is of the southwestern stockpile, which sits at a high elevation and could potentially have a 100-foot vertical dimension. The feature, however, would be temporary and the other elements remain out of sight. This scenario also shows that the eastern stockpile is not visible to areas to the east, northeast, and north that did not already have views to the site.

Although the viewshed analysis shows that large areas around the site of the alternative would have a view of the finished landfill, field investigation determined that many of these locations are private, including private roadways - some of which even restrict access by means of a gate. Additionally, many public viewing locations do not have views to the site as indicated on the viewshed analysis because of significant vegetation. These "real world" factors significantly reduce the public viewing locations that would be impacted by the alternative.

4.0 Existing Visual Resources and Viewer Response

When determining potential impacts to the visual environment, a common vocabulary must be established to describe the aspect of a setting that could be altered or impacted by the alternative. Likewise, characteristics of potential viewers must be discussed and defined. The following sections provide these distinctions.

4.1 Existing Visual Resources

Visual resources are defined by their character and their quality. The character describes the elements that make the resource unique in terms of appearance, while the quality refers to the public perception of the resource and their reaction to the resource.

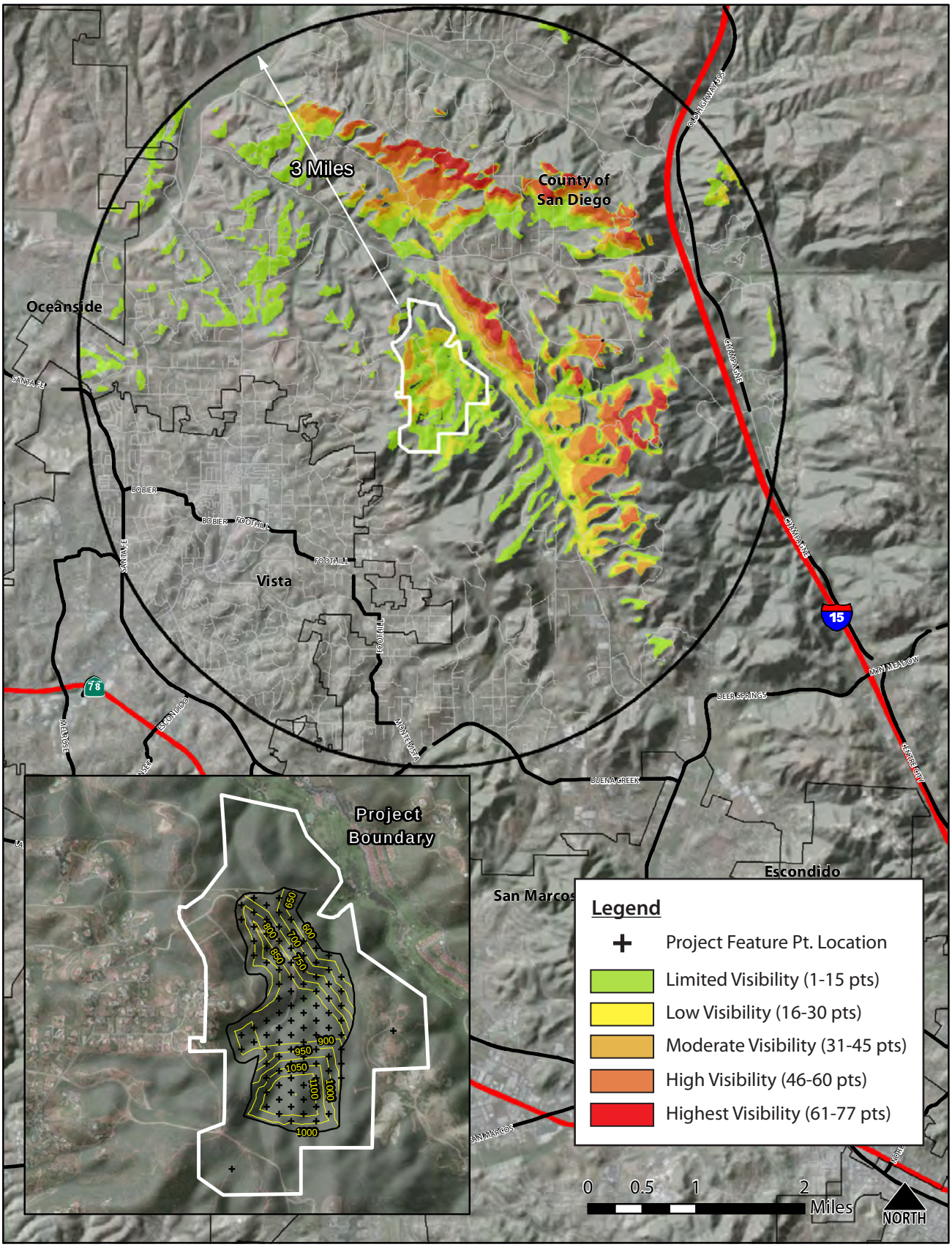


Figure 3: Viewshed of Final Landfill Form

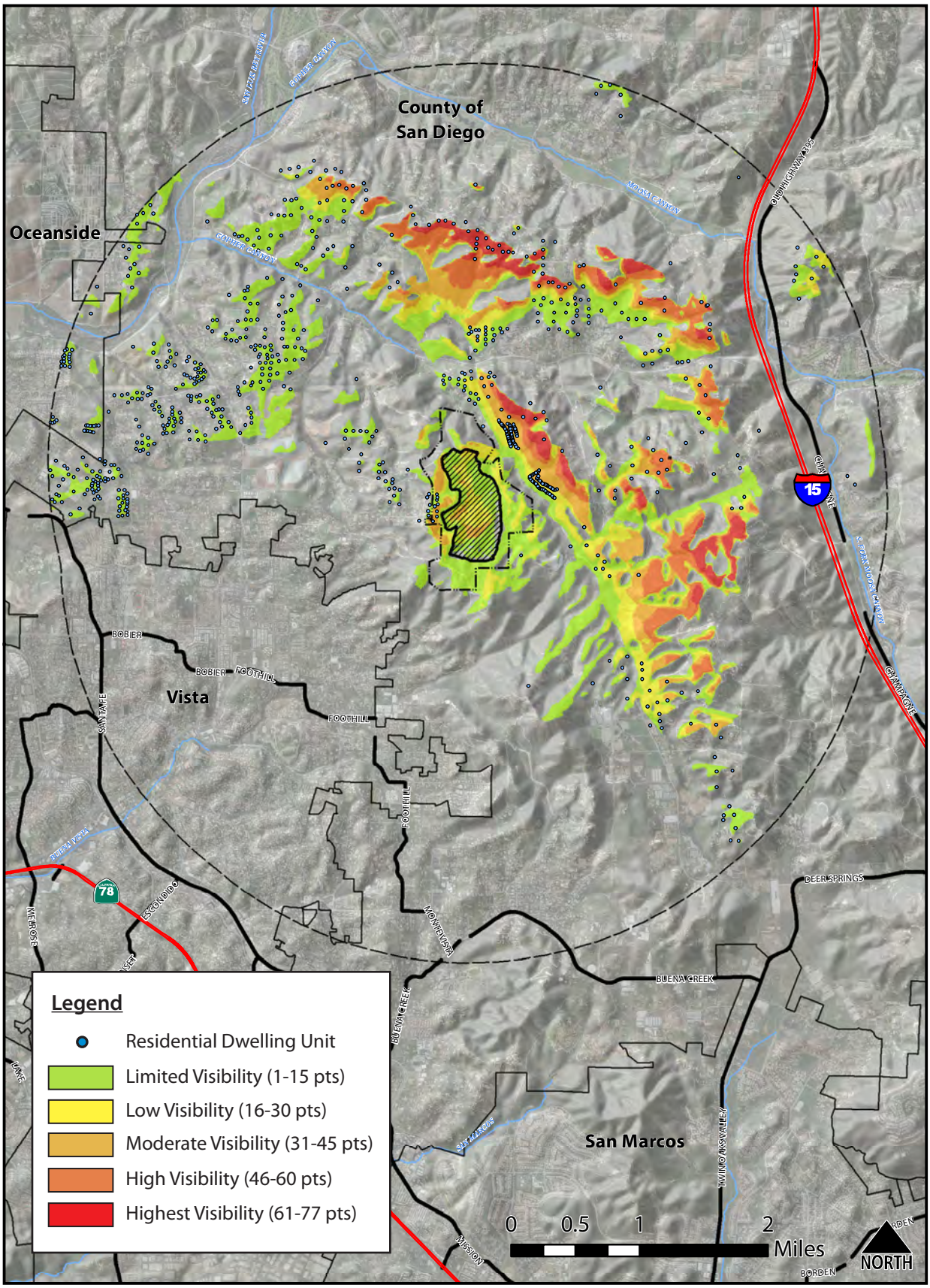


Figure 4: Viewshed with Dwelling Units

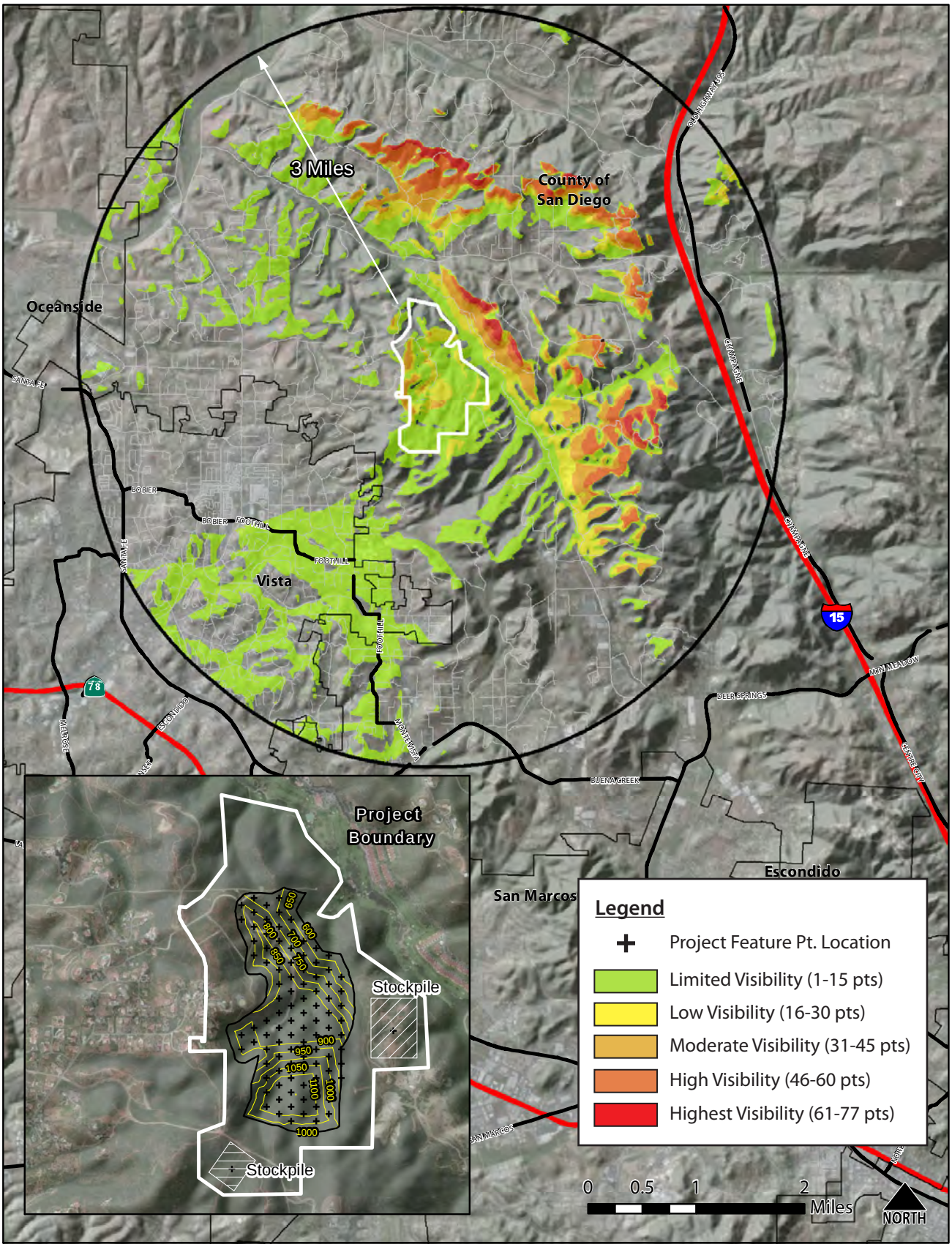


Figure 5: Viewshed of Landfill with Stockpiles

Zoning	Acres In Viewshed	Existing Dwelling Units	Density Allowed in Zone (DU/ Acre)*	Dwelling Units Allowed in Zone**	Potential Additional Houses
A70 - Limited Agricultural	1,198.79	311	0.125 - 0.5	599	288
A72 - General Agricultural	0.85	1	0.125	0	0
RR - Rural Residential	1,534.87	354	0.25 - 1.0	1,535	1,181
S80 - Open Space	12.02	N/A	N/A	N/A	N/A
S82 - Extractive Use	309.08	1	0.05	16	15
S87 - Limited Control	3.62	1	0.4	2	0
S88 - Specific Planning Area	192.64	165	0.4 - 2.04	165***	N/A
S92 - General Rural	152.01	12	0.25	38	26
TOTAL	**3,403.88**	**845**		**2,355**	**1,510**

* Densities can vary within each zoning use category. Densities displayed reflect SANDAG data from 2009.

** Assumes maximum density.

*** S88 zone occurs in one location and is built-out, so it will not accommodate additional dwelling units

Table 1: Viewshed Acreage and Residential Viewer Projection

4.1.1 Visual Character

The character of a visual resource can be further subdivided into pattern element and pattern character to better describe the distinctive features of a resource.

4.1.1.1 Pattern Elements

Visual character is generally defined by pattern elements such as form, spatial position relative to the viewer, line, color, texture, and detail.

The overall landforms of the area are generally large scale and dominant. The typical angle of slope is between 15 and 20 degrees with slopes ranging from 10-35%. The bottom of slopes are generally concave and gentle and convex toward the top. A strong contrast between these slopes and the ground plane exists. The abrupt change in slope at the floodplain level is very apparent. The ridgelines of the Merriam Mountains and San Marcos Mountains provide the distinguishing background for views in the area.

Because of intermediate hills and valleys surrounding the alternative, the spatial position of the site relative to the viewer varies.

Line characteristics are not readily apparent in the undisturbed areas, with the exception of ridgelines. Road disturbances and agricultural field/property edges represent the majority of lines seen in the landscape.

There is no dominant color pattern to the visual context of the alternative site. Although large areas are relatively undisturbed and exhibit the typical native chaparral, sage cover, and rock outcroppings, other areas introduce the myriad colors associated with man-made structures and agricultural development. Likewise, texture and detail vary depending on viewing location, although the overall impression is softened by the prevalence of plant material and rolling topography.

4.1.1.2 Pattern Character

Pattern character can be described in terms of harmony, variety, contrast, and scale. The natural elements of the hillsides and the valleys can be considered harmonious. Likewise, the agricultural uses of pastures, orchards, and row crops are also harmonious with each other and the native landscape. Non-harmonious elements include the quarries, roadways, and residential development at suburban and urban densities (although these are largely outside the viewshed of the alternative).

Variety and contrast exist within the context of the site, although the differences are not stark, and thus, maintain a character typical of rural viewing scenes. The context of the alternative is memorable, but does not present any features that stand out above the others or in a regional sense, with the possible exception of the highest peaks/ridgelines of the San Marcos and Merriam Mountains, nearly three miles to the south/southeast.

The scale of the area varies from the large landforms of the Merriam and San Marcos Mountains to the narrow, linear riparian corridors in the valleys. Most cultural elements are in scale with the natural elements, with the exception of the mining operations.

4.1.2 Visual Quality

The visual quality of the area is described in terms of its vividness, intactness, and scarcity of the specific visual elements.

The planning team evaluated each landscape unit in terms of its physical and perceptual quality, individually assessing elements such as landform, vegetation, water, harmony, vividness, and scarcity (see Appendix A for evaluation forms). Figure 6 shows the results of this evaluation in terms of high, moderate, and low visual character of each landscape unit. The point totals for each landscape unit in terms of physical and perceptual quality are provided in Table 2.

The areas immediately surrounding the alternative, including undeveloped open space, golf course, and resort/spa exhibit the highest visual quality in the study area because of their distinct character and balance of features. The agricultural and residential portions of the area represent moderate visual quality, where aspects are unique, but there is greater variation in form, color, and pattern. The high and moderate visual quality landscape units constitute most of the area within the viewshed to the north, east, and south, as described earlier. The low visual quality areas are the landscape units of quarry, utility, and urban. The quarry and utility landscapes are rated as having low visual quality because of the chaotic appearance they present and the disruption they cause to other landscapes nearby. The urban landscape unit is rated as low because of its disruption on the nearby rural and undeveloped landscape units and its lack of a single, cohesive identity, form, or character.

4.2 Viewer Response Assessment

The response of viewers to a change in the viewing scene can be estimated by analyzing elements such as viewing distances, viewer sensitivity, and viewing duration. Table 3 displays theses elements as they relate to the various viewer groups present near the site.

The viewer groups with the highest sensitivity to change are residents and members of the Vista Valley Country Club. Residents are most sensitive because of the length of the duration of their exposure, the close proximity to the site (for some residents), and their significant investment in property (and its visual setting). Likewise, members at the private Vista Valley Country Club invest money in their golf course to maintain an enjoyable recreational experience, which is influenced by not only the golf course facility, but also the surrounding terrain. Both these viewers, however, view the alternative site from a private viewing location.

The closest public viewing location is along public roadways in the vicinity of the site. The most highly traveled roadway, Gopher Canyon Road, runs along the canyon bottom, shielding it from views to the site. Other roadways provide glimpses of the site, but are traveled by a host of drivers with varying levels of interest in the surrounding visual environment.

5.0 Visual Impact Assessment

The visual impacts of the alternative are determined by assessing changes to existing visual resources by the alternative and predicting viewer response to any visual losses or contrasts. Visual resource change can result from the loss of visual resources which contribute to the visual character of the area and/or the introduction of visually prominent elements that contrast negatively with the visual quality/character of the area. These impacts can be to landform, the visual quality or the visual character of the site.

The viewer response to changes in the visual environment created by the alternative is determined by viewer exposure and viewer sensitivity to the alternative. The resulting level of visual impact is determined by combining the severity of resource change with the degree to which people are likely to oppose or be disturbed by the change, weighted by the quantity and viewing duration of the changes.

Later sections of the report include realistic computer simulations of the alternative, along with simplified photographic integration of computer models placed over top of existing visual resources shown in the photographs.

The following sections detail the terminology used to analyze these simulations, as well as the process followed to select the simulated key views from numerous candidate key view photos/locations.

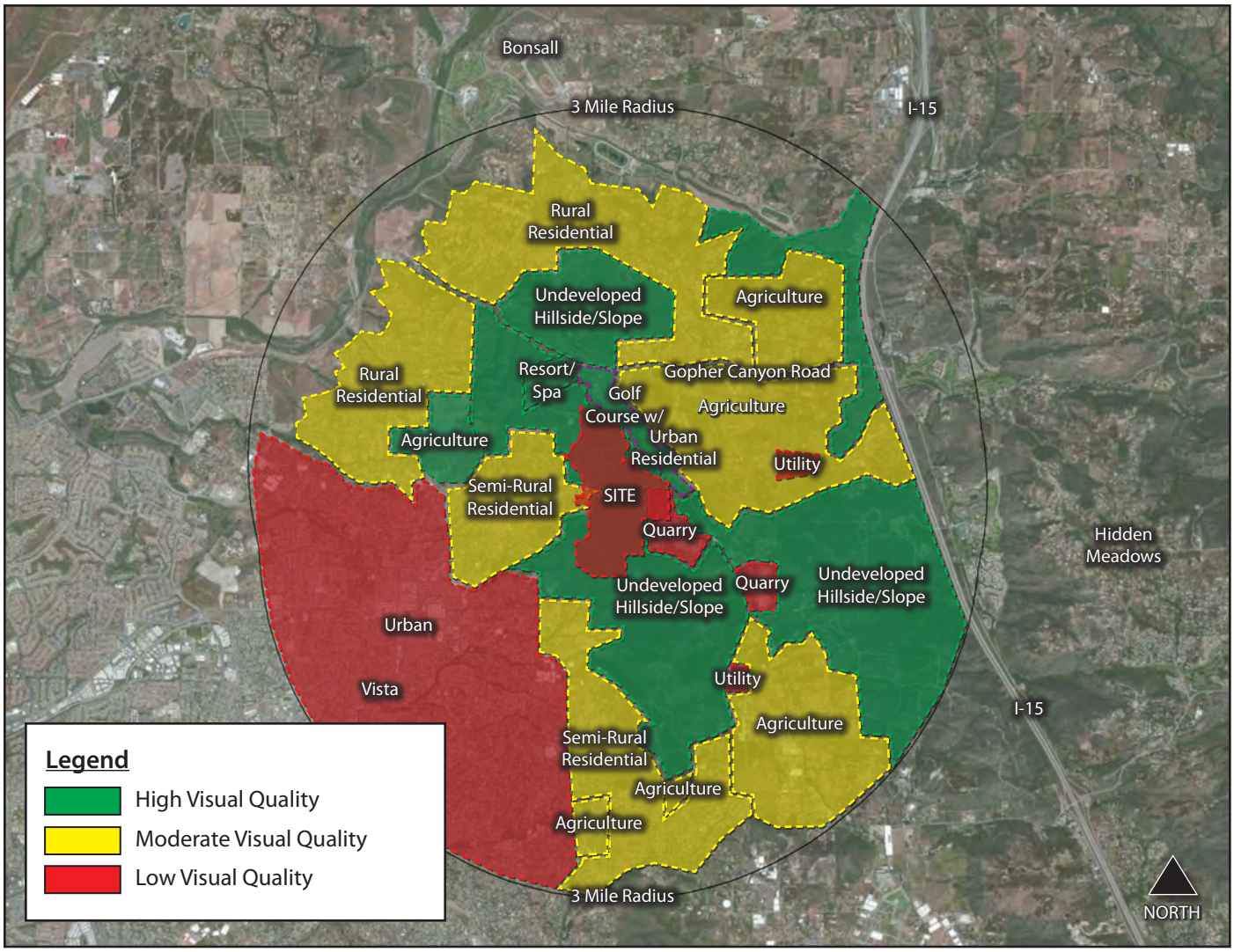


Figure 6: Landscape Character Unit Visual Quality

Unit Name	Physical	Perceptual	Total	Quality Category
Agriculture	11	2	13	Moderate
Golf Course	19	8	27	High
Quarry	6	-5	1	Low
Resort/Spa	15	8	23	High
Rural Residential	11	3	14	Moderate
Semi-Rural Residential	11	3	14	Moderate
Undeveloped Hillside	11	12	23	High
Utility	5	-3	2	Low
Urban	11	-3	8	Low

Table 2: Visual Quality Inventory Evaluation Summary

Viewer Group	Viewer Quantity	View Distance	View Duration	Viewer Sensitivity	Note
Golf Course Patrons	Low	Foreground (for Vista Valley Country Club)	3 - 5 hours	High	Vista Valley Country Club patrons view the landfill from a private viewing location.
Residents	Moderate	Foreground to background	12 -14 hours daily	High	Residents are highly sensitive to change based on their investment in their homes. Views from their homes are private views, although they would also frequently travel public roadways in the vicinity (and within the views-hed) of the project.
Agricultural Workers	Low	Middleground to background	Up to 9 hours daily	Low	Workers may have intermittent views to the site while working and traveling to/from their place of employment, although their stake in the visual quality of the surrounding properties is limited.
Quarry Workers	Low	Foreground	Up to 9 hours daily	Low	While workers have a limited stake in the visual environment near where they work, the chaotic and industrial nature of their worksite would lessen their sensitivity to changes in the surrounding environment even more.
Water District Workers	Low	Background	Up to 9 hours daily	Low	Workers may have intermittent views to the site while working and traveling to/from their place of employment, although their stake in the visual quality of the surrounding properties is limited.
Roadway Drivers	Moderate	Middleground to background	Intermittent; 30 second intervals	Moderate	Regional residents and visitors to the area likely constitute the majority of the roadway drivers in the area. These viewers would appreciate the context of the project for its rural/agrarian aesthetic, but would have limited investment otherwise. View durations would also be brief given the varied topography and dense vegetation in the area.

Table 3: Viewer Group Response Analysis

5.1 Definitions of Visual Impact Levels

The following definitions will be used in subsequent sections of the document.

No Impact

Changes in the visual environment have no impact on existing visual resources. NOTE: If improvements in the visual environment occur as a result of the alternative, the impact would also be classified as "no impact."

Less than significant impact

Impacts below that of significance can result when the changes to existing visual resources are not be perceived negatively by viewers, the number of viewers is low, the contrast with existing resources is too small, or the contrast occurs in an area with low visual quality/low sensitivity to visual changes. NEPA requires mitigation for all levels of adversity, even those considered to be below a level of significance.

Significant Impact

Changes in the visual environment produce a significant impact when they introduce a moderate or high level of contrast to the visual resource, resulting in a viewer response that is moderately or highly negative. Mitigation will be required to reduce the impact to a less-than-significant level.

5.2 Guidelines for Determining Significance

The visual impact assessment of the Gopher Canyon alternative is based on impact to the following visual elements: visual quality, landform quality, view quality, and community plans and policies. These significance criteria are set under guidance provided by the United States Army Corps of Engineers (USACE) as approved in the Gregory Canyon Landfill Study Plan.

An alternative will be considered to have a significant effect if it proposes any of the changes listed below. Conversely, if an alternative does not propose any of the following, it will not be considered to have a significant effect on visual resources.

Impact to Landform Quality

1. The alternative would result in a permanent adverse change in the natural landform character of a scenic area. This change must not only be noticeable to a moderate to large number of viewers, but the contrast must dominate other adjacent landforms.

Impacts to Visual Quality

2. The alternative would clearly contrast with the existing visual resources of a moderate or high quality landscape assessment unit. This contrast must be clearly visible to a moderate to large number of viewers and the contrast must dominate the visual scene to the point where the character and quality of the visual resources, or the scene as a whole, are permanently and significantly degraded.

Impacts on View Quality

3. The alternative would block a substantial percentage of an existing view corridor of a regionally or subregionally important view scene, or prevent the physical or visual access to a viewing point from which the viewing scene can be seen. An adverse effect would also occur if an alternative highly contrasts and dominates the viewing scene to the point where the view scene quality is substantially degraded.

Impacts to Community Plans and Policies

4. The alternative would prevent the attainment of a design or other aesthetic goal that is part of an adopted community plan or other County approved document. This visual character type is determined by line, form, color, contrast, texture, cultural features, scale and other elements that contribute to the character of the neighborhood and that are identified as important to the community.

In order to assess these impacts thoroughly and provide a basis of comparison with the Gregory Canyon visual impact analysis, this study utilizes the following questions to establish significance at each of the key view viewing locations:

1. Is the view available to 1,000 or more viewers per day?
2. Would the alternative result in an adverse change to the natural landform?
3. Would the alternative clearly contrast with existing moderate or high quality landscape units that make up the visual quality of the area?
4. Will the alternative result in the loss of physical visual resources?
5. Will the alternative block and existing view corridor, change a regionally important view scene, or cause the removal of access to viewing locations for the general public that would affect the overall view quality of the area?
6. Will the alternative prevent the attainment of adopted design, planning, or aesthetic goals found in adopted policies that protect neighborhood/community character?

These questions attempt to quantify a number of viewers above which would represent a "moderate" quantity of viewers (potentially resulting in a cumulative impact), as well as provide more specificity to the ways impacts could affect landform quality, view quality, visual quality, and community plans and policies.

5.3 Key Views

Because it is not feasible to analyze all the possible views in which the landfill alternative would be seen, it is necessary to select a number of key view points that most clearly display the visual effects of the alternative.

Figure 7 shows key views that represent typical views as seen by different viewer groups that also represent the most visible angles for which the viewer groups can see them from. These are referred to as "Candidate Key Views." Each of the candidate key views on the following page includes an overlay of the landfill massing. These are not intended to be full simulations, just graphics that help to portray the general location, scale and extent of the proposed improvements. Table 4 summarizes each of these key views. The following pages include all of the key view photos that represent the full range of views of the site. Three of these key views have been refined into full simulations with suggested mitigations.

5.4 Visual Simulation Review

Figures 8 through 10 represent photo realistic computer simulations of the landfill alternative. They were developed through the use of a three-dimensional computer model of the landform with the landfill topographical contours. This model was then transposed over top of a photo image of the site. Additional texture, color, details and shadowing were added to increase the realistic look of the simulation. Foreground elements are added that would normally block out parts of the background view.

The simulations reveal that the visibility and impact of the alternative depends greatly on the location of the viewer. While the landfill alternative is large in scale, the nondescript form and distance from many public viewing locations help to de-emphasize the landfills presence. In an unmitigated state, however, the bare soil makes the landfill much more noticeable. Visibility from close to the site also varies greatly; some ridgelines obscure the landfill form, while others open to reveal much of the landfill mass.

Figure 8 shows the potential impacts from approximately a half mile away from the site, viewing from the east. The raised elevation along Silverleaf Lane allows for a full view of the entire landfill mass. While the large extent of the landfill footprint is entirely in view, its situation in the background of the viewing scene helps to lessen its prominence. In addition, although the landfill rises in elevation to the south, it does not obscure the existing ridgeline of the peaks to the west. Therefore, from this viewing location, the viewer would likely be most sensitive to changes in color that would segregate the existing unity of the mountain range from left to right. Potential viewers at this location include local area farm workers and residents.

Figure 9 shows the potential impacts from approximately a quarter mile away from the site, viewing from the southeast along Twin Oaks Valley Road. This portion of the roadway is not in the valley floor and affords a close view of the side of the landfill. The changes in the viewing scene are much more noticeable from this viewing location: the landfill is in the middleground and alters the existing ridgeline. It narrows the viewing corridor through the valley and introduces man-made angles to a relatively intact natural environment. Even the existing quarry in the middle of the scene is dwarfed by the scale of the landfill.

Figure 9 also provides a simulation of the landfill at an estimated 50% volume, assuming the landfill mass is constructed starting at the low elevations and expanded to the higher

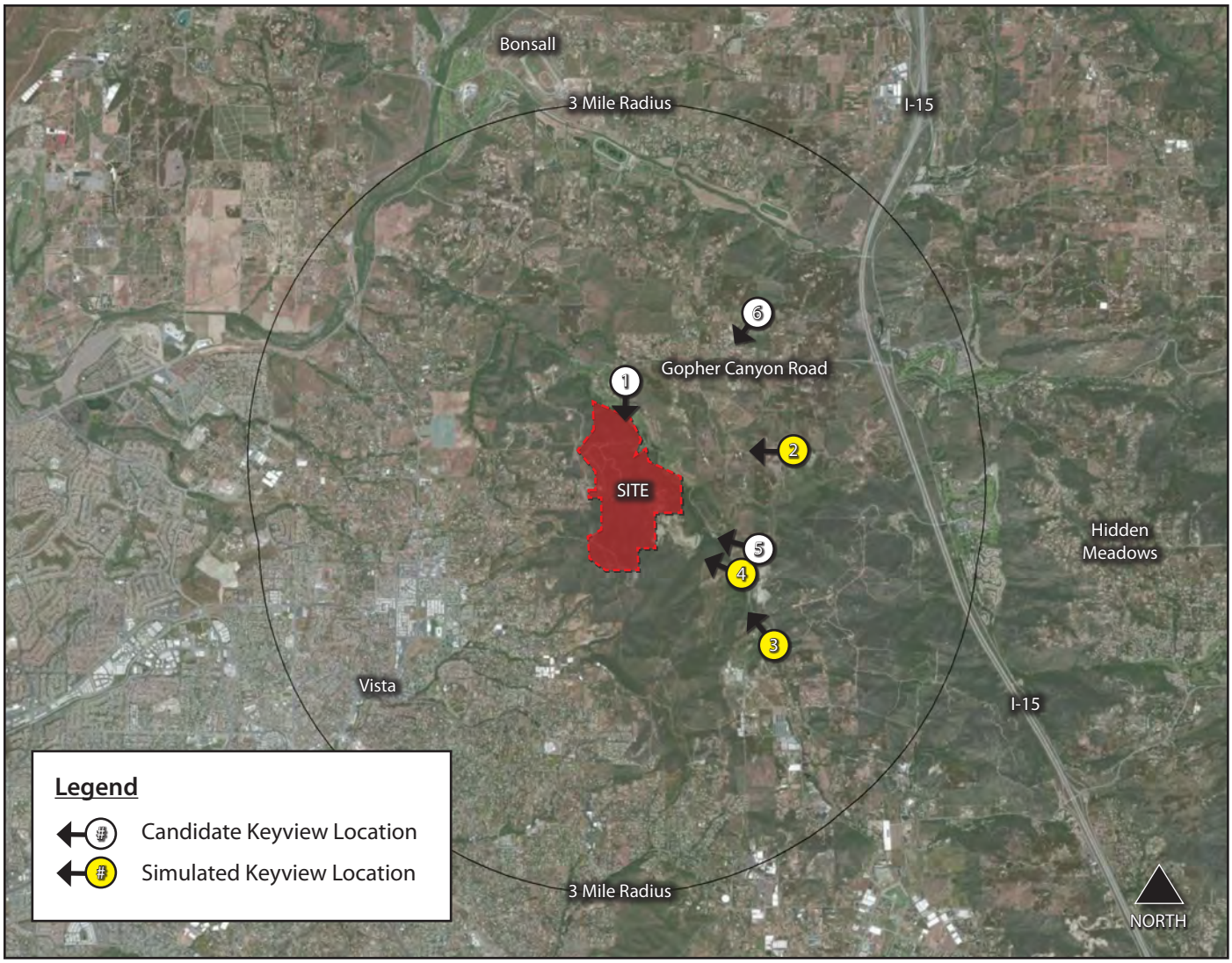


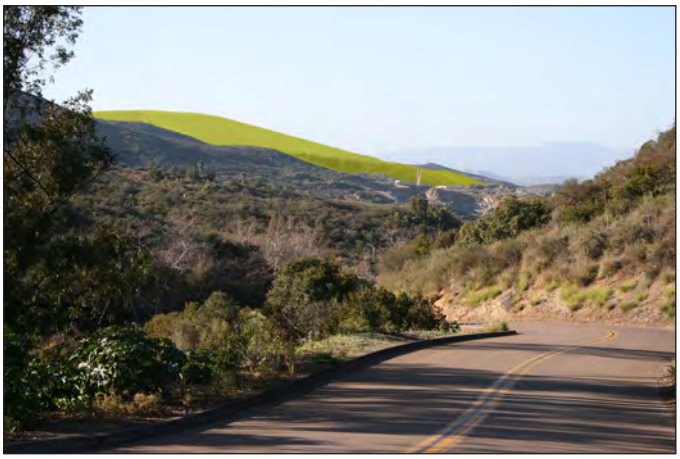
Figure 7: Keyview Photo Locations

elevations (other approaches could be utilized, but this is one feasible approach). Further, 50% volume does not equate to 50% finished height, as excavation would have occurred and a larger portion of the volume of the landfill mass could exist at the lower elevations. The result of the simulation shows that the filling of the lower elevations is much less visible than the finished elevation, to the point that even the unmitigated landfill mass at 50% capacity is barely noticeable. Especially with the visual alignment with the existing quarry, the visible portion of the landfill does not provide further disruption to the viewing scene. Potential viewers at this location include quarry workers and local residents.

Figure 10 simulates the landfill as seen from less than a quarter mile away, along Twin Oaks Valley Road. In this scenario, the low elevation of the roadway within the valley, and the presence of interceding ridges help to reduce the visibility of the landfill. Although the landfill mass creates a new peak within the existing ridgeline silhouette, it is a minority of the viewing scene and is sloped similarly to the existing topography. This view is towards the edge of field of view for a driver on Twin Oaks Valley Road, being almost perpendicular to the roadway to the west. Potential viewers at this location include quarry workers and local residents.

Candidate Keyview 1
Looking south on Hoxie Ranch Road

Candidate Keyview 2
Looking west on Silverleaf Lane



Candidate Keyview 3
Looking northwest on Twin Oaks Valley Road

Candidate Keyview 4
Looking west/northwest on Twin Oaks Valley Road

Candidate Keyview 5
Looking west/northwest on Huckleberry Lane

Candidate Keyview 6 (Private)
Looking southwest from Pico Road

Candidate Keyview Number	Character Unit Taken From	Dominant Viewer Group	Quantity of Viewers	View Duration	Distance from Viewer to Site	Notes	Recommended for Simulation
1	Hoxie Ranch Road (Rural Residential/ Agriculture)	Residents	Very Low	Long	Middle ground	Vegetation and interceding ridges obscure most of landfill mass. Residential viewing locations are private.	No
2	Silverleaf Lane (Rural Residential/ Agriculture)	Farm Workers	Low	Moderate	Background	Entire length of landfill is visible, road is traveled by area workers and residents	Yes
3	Twin Oaks Valley Road (Rural Residential)	Residents, Quarry Workers	Moderate	Long	Background	Mostly undeveloped visual context, although existing quarry seen in middle ground	Yes
4	Twin Oaks Valley Road (Undeveloped/ Quarry)	Residents, Quarry Workers	Moderate	Long	Middle ground	Close proximity to landfill could increase impact, but view is to the side of field of view on the roadway	Yes
5	Huckleberry Lane (Rural Residential/ Agriculture)	Residents, Farm Workers	Very Low	Moderate	Middle ground	Low number of viewers, but close proximity increases visual impact. Landform/vegetation obscures most of landfill	No
6	Fairview Drive (Semi-Rural Residential)	Residents	Very Low	Moderate	Background	Portion of landfill visible, but in background of view	No

Table 4: Keyview Photo Summary and Simulation Recommendations

5.5 Assessment of Visual Character and Visual Quality

The first step in determining visual resource change is to assess the compatibility of the alternative with the visual character of the existing landscape. The following analyses utilize Figures 8 through 10 to assess potential character attributes of the alternative and determine impacts.

5.5.1 Assessment of Visual Character

The alternative has a visual character that is both compatible and contrary to existing visual resources. The form and scale of the landfill are similar to some of the hills and small mountains in the area, although the landfill would likely have an angled, engineered appearance rather than the rounded and gentle slopes of the existing topography. In this sense, the landfill itself would not dominate the landscape, although it would alter the composition of the existing hillsides and contrast with its more natural forms. Unless the proposed landforms contained the same slope angles and rounded concave and convex forms, it will contrast with the existing landforms of the area.

The color, diversity, and texture of the alternative would vary from the existing hillsides. Standard revegetation that would be used on completed slopes is essentially monochromatic and devoid of the diversity and variation present in native plant communities. During construction, bare soil would introduce a starker contrast to the existing color, diversity, and texture of the hillsides surrounding the site.

5.5.2 Assessment of Visual Quality

In terms of changes in the visual quality of the site and its surroundings, the alternative would disrupt the intactness and unity of the existing landform and visual quality of the area. Disturbances such as the quarry at the southern end of the alternative site and other existing roadways have already introduced man-made elements into the visual context of the site, but the landfill would have much higher visibility regionally and essentially divide the mountain range into northern and southern sections, breaking the visual continuity which currently runs uninterrupted.

In terms of vividness, the existing hillsides are not especially memorable or rare. The introduction of the landfill itself would not add to or take away from the memorability of the alternative site unless it stood out enough to become a landmark distinguishing this mountain range from others in the area.

5.6 Assessment of Viewer Response

As discussed in Section 4.2 Viewer Response, the viewer groups with the highest sensitivity to change are the Vista Valley Country Club members and residents to the east and northeast of the alternative. For these viewers, the close proximity to the landfill, the long duration of the view, and the vested interest in minimizing changes to the existing visual resource of the hillsides/mountains would likely produce opposition to the alternative.

Both public and private views are included in visual impact considerations, although primary weight is given to public views. The primary public viewer would be drivers of roadways on higher elevations to the south, east, and north. These viewers are less sensitive than residents because they do not have financial investment in the viewing scene and their viewing duration is shorter and transitory. Their moderate sensitivity may allow them to tolerate the changes presented by the landfill much more than those that own land or buildings that can see the landfill.

PROPOSED CONDITIONS (MITIGATED)

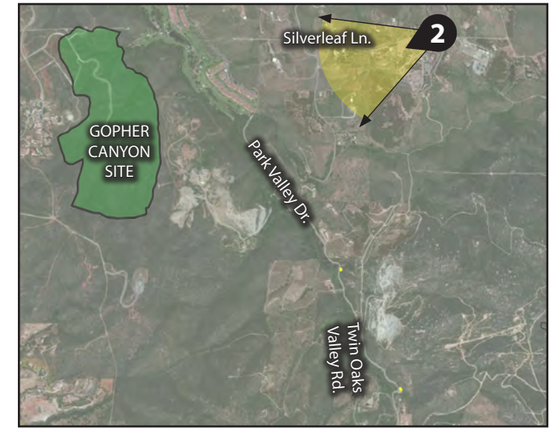
EXISTING CONDITIONS

PROPOSED CONDITIONS (UNMITIGATED)

Visual Setting Information / Contrast Assessment of Project Elements	Existing			Proposed		
	High Quality	Moderate Quality	Low Quality	High Contrast	Moderate Contrast	Improves/Low Cont.
Visual Quality						
Vividness		X				X
Intactness	X			X		
Unity	X			X		
Visual Organization		X				X
Other Elements						
Viewing Scene Quality		X			X	
Landform Quality		X			X	
Viewing Corridor Quality		X				X

NA: Not Affected or Not Applicable

* Simulation Notes: These simulations represent approximate renderings of project elements based on currently available information from conceptual plans.



KEY VIEW PHOTOGRAPH LOCATION North ▲

Alternative to Gregory Canyon Landfill

Gopher Canyon Key View 2

View looking west from Silverleaf Lane

Figure **8**

PROPOSED CONDITIONS (100% FULL, UNMITIGATED)

PROPOSED CONDITIONS (100% FULL, MITIGATED)

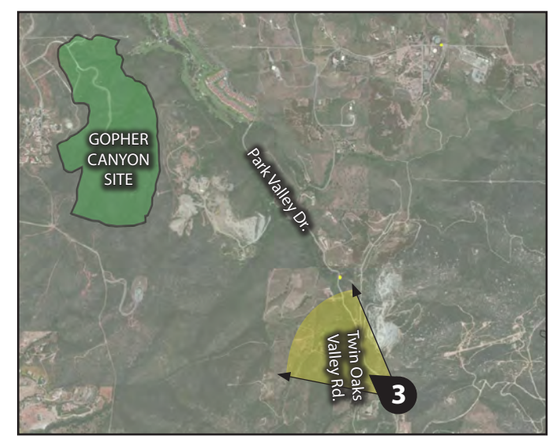
EXISTING CONDITIONS

PROPOSED CONDITIONS (50% FULL, UNMITIGATED)

Visual Setting Information / Contrast Assessment of Project Elements	Existing			Proposed		
	High Quality	Moderate Quality	Low Quality	High Contrast	Moderate Contrast	Improves/Low Cont.
Visual Quality						
Vividness	X				X	
Intactness	X			X		
Unity	X			X		
Visual Organization		X			X	
Other Elements						
Viewing Scene Quality	X			X		
Landform Quality		X			X	
Viewing Corridor Quality	X			X		

NA: Not Affected or Not Applicable

* Simulation Notes: These simulations represent approximate renderings of project elements based on currently available information from conceptual plans.



KEY VIEW PHOTOGRAPH LOCATION North ▲

Alternative to Gregory Canyon Landfill

Gopher Canyon Key View 3

View looking northwest from Twin Oaks Valley Road

Figure **9**

PROPOSED CONDITIONS (MITIGATED)

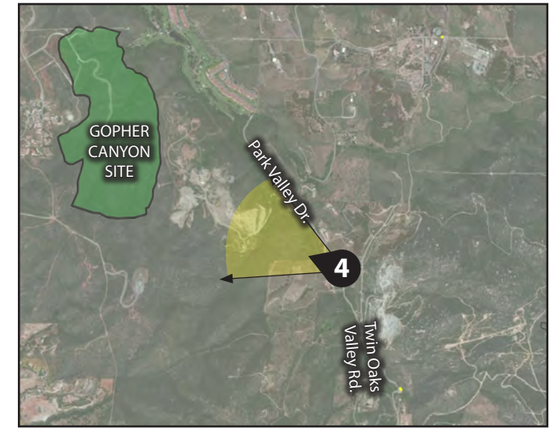
EXISTING CONDITIONS

PROPOSED CONDITIONS (UNMITIGATED)

Visual Setting Information / Contrast Assessment of Project Elements	Existing			Proposed		
	High Quality	Moderate Quality	Low Quality	High Contrast	Moderate Contrast	Improves/Low Cont.
Visual Quality						
Vividness		X				X
Intactness	X				X	
Unity	X					X
Visual Organization		X				X
Other Elements						
Viewing Scene Quality		X				X
Landform Quality		X				X
Viewing Corridor Quality		X				X

NA: Not Affected or Not Applicable

* Simulation Notes: These simulations represent approximate renderings of project elements based on currently available information from conceptual plans.



KEY VIEW PHOTOGRAPH LOCATION North ▲

Alternative to Gregory Canyon Landfill

Gopher Canyon Key View 4

View looking west from Twin Oaks Valley Road

Figure **10**

5.7 Community Plans and Policies

The following section highlights community goals and policies listed in Section 2.3, Regulatory Framework with which the alternative conflicts. Any goals and policies for which the alternative is compatible are not relisted in this section.

5.7.1 General Plan

Land Use Element

Goal LU-2: Maintenance of the County's Rural Character

Policy LU 2.8: Mitigation of Development Impacts. Require measures that minimize significant impacts to surrounding areas from uses or operations that cause excessive noise, vibrations, dust, odor, aesthetic impairment and/or are detrimental to human health and safety.

The alternative creates an aesthetic impairment of the site when compared with the context of the surrounding hillsides.

Goal LU-12: Infrastructure and Services Supporting Development

Policy LU 12.4: Planning for Compatibility. Plan and site infrastructure for public utilities and public facilities in a manner compatible with community character, minimize visual and environmental impacts, and whenever feasible, locate any facilities and supporting infrastructure outside preserve areas.

The alternative creates impacts to the visual environment of the site when compared with the context of the surrounding hillsides.

Conservation and Open Space Element

Goal COS-11: Preservation of Scenic Resources

Policy COS 11.1: Protection of Scenic Resources. Require the protection of scenic highways, corridors, regionally significant scenic vistas, and natural features, including prominent ridgelines, dominant landforms, reservoirs, and scenic landscapes.

Twin Oaks Valley road, between Gopher Canyon Road and San Marcos city limits; and

The alternative disrupts the existing visual resources of the San Marcos mountains to the west of the Twin Oaks Valley corridor.

Policy COS 11.3: Development Siting and Design. Require development within visually sensitive areas to minimize visual impacts and to preserve unique or special visual features, particularly in rural areas, through the following:

- Creative site planning
- Integration of natural features into the project
- Appropriate scale, materials, and design to complement the surrounding natural landscape
- Minimal disturbance of topography
- Clustering of development so as to preserve a balance of open space vistas, natural features, and community character
- Creation of contiguous open space networks

The alternative, because of its landfill function and massive scale, does not accommodate some of the site planning techniques listed in this policy. Site features cannot be integrated except at the periphery of the landfill mass, existing topography cannot be minimally disturbed, landfill mass can only partially be clustered, and usable open space networks on site cannot be created.

Goal COS-12: Preservation of Ridgelines and Hillsides

Policy 12.2: Development Location on Ridges. Require development to preserve the physical features by being located down and away from ridgelines so that structures are not silhouetted against the sky.

The alternative remains below ridgelines as viewed from the east, but creates new ridgelines as viewed from the south/southeast. The scale of impact to the viewing scene will be determined by the final form/silhouette of the new ridgeline, but standard landfill topography would not match existing landscape forms and would create a visual impact.

5.7.2 Bonsall Community Plan

Land Use Element

Goal LU-1.1 Balance of Bonsall's rural land uses within the community

Policy LU1.1.3: Require development to be sensitive to the topography, physical context, and community character of Bonsall.

The alternative would create a disruption to the topography and physical context of the northern San Marcos Mountains.

Goal LU-5.1 A physical environment where degraded riparian areas have been restored and the natural topography retained.

Policy LU-5.1.2: Require grading to be contoured to blend with natural topography, rather than consist of straight edges.

The alternative will introduce benches at regular intervals and slopes at consistent angles, creating an engineered appearance that contrasts with natural slopes and landforms.

Policy LU-5.1.3: Minimize grading to preserve natural landforms, major rock outcroppings and areas of existing mature trees. Integrate hillside development with existing topography and landforms.

The alternative will eliminate the existing topography and landscape features of the site.

Policy LU-5.1.4: Restrict, to the maximum extent feasible, extensive grading for development projects in areas with slopes that are 20 percent or greater, in order to preserve and protect the environment, and to lessen grading and erosion.

The alternative will grade areas of 20% slope or more, but at completion of the landfill, will actually decrease the slope of these areas.

Policy LU-5.1.5: Require development on slopes to be stepped to follow and preserve topography to the maximum extent feasible.

The alternative will be stepped to generally follow the slope of the existing mountains, although the slope created will not be of a character of the existing slopes.

Policy LU-5.1.6: Minimize cut and fill grading for roads and access ways to the absolute minimum necessary.

There is insufficient data on roads and accessways at this time to determine compliance.

Circulation and Mobility

Goal CM-5.1 Preserve scenic routes

Policy CM-5.1.3: Require new development to provide trees, in compliance with the suggested trees for defensible space, within the development but along and outside of the public right of way.

The alternative does not include trees as part of the revegetation of landfill slopes.

Conservation and Open Space

Goal COS-1.1 The preservation of the unique natural and cultural resources of Bonsall

Policy COS-1.1.5: Require that landscaping be designed to prevent erosion on graded sites and, if adjacent to sensitive habitats, require re-vegetation with the appropriate drought tolerant plant species with specific restrictions on the use of any invasive species.

While the revegetative cover for the alternative will aid in preventing erosion, it will not match the plant communities of the surrounding sites.

Policy COS-1.1.6: Encourage development to plant an appropriate variety of trees to stabilize soil conditions and contribute to atmospheric oxygen production.

The alternative does not include trees as part of the revegetation of landfill slopes.

Resource Conservation Areas

The Resource Conservation Area (RCA) designation is applied to protect sensitive biological, archaeological, aesthetic, mineral, and water resources. Projects requiring environmental analysis under the California Environmental Quality Act (CEQA) that occur within RCAs should be carefully analyzed to assess their impact on the RCA.

Gopher Canyon is designated as resource conservation area #20.

It is unclear, based on Community Plan graphics, whether the alternative site falls within the Gopher Canyon Resource Conservation Area. If it does, the overlap would be at the eastern edge of the site, at the base of the landfill near the upper edges of the canyon.

The San Marcos Mountains are designated as resource conservation area #22.

It is unclear, based on Community Plan graphics, whether the alternative site falls within the San Marcos Mountains Resource Conservation Area. If it does, the overlap would be at the southern portion of the site, at the highest elevation of the landfill.

5.7.3 Zoning Ordinance

Specific Planning Area Use Regulations (S88)

Building Type (K): Only residential structures permitted
Max Height (G): 35 feet
Setback (V): Varies: Setbacks established during discretionary review process
Special Regulations (-): N/A

This zoning designation applies to the north/eastern edges of the site adjacent to the Vista Valley Country Club. Although specific locations have not been determined, the alternative would include structures other than residences in this area. Heights of structures would likely be below the 35-foot limit, however.

5.8 Determination of Significance

Below is a discussion of the criteria/questions used to determine if the visual impacts created by the alternative constitute a significant impact or less than significant impact. These are the significance criteria introduced in Section 2.3, Regulatory Framework and discussed in more detail in Section 5.2, Guidelines for Determining Significance. They have been applied to the viewing locations shown in the simulations (Figures 8 - 10) as well as the overlay models shown on the candidate key views.

Silverleaf Lane

1. Is the view available to 1,000 or more viewers per day?

Unlikely. Traffic count data is not available for the segment of Silverleaf Lane shown in the simulation because SANDAG does not consider Silverleaf Lane a "significant roadway." By comparison, Twin Oaks Valley Road is considered "significant," but has an ADT of only 1,800 average weekday trips.

2. Would the alternative result in an adverse change to the natural landform?

The alternative creates a moderately adverse change in the natural landform. Although the texture and shape of the landfill will contrast with the existing hillsides, the background of the viewing scene allows it to more easily blend with its context. From this key view, the landform does not silhouette against the sky, so therefore it does not stand out.

3. Would the alternative clearly contrast with existing moderate or high quality landscape units that make up the visual quality of the area?

The alternative, in an unmitigated state, would contrast with the high quality landscape unit of the undeveloped hillsides surrounding the site. From this distance, the color of the landfill creates the most contrast, as details of texture and form are not clearly visible.

4. Will the alternative result in the loss of visual resources?

Yes. The alternative will remove all existing vegetation and rock outcroppings and replace them with the landfill forms.

5. Will the alternative block an existing view corridor, change a regionally significant view scene or cause the removal of access to viewing locations for the general public that would affect the overall view quality of the area?

From this viewing location, the alternative does not block a view corridor. The San Marcos Mountains are considered a regionally significant visual resource and the presence of the landfill may disrupt the continuity of this viewing scene, but it will not block a the view corridor of a distant viewing scene.

6. Will the alternative prevent the attainment of adopted design, planning, or aesthetic goals found in adopted policies that protect neighborhood/community character?

Yes. See discussion from previous section on Community Goals and Policies.

Based on the analysis represented by the above significance criteria, and other considerations, the ***alternative will have a less than significant impact to views from Silverleaf Lane. The alternative will have an adverse affect on the loss of visual resources, but based on the distance to most viewers, it would be considered to be less than significant.***

Twin Oaks Valley Road (South)

1. Is the view available to 1,000 or more viewers per day?

Likely. Although traffic count data is not available for the specific segment of Twin Oaks Valley Road shown in the simulation, a segment nearby (between Deer Springs Road and Camino Califa) has an average weekday traffic volume of 1,800 vehicles, according to SANDAG data from 2008.

2. Would the alternative result in an adverse change to the natural landform?

Yes. The alternative creates a new ridgeline that overshadows the existing topography. In addition, the silhouette of the new ridgeline is stepped, introducing geometric lines and angles to an environment that currently exhibits concave and convex landforms. The color and texture of the landfill also contrast highly with the surrounding hillsides, emphasizing the presence of the landfill further.

3. Would the alternative clearly contrast with existing moderate or high quality landscape units that make up the visual quality of the area?

Yes. The high quality landscape unit of undeveloped hillsides surrounding the alternative are highly sensitive to changes in the visual environment. The undeveloped hillsides also constitute the majority of the viewing scene from this location. The introduction of the landfill form introduces elements that contrast with the undeveloped hillsides in terms of shape, color, and texture.

4. Will the alternative result in the loss of visual resources?

Yes. The alternative will remove all existing vegetation and rock outcroppings and replace them with the landfill forms.

5. Will the alternative block an existing view corridor, change a regionally significant view scene or cause the removal of access to viewing locations for the general public that would affect the overall view quality of the area?

Yes. The alternative narrows an existing viewing corridor that provides views to the mountains north of Gopher Canyon. The alternative will also alter the character of the northern San Marcos Mountains as seen from Twin Oaks Valley Road. While the height of the landfill will make the viewing scene more vivid, the contrast of the landfill slopes with the existing hillsides will make the scene less cohesive.

6. Will the alternative prevent the attainment of adopted design, planning, or aesthetic goals found in adopted policies that protect neighborhood/community character?

Yes. See discussion from previous section on Community Goals and Policies.

Based on the analysis represented by the above significance criteria, and other considerations, the ***alternative will have a significant impact to views from Twin Oaks Valley Road (South).***

Twin Oaks Valley Road (North)

1. Is the view available to 1,000 or more viewers per day?

Possible. Although traffic count data is not available for the specific segment of Twin Oaks Valley Road shown in the simulation, a segment to the south (between Deer Springs Road and Camino Califa) has an average weekday traffic volume of 1,800 vehicles, according to SANDAG data from 2008. However, the simulated segment of Twin Oaks Valley Road is approximately 1.5 miles north of Camino Califa. It is possible that enough traffic exits Twin Oaks Valley Road before the simulation location to lower the ADT below 1,000.

2. Would the alternative result in an adverse change to the natural landform?

From this vantage point, the alternative will result in a slightly adverse change to the natural landform. The simulation shows that the existing landform will shield the viewer from much of the change that is visible from the other viewing locations. From this angle, the change is noticeable but not dominant.

3. Would the alternative clearly contrast with existing moderate or high quality landscape units that make up the visual quality of the area?

In an unmitigated state, the portion of the landfill that is visible would contrast with the context of undeveloped hillsides, although, the area of contrast is small enough to not substantially degrade the viewing scene overall.

4. Will the alternative result in the loss of visual resources?

No. From this viewing location, the alternative only obscures views to a small portion of the sky.

5. Will the alternative block an existing view corridor, change a regionally significant view scene or cause the removal of access to viewing locations for the general public that would affect the overall view quality of the area?

No.

6. Will the alternative prevent the attainment of adopted design, planning, or aesthetic goals found in adopted policies that protect neighborhood/community character?

Yes. See discussion from previous section on Community Goals and Policies.

Based on the analysis represented by the above significance criteria, and other considerations, the ***alternative will have a less than significant impact to views from Twin Oaks Valley Road (North).***

5.9 Cumulative Impact Analysis

There are no known projects in the area that would create a cumulative impact in association with the proposed Gregory Canyon Landfill.

5.10 Summary of Visual Impacts

The Gopher Canyon alternative will have a significant impact on the visual quality of the site and its surroundings. Impacts include:

- **Landform quality impacts *will be significant*** since the landfill landforms are not compatible with the existing landforms that make up the distinctive character of the San Marcos ridge.
- **Visual quality impacts *will be significant*** since they will remove prominent visual resources that are considered to be of a high quality and are major determinants in setting the existing visual quality of the area. The landfill's visually prominent elements will introduce man-made geometry into a relatively unaltered hillside/mountain setting and will contrast with the color and texture of native plant communities that dominate the site surroundings.
- **View quality impacts *will be less than significant*** since the landfill does not interrupt a viewing corridor of a regionally significant viewing scene.
- **Community Plans and Policies** impacts ***will also be significant*** since a broad variety of goals, guidelines, ordinances, and policies will not be met with the alternative. Goals and policies not met under the alternative include:
    - Removal of existing visual resources, including vegetation;
    - Introduction of inharmonious elements into a natural viewing scene;
    - Extensive grading/alteration of existing topography;
    - Existing/natural drainage systems will be replaced with engineered drainage systems; and
    - The alternative does not provide dedicated open space on the site, nor public access to the site.

6.0 Visual Mitigations

The simulations for the three key views assumed a standard amount of revegetation efforts for all phases of the landfill. This revegetation effort would be required as a part of slope stabilization and erosion control. Hydroseeding of temporary slopes was also considered mandatory to reduce dust, prevent erosion, and reduce the amount of visual contrast of the landfill. Additional mitigations will be required for visual impacts and can take a variety of forms. The following sections describe a palette of potential mitigations and where/how these mitigations should be applied.

6.1 Potential Mitigations

Recommended Visual Mitigation Measures (VMM) beyond the minimum slope stabilization include the following:

1. Landscape Screening (VMM 1). This screening could occur at strategic locations along the perimeter of the site. Existing mature trees could be transplanted (up to 6-12' transplanted box size) or replaced with large trees (24" -36" box). If not replacing existing impacted trees, then new trees (mixture of seedling, 15 gallon, 24" box and 36" box) could be newly planted in key locations to block views of the landfill.
2. Landform Screening (VMM 2). Given the large scale and inescapable mass of the landfill, this technique could be used to block views of portions of the landfill from strategic locations, on or off the site. Without control of adjacent sites, however, off-site mitigation would be difficult to implement. On-site, landform screening placed at the perimeter of the site may be able to block some of the views of the landfill. This mitigation should be done in conjunction with landscape screening.
3. Landform Grading (VMM 3). The form of the landfill mass could be contoured to help blend in with the natural topography found in the immediate area. The landfill face, in particular, could be made to incorporate gentle grading and curvilinear shapes to mimic the surrounding hillsides. The highest elevations of the landfill, usually finished as a flat "mesa," could be mounded to avoid introducing straight lines and flat landforms. Likewise, the slope and run of the face of the landfill could be altered to avoid creation of an undifferentiated pyramid-like wall. Benching notches could be backfilled up against the base of the slope to round out the obvious bench notches that show up when silhouetted against the sky. Tight right angle corners and straight line benches (as seen from above) should also be avoided and replaced with more curvilinear

forms. It is recognized that these additional landforms are above and beyond the minimum cover and capping requirements. The surcharge of this landform weight and volume would also need to be taken into account.

4. Rock Outcrop Replacement (VMM 4). Since a large amount of rock outcrops occur throughout the area, and since these materials will need to be removed from the landfill footprint, they should be stockpiled and placed in strategic locations to help blend graded surfaces with the dominant textures of the area. This would need to occur primarily around the edges of the landfill face and top surface. Relatively large boulders are needed to appear in natural arrangements. Most of these boulders should be located on additional clay-capped fill with subsurface drainage to ensure no runoff enters into the landfill from around the rock formations.

5. Major Tree Groupings (VMM 5). Groups of tree plantings could be used on the landfill mass to blend the transition between landfill and surrounding landform. For a mass to be noticeable, 6-12 trees should be considered the minimum, depending on location.

6. Native revegetation and landscaping (VMM 6). The use of natives not only increases the long term survivability of revegetative plant material, but also increases compatibility with surrounding vegetation in terms of color and texture. All revegetation areas will need this treatment. Existing vegetation species in the vicinity of the alternative would be used or emulated for landscape plantings. The plant communities found on surrounding hilltops, slopes, and valleys adjacent to the landfill would be matched. Where a tree, shrub, or groundcover is needed to serve a specific purpose, and native material is not appropriate, then non-native species will be allowed. It is important to make sure that the non-native species have naturalized to the local conditions or have the appearance of relating to the adjacent native species. Appearance of color and texture are most important for matching, followed by relative size and form.

7. Contrast and Color Matching (VMM 7). All areas would be replanted in such a manner that will decease the amount of color contrast with surrounding areas. This would be accomplished through the use of native plant materials including grassland species and through the use of paint on visible buildings, structures, poles and fencing. Temporary revegetation of slopes will also help to reduce contrast, especially if the proper color and textures are utilized in the plant selection process.

8. Texture Matching (VMM 8). All revegetation efforts would attempt to match the texture of the surrounding areas. If the mitigation measures are taken as listed above, then the rocks, native plants, trees, color, and landforms will all produce compatible textures.

9. Engineering Structures Adjustments (VMM 9). Construct brow ditches with outside bench lips slightly higher than inside edges and use integral concrete color that matches a darker soil type for all gunite ditches. Pipelines connecting brow ditches need to blend with final landfill slope colors and not be allowed to stay a reflective tin or galvanized color. Pipe paintings should use a combination of colors that match the context of the area that the pipeline section is passing through. Variations in color will be necessary.

6.2 Application of Mitigations

The goal of mitigations is to reduce the severity of visual impacts caused by the alternative. The impacts discussed in Section 5.10, Summary of Alternative Visual Impact Significance, are listed in terms of landform quality, visual quality, view quality, and conformance with community goals and policies. A unique blend of mitigation techniques is necessary to reduce the impact of the alternative in terms of each of these categories. The discussion below details the mitigation combination for each category.

Landform Quality

The alternative has differing levels of impact to the landform of the site and the area surrounding the site, depending on the viewing location. Although impacts from some viewing locations are considered below a level of significance, impacts remain and the adversity of these impacts could be reduced through mitigation.

The site of the Gopher Canyon alternative allows the landform mass to be distributed in a combination of vertical inclines and at least two substantial horizontal breaks. This topography prevents a dominant "pyramid" shape, typical of landfills and allows the landfill to generally follow the incline of the San Marcos Mountains foothills. These characteristics lessen impacts from distant viewing locations, but not for close viewing locations. Landform grading **(VMM 3)** is necessary to lessen impacts from close viewing locations. Landform grading should add topographical undulations to the top of the landfill to eliminate the flat "mesa" look to the top of the alternative. Because the standard surface of landfill cover is four to six feet thick, manipulation of this face will require additional fill material. The creation of ridges or swales may concentrate the flow of water and could cause erosion of

the buried fill materials, so additional surface lined swales or sub-surface drainage may be needed. This mounding of the landform would decrease the visual impact from all viewing locations, though, from both below and above the landfill.

If executed, these mitigations will decrease the amount of contrast between the landfill and the site context from viewing locations close to the site. The combination of the moderate landform contrast from a distance and mitigated landform contrast from near the site would **reduce the impact to below a level of significance**. However, if all of the proposed mitigations in their entirety are not implemented, then this impact would remain significant.

Visual Quality

As with landform quality, the alternative has differing levels of impact in terms of visual quality. The alternative covers distinctive landforms and hillsides and replaces native, undisturbed plant material with minimal revegetation that does not match the surrounding hillsides in terms of color and texture. New elements such as drainage channels and piping also add to the contrast with the natural setting. Distance from the landfill, however, reduces the contrast of these elements. The following mitigations should be used to reduce visual quality impacts. They will be especially effective for viewing locations near the site.

Major tree groupings **(VMM 5)** as well as native revegetation and rock outcrop replacement **(VMM 4)** would be necessary along the edges of the landfill. A transitional blending of the landfill should also be undertaken along the bottom and perimeter edges where it meets the existing terrain **(VMM 3)**. Large boulders and trees should be placed to resemble natural drainage channels. Special accommodations will be required for trees set along the edge of the landfill, as roots could penetrate the landfill containment soil layer and allow water into the fill, speeding decomposition.

Based on drainage and settlement problems, the elements of trees and boulders are not recommended for inclusion in the middle of the landfill. Permanent slopes will need to be stabilized with native grasses and other shallow rooted plants representative of the Inland Sage Scrub plant community **(VMM 6)**. In some cases, there may be changes and/or transition to these slopes based up on the phasing of the landfill development. In these areas, more temporary erosion control techniques will be utilized. Drainage and methane extraction structures and pipes should be painted **(VMM 8)** or be made of materials that fit into the local color environment **(VMM 7)** that match adjacent textures **(VMM 8)**. On the active face of the landfill, temporary revegetation will be required **(VMM 6)**. Any interim slope that is anticipated to remain beyond one full year will need to receive revegetation through at least hydroseeding. The permanent slopes and all areas of the landfill that are considered to be visually prominent would need to be permanently revegetated as soon as practical, with a combination of plant materials including hydroseeding, seedlings, and containerized plants.

The plantings will be irrigated by a temporary above ground spray irrigation system. All supplemental irrigation will be removed once the planting has completely covered the landfill face and is established (generally 3-5 years from installation).

Once closure of the landfill is achieved and final cover is completed, a vegetative surface cover utilizing native plant species shall be established. The species must exhibit rapid germination and be self-sowing. The cover should be comprised of low volume fire retardant species with low maintenance requirements. The following are erosion control and revegetation techniques which will be implemented:

- Application of non-living mulching materials;
- Application of living mulching materials such as mycorrhizal soil components;
- Installation of geotextile netting and/or grids;
- Chemical soil stabilization;
- Temporary vegetative nurse crop establishment;
- Surface soil scarification;
- Slope grading and terracing techniques;
- Drainage collection techniques;
- Permanent irrigated refined seed mix plantings;
- Temporary non-irrigated nurse crop plantings; and/or
- Transitional temporarily irrigated native seed mix plantings.

With these mitigations, the differentiation of the landfill and the surrounding context would be reduced. Further, by using natural materials/textures to blend undisturbed slopes with the landfill surfaces, the prominence of the landfill mass would be decreased. While the landfill would still be noticeable and recognizable, **enactment of these mitigations would reduce the visual quality impact to below a level of significance.** If all mitigations are not done, then the impact to visual quality would remain above a level of significance.

View Quality

The alternative's impact on view quality results from the partial obstruction of the existing view corridor between the San Marcos and Merriam Mountains. Because of the minor extent of the blockage, the impact is considered to be **less than significant**.

Community Plans and Policies

The alternative's visual changes contrast with the goals established by the community plans and policies, particularly with respect to:

- Removal of existing visual resources, including vegetation;
- Introduction of inharmonious elements into a natural viewing scene;
- Extensive grading/alteration of existing topography;
- Existing/natural drainage systems will be replaced with engineered drainage systems; and
- The alternative does not provide dedicated open space on the site, nor public access to the site.

Mitigations previously discussed in terms of lessening landform and visual quality impacts apply to several of the community goals above, while others remain unaddressed. The replacement of natural drainage features and lack of public open space will not be able to be accommodated given standard landfill construction and maintenance practices. Although impacts to visual and landform quality can be meaningfully reduced through mitigations, the remaining impacts contrast significantly with community plans and policies. **The removal of visual resources, introduction of inharmonious elements into a natural scene, extensive grading, and engineered drainage systems all contribute to create a significant impact to community goals and policies**. There are no suggested mitigations to these impacts, therefore the significant impact to community goals and policies and would remain significant.

6.3 Conclusion

The Gopher Canyon Landfill alternative will be partially mitigable and mitigations will reduce the severity of the impacts to the visual environment. Mitigations to the visual quality and landform of the site will both be reasonably effective. The impacts to some community goals, are unmitigable. While impacts of a mitigated landfill to the limited number of public viewing locations may be below a level of significance, impacts to the numerous private properties surrounding the site cannot be ignored and thereby increase these impacts from less than significant to significant. While the mitigations will reduce the visual prominence of the alternative, it will still result in a loss of existing undisturbed hillsides and introduce man-made forms into an intact viewing scene.

Alternative Analysis for the Gregory Canyon Landfill

Merriam Mountain Alternative

Visual Impact Assessment Technical Report
North County Metro Community Planning Area
San Diego County, California

Prepared by:

KTU+A
Planning + Landscape Architecture

Prepared for:

US Army Corps of Engineers®

March 2012

VISUAL IMPACT ASSESSMENT TECHNICAL REPORT:
GREGORY CANYON LANDFILL,
MERRIAM MOUNTAIN ALTERNATIVE

March 2012

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CERTIFICATION

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Appendix

Appendix A: Visual Quality Inventory Evaluation Worksheets

1.0 Introduction

The Merriam Mountain alternative to the Gregory Canyon Landfill is located within the Merriam Mountain range of unincorporated north San Diego County. The range is located approximately 15 miles north of Escondido, immediately to the west of Interstate 15, north of Deer Springs Road, east of Twin Oaks Valley Road, and south of Gopher Canyon Road. The alternative analyzed by this visual resources report is located in the center of the Merriam Mountains (see Figure 1: Vicinity Map and Site Boundaries).

1.1 Purpose of the Visual Resources Report

The Merriam Mountain Visual Impact Assessment Technical Report assesses the potential visual impacts of the construction of a landfill at the Merriam Mountain alternative site. The report also proposes measures to mitigate any adverse visual impacts associated with the alternative.

1.2 Key Issues

The Merriam Mountain alternative presents the following key issues that will need to be addressed in this study:

- Creation of a man-made ridgeline, primarily visible from northbound and southbound lanes of I-15
- Disruption of the existing visual continuity of the Merriam Mountains when viewed from the east, and especially when viewed in close proximity from I-15
- Elimination of a viewing corridor into the Merriam Mountains
- Removal of visual resources such as trees/vegetation and rock outcroppings

1.3 Principal Key Views to be Covered

The land surrounding the Merriam Mountain alternative site is a mix of uses: rural and semi-rural residential development, agriculture, golf courses, the regional thoroughfare of I-15, and suburban style and intensity residential/commercial development associated with the Lawrence Welk Resort. Because of the area's varied topography, views of the site abound. Many of these views, however, are private views. The primary public viewing locations, therefore, are public roadways. This study primarily analyzes visual impacts to public viewing locations to the north, east, and south of the site (views from the west are largely obscured by existing terrain). Secondarily, the study analyzes views from private viewing locations.

The primary key views analyzed include:

- Northbound and southbound lanes of I-15 (with key views west to the site)
- Circle R Drive (with key views from north of the site)
- Camino de las Lomas (private, but included for comparison, key views from north of the site)
- Indian Creek Way (key views from southeast of the site)
- Meadow Mesa Drive (key views from east of the site)
- Champagne Boulevard (key views from southeast/east of the site)
- Lawrence Welk Drive (key views from east/northeast of the site)

2.0 Alternative Description and Regulatory Framework

The following sections provide an overview of the alternative and the land use/development regulations governing the alternative site and its surroundings.

2.1 Alternative Description

The Merriam Mountain alternative would be a Class III sanitary landfill and the conceptual site boundary covers approximately 553 acres, although the final footprint of the landfill is expected to be less than 199 acres. While a fully developed alternative would include site plans detailing access roads, ancillary facilities, and various utility-related structures, this visual impact analysis is based on conceptual plan information. This site is being reviewed for comparison purposes with Gregory Canyon and is not currently being pursued by a project applicant. The conceptual plans referenced in this report include basic details such as maximum fill contours and potential zones for stockpiles and ancillary facilities.

It is expected that than an average of 3,200 tons per day (tpd), or one million tons annually, will be deposited at the landfill over its life. Accounting for the volume occupied by the containment system, daily, intermediate, and final covers, the estimated site life is approximately 27 years. The finished elevation of the landfill is expected to be 1,395 feet Mean Sea Level (MSL).

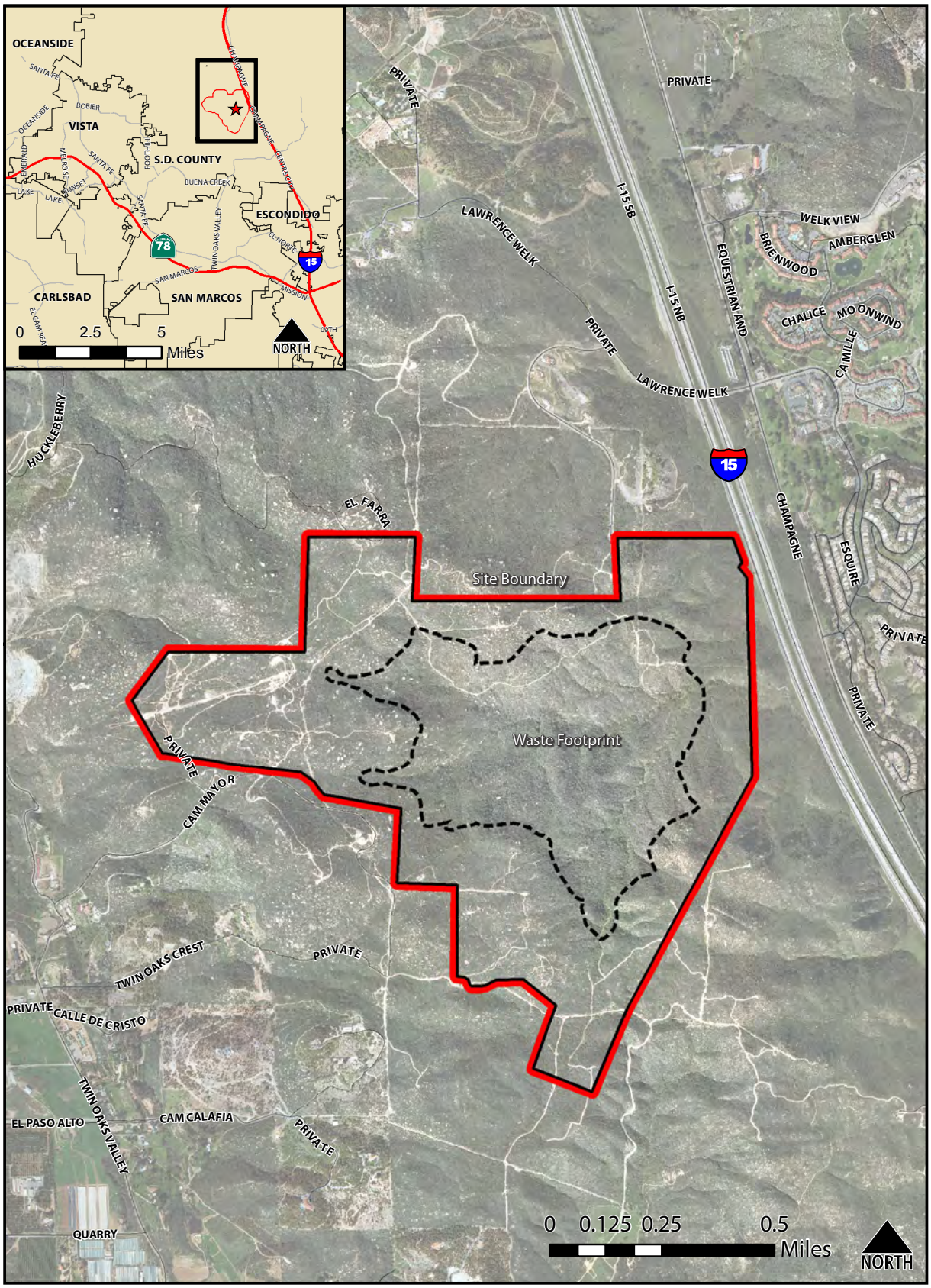


Figure 1: Vicinity Map and Site Boundaries

The analysis includes two estimates of an interim condition. The viewshed analysis provides two scenarios, one with the landfill form and four interim borrow/stockpile locations (based on estimated maximum height during activity) and one final landfill form without the borrow/stockpiles. Additionally, two of the simulation models shown later in this study display an estimated 50% full landfill form for comparison to the 100% landfill form.

2.2 Land Use Designations and Zoning

The visual character surrounding a site is primarily influenced by the adjacent land uses. Existing land uses establish the current visual environment, while planned land uses and zoning provide clues as to the nature of the future visual environment.

2.2.1 Existing Land Use

The Merriam Mountain alternative site is currently vacant/undeveloped land. Several paved and dirt roadways traverse the site, but otherwise, the site generally remains in its natural state.

Because of the site's location in the middle of the Merriam Mountain range, a significant amount of land surrounding the site is also vacant/undeveloped. According to San Diego Association of Governments (SANDAG) data from 2009, existing land uses that abut the mountain range include: rural residential, extractive, communications/utilities, freeway, mobile home park, golf course, resort, and orchard/vineyard.

2.2.2 Proposed Land Use

General plans provide a community a vision for growth for 20-30 years. These documents establish common goals and policies that guide the more specific development guidelines and regulations contained in documents like the zoning ordinance. San Diego County adopted an update of its General Plan in August 2011. The land uses proposed by the 2011 San Diego County General Plan for the vicinity of the site include:

- General Commercial
- Office Professional
- Public/Semi-Public Facilities
- Rural Commercial
- Rural Lands (RL-20)
- Rural Lands (RL-40)
- Semi-Rural Residential (SR-2)
- Specific Plan Area

Below is a brief discussion of the differences between the existing and proposed land uses near the alternative site. Please note, the General Plan designations are applied to areas larger than the existing land use designations mentioned in Section 2.2.1. As such, proposed land use categories that are in keeping with the character of exiting land use descriptions are not considered to represent a change of land use.

Differences in existing and proposed land uses include:

- The intersection of I-15 and Deer Springs Road/Mountain Meadow Road: vacant/undeveloped and rural residential land uses on the northwest, northeast, and south east corners of the intersection convert to office professional, neighborhood commercial, and general commercial.
- The Golden Door resort/spa, south of Deer Springs Road, west of I-15, expands to the south into existing vacant/undeveloped land.

2.2.3 Zoning

Zoning within San Diego County has various mechanisms for controlling land use and development standards. Zones are commonly named or referred to by their Use Designation (A70, RR, S88, etc.). The standards for land use within these designations are shared, while the standards for development depend on a number of different factors. Detailed discussion of the zoning regulations affecting the visual aspects of the Merriam Mountain alternative site is included in Section 2.3.2.3. Below is a discussion of significant differences between the existing zoning and proposed land use discussed in the previous section:

- Both the existing zoning and proposed land use indicate rural uses and rural residential uses on and immediately surrounding the site. Both sets of guidelines are also consistent in recognizing more intensive uses in the Lawrence Welk Village area, with rural and semi-rural residential intensities in the area of Hidden Meadows. Zoning is expected to be conformed to the 2011 General Plan land use designations in the coming years.

2.3 Regulatory Framework

The Merriam Mountain alternative is within the jurisdictional control of the County of San Diego. A variety of plans and policies were reviewed in order to determine conformance with visual goals and policies.

2.3.1 Visual Resource Guidance

The County of San Diego provides guidelines for determining significance in relation to visual resource impacts. The guidelines address impacts related to landform quality, visual quality, view quality, and community plans and policies.

2.3.2 General Plan

<u>Land Use Element</u>

Goal LU-2: Maintenance of the County's Rural Character

Policy LU 2.8: Mitigation of Development Impacts. Require measures that minimize significant impacts to surrounding areas from uses or operations that cause excessive noise, vibrations, dust, odor, aesthetic impairment and/or are detrimental to human health and safety.

Goal LU-12: Infrastructure and Services Supporting Development

Policy LU 12.4: Planning for Compatibility. Plan and site infrastructure for public utilities and public facilities in a manner compatible with community character, minimize visual and environmental impacts, and whenever feasible, locate any facilities and supporting infrastructure outside preserve areas.

<u>Conservation and Open Space Element</u>

Goal COS-11: Preservation of Scenic Resources

Policy COS 11.1: Protection of Scenic Resources. Require the protection of scenic highways, corridors, regionally significant scenic vistas, and natural features, including prominent ridgelines, dominant landforms, reservoirs, and scenic landscapes.

Interstate 15, between Escondido city limits and Riverside County line;

Policy COS 11.3: Development Siting and Design. Requirement development within visually sensitive areas to minimize visual impacts and to preserve unique or special visual features, particularly in rural areas, through the following:

- Creative site planning
- Integration of natural features into the project
- Appropriate scale, materials, and design to complement the surrounding natural landscape
- Minimal disturbance of topography
- Clustering of development so as to preserve a balance of open space vistas, natural features, and community character
- Creation of contiguous open space networks

Goal COS-12: Preservation of Ridgelines and Hillsides

Policy 12.1: Hillside and Ridgeline Development Density. Protect undeveloped ridgelines and steep hillsides by maintaining semi-rural or rural designations on these areas.

Policy 12.2: Development Location on Ridges. Require development to preserve the physical features by being located down and away from ridgelines so that structures are not silhouetted against the sky.

2.3.3 North County Metropolitan Subregional Plan

The North County Metropolitan Subregional Plan supplements all existing Elements of the San Diego County General Plan with specific emphasis on the planning needs of the North County Metropolitan Subregion. The Plan reflects, to the maximum possible extent, consistency with General Plans of each of the six incorporated cities located within the Subregion.

Goal 4: Protect Environmental Resources

Protect natural and economic resources by designating appropriate lands as rural, semi-rural, and environmentally constrained areas.

Policy 14: Designate Resource Conservation Areas

The Resource Conservation Area (RCA) designation is applied to protect sensitive biological, archaeological, aesthetic, mineral, and water resources. Projects requiring environmental analysis under CEQA that occur within RCAs should be carefully analyzed to assess their impact on the RCA.

The Merriam Mountains are designated as resource conservation area #23.

2.3.4 I-15 Corridor Subregional Plan

The I-15 Corridor Subregional Plan is intended to promote orderly development, protect environmental and man-made resources, and implement the County's objectives for growth management and the structure of government for the Subregion.

Scenic Preservation Guidelines

Site Planning Standards:

1. Individual projects shall reinforce the character of the sites, the attributes of adjacent projects, and preserve viewsheds, natural topographic features, and natural watercourses.

2. Individual projects shall relate on-site open space and pedestrian areas with those of other projects, both visually and in terms of providing for continuous paths of travel.

3. Building orientation shall take maximum advantage of existing views and create view corridors.

5. Ridgeline projects can be highly sensitive and are generally discouraged.

    a) Ridgeline projects shall maintain a low profile appearance and the natural physical character of the ridgeline shall be substantially maintained.

    b) Ridgeline projects shall be limited to one story.

    c) Ridgelines that have been graded or disturbed shall be supplemented with a sufficient amount of trees, shrubs, and ground cover to minimize visual impacts resulting from such disturbances.

Circulation Standards:

2. Project entries shall provide for safe and efficient circulation:

    a) Project entries and the transition from major circulation routes into the project interior shall be accomplished through the use of landforms, open space, landscape plantings, and architectural elements (i.e., wall, signs).

Landscape Design Standards:

7. Landscape materials that aid in preventing the rapid spread of brush fires shall be applied.

8. Earth berms shall be rounded and natural in character, and, where possible, designed to obscure undesirable views.

9. Major strands of native trees shall be preserved.

Development Standards for Steep Topography and Natural Features:

1. Extensive grading of slope areas within viewsheds will be minimized

    a) Revegetation and erosion control shall be provided in all newly graded areas.

2. Hillside development shall be integrated with existing topography and landforms. Areas of steep topography, tree stands, hillside agricultural activity, and rock outcroppings shall be respected and preserved.

3. Variety in the development of hillsides shall be encouraged through the use of appropriate site preparation techniques, grading techniques, and in the configuration, size, and placement of lots.

4. The arrangement of building sites to optimize and retain significant viewsheds shall be encouraged.

5. The protection and preservation of the public use of on-site vista points shall be encouraged.

6. The visual quality shall be maximized and the erosion potential shall be minimized by planting native and naturalized plants, especially in disturbed areas adjacent to upgraded hillsides and watercourses.

7. Natural watercourses shall be protected; and existing watershed and groundwater resources shall be conserved.

8. Any grading above 25 percent slope will blend with the surrounding area, and be landscaped appropriately to look natural.

2.3.5 Zoning Ordinance

Portions of the County Zoning Ordinance that may affect the assessment of visual impacts include:

Agricultural Use Regulations: Limited Agricultural Use Regulations (A70)

Building Type (C): Attached and Detached Non-Residential Structures Permitted
Max Height (G): 35 feet
Setback (W): Ranges from 25 feet to 60 feet
Special Regulations (-): N/A

Extractive Use Regulations (S82)

Building Type (A): No structures
Max Height (G): 35 feet
Setback (C): Ranges from 15 feet to 60 feet
Special Regulations (B): Community Design Review. Requires a site plan and associated documentation be prepared in accordance with community design guidelines as a part of the discretionary review process.

Special Purpose Regulations: General Rural Use Regulations (S92)

Building Type (C): Attached and Detached Non-Residential Structures Permitted

Max Height (G): 35 feet

Setback (C): Ranges from 15 feet to 60 feet

Special Regulations (B): Community Design Review. Requires a site plan and associated documentation be prepared in accordance with community design guidelines as a part of the discretionary review process.

2.3.6 Resource Protection Ordinance (2007)

In order to protect and preserve the unique topography, ecosystems, and natural characteristics of San Diego County, the Board of Supervisors created the Resource Protection Ordinance. This ordinance creates special controls on development impacting the County's wetlands, floodplains, steep slopes, sensitive biological habitats, and prehistoric and historic sites.

The County requires a Resource Protection Study be conducted as a part of certain discretionary permitting processes. If the Resource Protection Study identifies the presence of sensitive resources, one or more of the following actions may be required as a condition of approval:

- Apply open space easements to portions of the project site that contain sensitive lands;
- Rezone the entire project site through the application of a special area designator for sensitive lands; or
- Other actions as determined by the decision-making body.

2.3.7 County of San Diego Board of Supervisors Hillside Development Policy (I-73)

It is the policy of the County that the development of building sites in hillside areas be planned and constructed in such a manner as to preserve, enhance, or improve the physical features of the area consistent with providing building sites while at the same time optimizing the aesthetic quality of the final product. Physical site resources may include: existing natural terrain; established vegetation; visually significant geologic displays; and portions of a site that have significant on-site vista points.

3.0 Visual Environment

Understanding the existing visual environment of the alternative site and its surroundings is key in assessing changes produced by the alternative. The following sections discuss the setting of the alternative, describe existing landscape character units, and analyze site visibility from within the region.

3.1 Setting

The Merriam Mountain alternative site is located north of the City of Escondido along the Interstate 15 corridor in northern San Diego County. The context of the site is characterized by undeveloped hillsides and canyons, with other land uses/activities nearby including rural residential development, extractive uses, communications/utilities, the I-15 freeway, a mobile home park, golf courses, resorts/spas, and orchards/vineyards. The land is characterized by varied topography, with both minor and major riparian corridors surrounded by hills and mountains of all scales.

3.2 Landscape Units

In order to better understand the visual context of the area surrounding the Merriam Mountain Landfill Alternative, visual landscape units have been established and described. These landscape units possess consistent visual elements that produce a unique experience for the viewer. Landscape units can vary greatly in size, but even in very large landscape units, the visual environment should exhibit consistent visual character within its delineated boundaries. The following is a discussion of the landscape units in the vicinity of the site. Figure 2 shows the geographic limits of the landscape character units and is supplemented by photos of typical conditions within each unit.

Agriculture

North San Diego County has historically been a center of productive agricultural use. Orchards and vineyards populate much of the region, including valleys, plains, and hillsides. Common agricultural products include avocados, citrus, strawberries, mushrooms, nursery trees/plants, and sod. The region is also used to raise livestock such as horses and poultry. The character of the agricultural landscape unit is typified by the existence of crop/orchard rows, open fields, livestock pens, canals/water delivery systems, and accessory structures such as barns, storage shelters, and tanks/wells. While these elements vary in appearance, they maintain a cohesive identity through the scarcity of man-made structures and overall urbanization.

The agriculture landscape unit is only moderately sensitive to change based on the numerous uses generally associated with a rural/agrarian landscape. The landscape unit is compatible with most uses provided they do not introduce elements associated with a more urban environment such as closely spaced structures, widened roadways, increased number of roadways, parking areas, man-made lighting, and overall reduction of visual access to land. The majority of the agriculture landscape unit is located to the north and south of the site, west of Interstate 15.

Freeway

The freeway landscape unit refers to the I-15 corridor that transects the study area. The dominant element in the landscape unit is the concrete surface of the northbound and southbound lanes. With four lanes in each direction, the majority of the viewing corridor is dominated by the lightly colored, leveled roadway. Additional features are asphalt emergency parking shoulders, gravel shoulders, and intermittent utilities/infrastructure such as call boxes, street lighting, roadway signage, etc. The extent of I-15 included in this visual analysis does not include freeway landscaping beyond the native/invasive species that have spontaneously established themselves in the median and shoulder zones.

The freeway landscape unit itself is not sensitive to change. Freeways occur in every type of environment and the minimal aesthetic quality of the freeway allows for integration of almost any element. Although the I-15 corridor is designated as scenic corridor by the County of San Diego, the sensitive visual resources protected by the designation relate to the landscape units adjacent to the freeway, rather than the freeway itself. The freeway landscape unit borders the site on the east, and runs north/south through the study area.

Golf Course

The golf course landscape unit is characterized by the fairways, greens, water features, and man-made landscaping that constitutes the majority of the property. Golf courses are generally much more lush than the surrounding terrain, including non-native trees, expansive turf, and other plants that help define the course and either provide views to desirable off-site features or screen the course for privacy. Accessory structures include club houses, restrooms, gift shops, maintenance buildings, bridges, paved cart paths, and fencing.

Golf courses are also many times a central feature of a master-planned community, and can include associated residential development at varying densities, and thus, are classified as belonging to the appropriate residential development landscape unit rather than the golf course landscape unit. While the visual environment of the golf course landscape unit is carefully crafted and potentially sensitive to visual changes to its surroundings, the golf courses near the alternative are private land. As previously mentioned, private views are considered secondarily to public views.

For reference, the nearest golf courses to the site are the Lawrence Welk Resort Golf Course (open to the public), and the Castle Creek Golf Course (open to the public).

Quarry

The quarry landscape unit represents land that has been used for an extractive use, and in the context of this study, refers to open-pit style of extraction. Quarries are large-scale industrial operations that are distinguished by the significant amounts of rock face that they expose. Unweathered rock exhibits a much lighter color than the weathered/vegetated surfaces around it. The extraction process also introduces straight lines and right angles to slopes and hillsides that are normally curvilinear. Although not as visible as the quarry itself, extraction equipment such as cranes, vehicles, conveyors, storage facilities, etc. create a distinctly industrial character to the landscape unit.

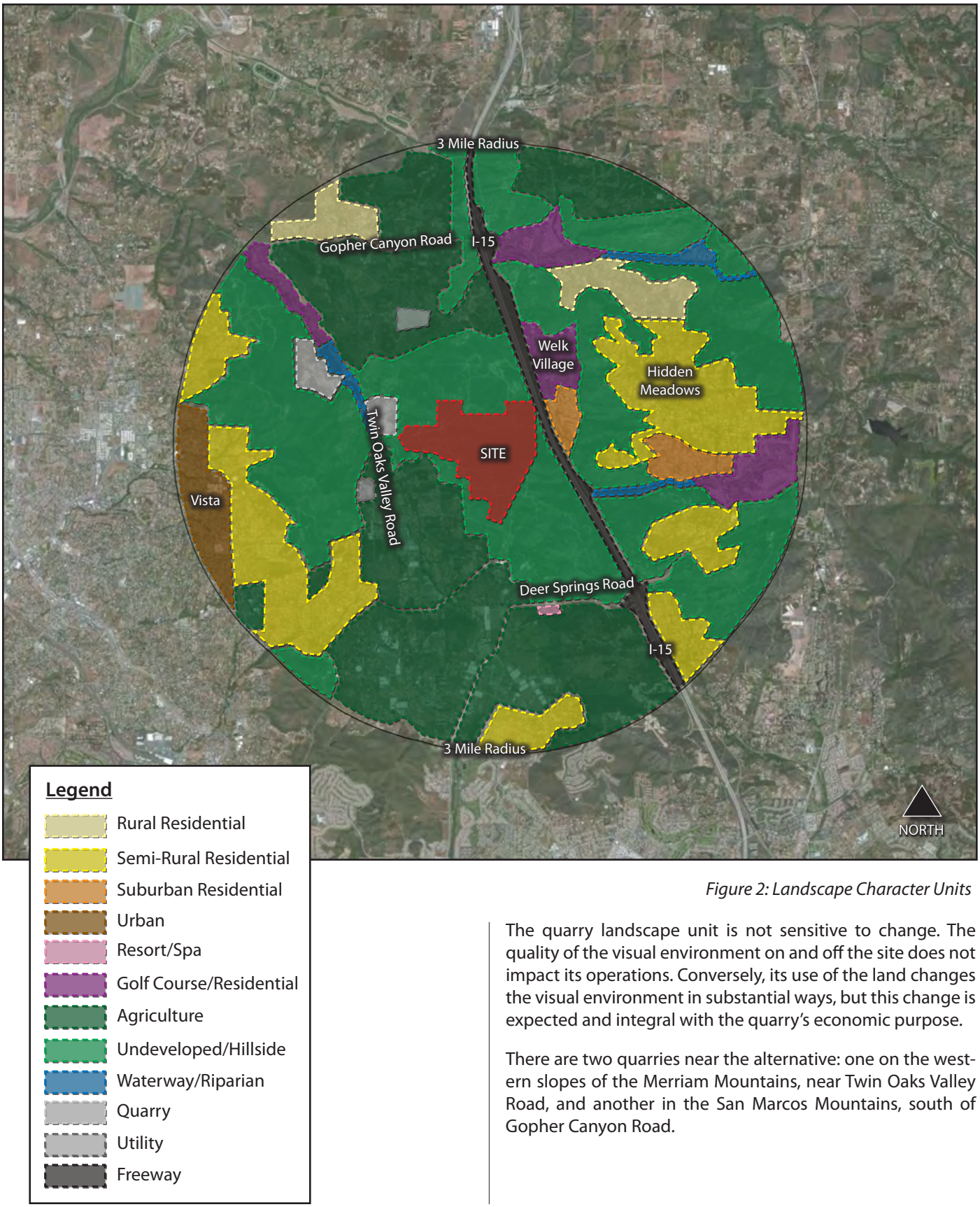


Figure 2: Landscape Character Units

The quarry landscape unit is not sensitive to change. The quality of the visual environment on and off the site does not impact its operations. Conversely, its use of the land changes the visual environment in substantial ways, but this change is expected and integral with the quarry's economic purpose.

There are two quarries near the alternative: one on the western slopes of the Merriam Mountains, near Twin Oaks Valley Road, and another in the San Marcos Mountains, south of Gopher Canyon Road.

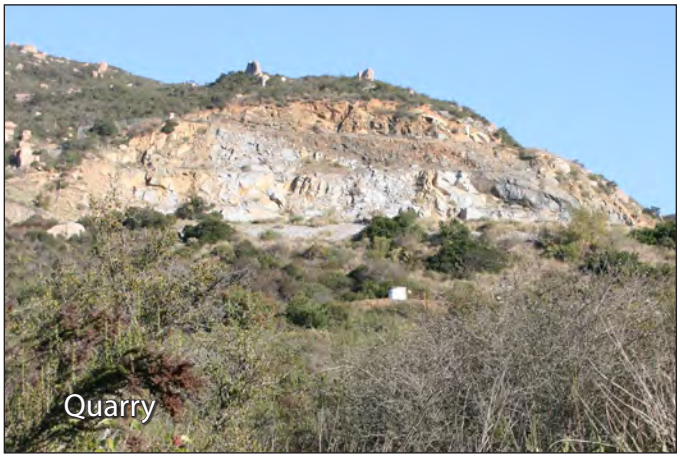
Agriculture

Agriculture

Agriculture

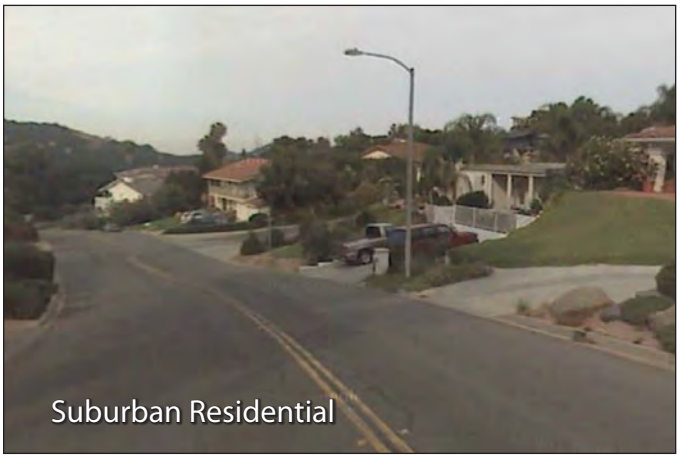
Freeway

Golf Course


Quarry

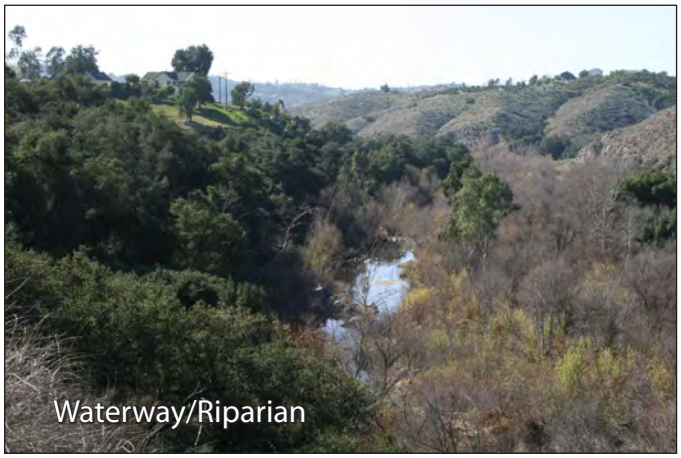
Rural Residential

Semi-Rural Residential


Suburban Residential

Utility

Undeveloped Hillside/Slope


Waterway/Riparian

Resort/Spa

The resort/spa landscape unit refers to small to medium scale master-planned development designed to provide a pastoral setting for relaxation and recreation. Elements utilized in creating this setting include man-made landscaping, thematically tied buildings/structures, balance of open space and built space, and situation within a low-density or remote context.

The resort/spa landscape unit is sensitive to change, although, like the golf course, it is privately owned and views from the property are therefore not public views.

The closest resort/spa to the alternative is the Golden Door Spa, located to the south of the site on Deer Springs Road. Access is restricted to the Golden Door Spa, so no photos of this landscape character unit could be taken.

Rural Residential

The rural residential landscape unit is characterized by large-lot, low-density residential development that exhibits the informal building style of the agricultural landscape unit, but not the dominance of agricultural uses. Rural residential development may have some limited agricultural production on-site, but is defined primarily by single family residences, large landscaped areas, and recreational amenities such as basketball courts, tennis courts, swimming pools, etc. While the development pattern of the rural residential landscape unit is low-density, the proliferation and density of landscaping can limit views and view corridors, creating a more enclosed viewing experience than in an agricultural setting.

The rural residential landscape unit is moderately sensitive to change. It is compatible with agricultural uses, but adversely affected by other non-residential uses and more densely developed residential uses.

The rural residential landscape unit represents a small fraction of the land near the site, being concentrated to the north of the Hidden Meadows area and to the north of Gopher Canyon Road.

Semi-Rural Residential

The semi-rural residential landscape unit represents a further urbanization of the rural residential landscape unit: lot sizes are not as large (although still large by urban standards), roads are wider, and agricultural use of property generally disappears. Public improvements such as curbs, sidewalks, and street lighting can occur. Semi-rural residential structures tend to be unique and can vary greatly in scale and building materials, negating a consistent character in terms of built form.

The semi-rural residential landscape unit is moderately sensitive to change. It is a transition zone between urban/suburban densities and more rural uses, but is potentially compatible with both. The greatest sensitivity is to non-residential uses and building types typical in commercial or industrial development.

Semi-rural residential landscape unit blocks are located to the west and south of the site.

Suburban Residential

The suburban residential landscape unit is typical of single-family residential development in many cities. Lot sizes are smaller than in rural and semi-rural residential areas and use of property for agriculture disappears entirely. Public improvements such as curbs, sidewalks, and street lighting are typical, and many times provide distinctive character elements. Suburban residential neighborhoods are usually developed as part of a single development, and thus, the homes exhibit many of the same characteristics. For the purposed of this report, mobile home developments are classified as the suburban residential landscape character unit.

The suburban residential landscape unit is moderately sensitive to change. It is a transition zone between urban densities and more rural uses, but shares more characteristics with an urban setting than rural. The greatest sensitivity is to non-residential uses and building types typical in commercial or industrial development.

Suburban residential landscape unit blocks are few in the study area, being located at the southern end of the Hidden Meadows area and the southern end of the Welk Village development.

Utility

The facilities and infrastructure associated with the utility landscape unit are industrial in nature. The utility campuses near the alternative are specifically water utility facilities. The sites are typically free of vegetation and feature large expanses on paved surfaces. There are facilities of varying sizes used for varying purposes, including holding tanks and basins.

The utility landscape unit is not sensitive to change. The quality of the visual environment on and off the site does not impact its operations. Conversely, its use of the land changes the visual environment in substantial ways, but this change is expected and integral with the quarry's economic purpose.

There are two utility landscape units near the alternative, both being to the west of the Merriam Mountains. One is located on Silverleaf Lane and the other is southeast of the site on Twin Oaks Valley Road.

Urban

The urban landscape unit is varied and contains many sub-units that have their own visual qualities, however, because the urban environment is near the periphery of the study area and has almost no visibility to the site (discussed in greater detail later), it is identified as one landscape unit. The urban landscape unit is primarily characterized by its density of development and dominance of man-made structures. Roadways can be multi-lane, and right-of-way improvements can include sidewalks, landscaping, transit shelters, etc. Walls typically denote the boundary between properties and structures, rather than vegetation, and prove the most frequent obstruction to views and viewing corridors. Public viewing locations, however, can be more numerous than in rural settings as the number of public roadways increases and public amenities such as trails and parks become more prevalent.

The urban environment is defined by a mix of land uses and building types, and as a whole, has a low sensitivity to change. The closest urban environment exists in the City of Vista, to the southwest of the site.

Undeveloped/Hillside

The undeveloped/hillside landscape character area refers to the natural, undisturbed slopes of the hills and mountains surrounding the alternative. The unique visual environment created by these hillsides comes from the oak/chaparral plant communities and distinctive rock outcroppings. The hills/mountains themselves serve as landmarks to the surrounding lowlands and canyons and create a dynamic visual backdrop.

The undeveloped hillside landscape unit is highly sensitive to change. Changes to the topography of the hillsides disrupt their natural geometry and, if located high on the slope, can be seen from great distances. Likewise, changes in the native vegetative cover can expose the light soil and/or rock below, creating an inconsistency in texture and color.

The alternative is surrounded by undeveloped hillsides to the north, west, and south. There are also multiple contiguous stretches of undeveloped hillsides to the east of I-15.

Waterway/Riparian

The waterway/riparian landscape character area refers to the corridors of canyon and valley floors which convey either constant or intermittent water. The two key elements that distinguish this character area are water and dense plant growth. The waterway/riparian area supports an entire community of plant species that cannot survive even a short distance from water. Characteristics species include sycamores, cottonwoods, alders, California blackberries, horsetails, and willows. The dense plant growth provides critical habitat to animal species as well, and the corridors are used for both permanent habitation and as migratory routes.

Waterway/riparian landscape units are highly sensitive to change. Many of the riparian corridors are narrow, and thus, any interruption of the plant cover disrupts the visual continuity of the corridor. The dominance of natural elements such as rocks, trees, leaves, and water contrasts with the typically more sparsely vegetated canyon slopes, and contrasts even further with man-made structures. No notable riparian areas exist within the site. Several exist within three miles of the site, to the east, northeast and northwest.

3.3 Viewshed

In establishing visual impacts of the alternative, the planning team conducted a viewshed analysis to determine which areas in the vicinity of the alternative would have a view of the site. Because the active use of a landfill is likely to last decades, the visual assessment also discusses areas with views of alternative elements in their interim stages.

3.3.1 Theoretical Viewshed Limits

A viewshed is defined as the geographical area within which at least some components or elements of the alternative are visible. The viewshed for the Merriam Mountain alternative was analyzed using aerial photographs, USGS topographic maps, and computer viewshed methodologies.

A theoretical model was developed utilizing Digital Elevation Models (DEM). These DEM files consist of x, y, and z data (north south, east west and elevational data) representing an area 10 meters by 10 meters per data point. This analysis is considered a theoretical limit since it only takes into account the position of the viewer, the location of the element being viewed, and the intervening topography. It does not analyze the effects of buildings, trees, and other structures that can severely limit the visibility of elements. It also does not take into account the effects of distance on the visibility of these elements. It does, however, represent the worst-case visibility of the alternative's elements. In reality, intervening uses, structures and plant materials, as well as distance, can affect the overall significance of visual impacts.

The viewshed was limited to a three-mile radius from the site and the computer model used a total of 100 observation points to determine the degree of visibility of the site. Observation points were arranged to reflect two scenarios: one where the landfill is under construction, including borrow/stockpiles areas and one where the landfill is completed and there are no remaining borrow/stockpiles. The borrow/stockpile locations are generalized for this analysis as specific locations and grading information were not available. Approximate maximum heights were provided by Geosyntec for each location.

Ancillary facilities (maintenance facilities, scales, basins, flares, etc.) were not modeled in either scenario because of their relatively minor scale in comparison to the landfill and borrow/stockpile elements (maximum of approximately 30 feet for ancillary facilities vs. hundreds of feet for the landfill and stockpiles).

3.3.2 Viewing Conditions

Viewing conditions can be determined by physical conditions including topography, temporary and permanent obstructions, lighting, and atmospheric conditions.

Lighting can have a significant effect on views. Clouds and fog can also change viewing conditions by increasing or decreasing contrast. Atmospheric conditions in San Diego County tend to be hazy a large percentage of the time. A combination of fog, mist, haze, and smog combine to decrease visibility. Often, details of visual features are not discernible when more than three miles away. Based on typical viewing conditions in this area, objects more than two miles away generally will not be considered visually prominent. If these objects are large enough to be visible, they would not be prominent, since the distance decreases scale and contrast that is normally perceived by changes in texture, color, and pattern.

3.3.3 Views of the Site

The viewshed analysis indicates that the Merriam Mountain alternative is highly visible from locations to the southeast, east, and northeast of the site, with all other areas having limited visibility of the alternative's features (see Figure 3). The urbanized areas of Vista and San Marcos, the Twin Oaks Valley Road area, and Gopher Canyon vicinity either have no visibility, or extremely limited visibility of the alternative, even at its finished elevation.

Of an estimated 18,400 dwelling units situated within the three mile radius of the site, approximately 1,999 fall within the viewshed of the completed landfill (see Figure 4 and Table 1). The large difference between these two numbers reflects the fact that the most densely populated areas within the three mile radius (mainly the City of Vista, to the southwest) are shielded from the proposed landfill by existing topography. A cursory analysis of the zoning that falls within the viewshed shows that the number of dwelling units allowed could almost triple (to 5,721) if maximum densities were allowed on a dwelling unit/acre basis.

The second viewshed analysis, including borrow/stockpile locations and elevations, reveals that visibility will increase from the southwest, west, and northwest (see Figure 5). The siting of the stockpiles at the upper portion of the site, along the ridgeline of the Merriam Mountains, opens up this large new area to views of the temporary features. With the exception of San Marcos to the south/southeast, most of the areas with views of the stockpiles are either undeveloped or minimally developed (primarily the San Marcos Mountains, but also the hilltops north of Gopher Canyon Road).

Although the viewshed analysis shows that large areas around the site of the alternative would have a view of the finished landfill, field investigation determined that many of these locations are private, including private roadways - some of which even restrict access by means of a gate. Additionally, many public viewing locations do not have views to the site as indicated on the viewshed analysis because of significant vegetation. These "real world" factors significantly reduce the public viewing locations that would be impacted by the alternative.

4.0 Existing Visual Resources and Viewer Response

When determining potential impacts to the visual environment, a common vocabulary must be established to describe the aspect of a setting that could be altered or impacted by the alternative. Likewise, characteristics of potential viewers must be discussed and defined. The following sections provide these distinctions.

4.1 Existing Visual Resources

Visual resources are defined by their character and their quality. The character describes the elements that make the resource unique in terms of appearance, while the quality refers to the public perception of the resource and their reaction to the resource.

4.1.1 Visual Character

The character of a visual resource can be further subdivided into pattern element and pattern character to better describe the distinctive features of a resource.

4.1.1.1 Pattern Elements

Visual character is generally defined by pattern elements such as form, spatial position relative to the viewer, line, color, texture, and detail.

The landforms of the area are large scale and dominant. The typical angle of slope is between 15 and 20 degrees with slopes ranging from 10-35%. The bottom of slopes are generally concave and gentle and convex toward the top. A strong contrast between these slopes and the ground plane exists. The abrupt change in slope at the floodplain level is very apparent. The ridgelines of the Merriam Mountains and San Marcos Mountains provide the distinguishing background for views in the area.

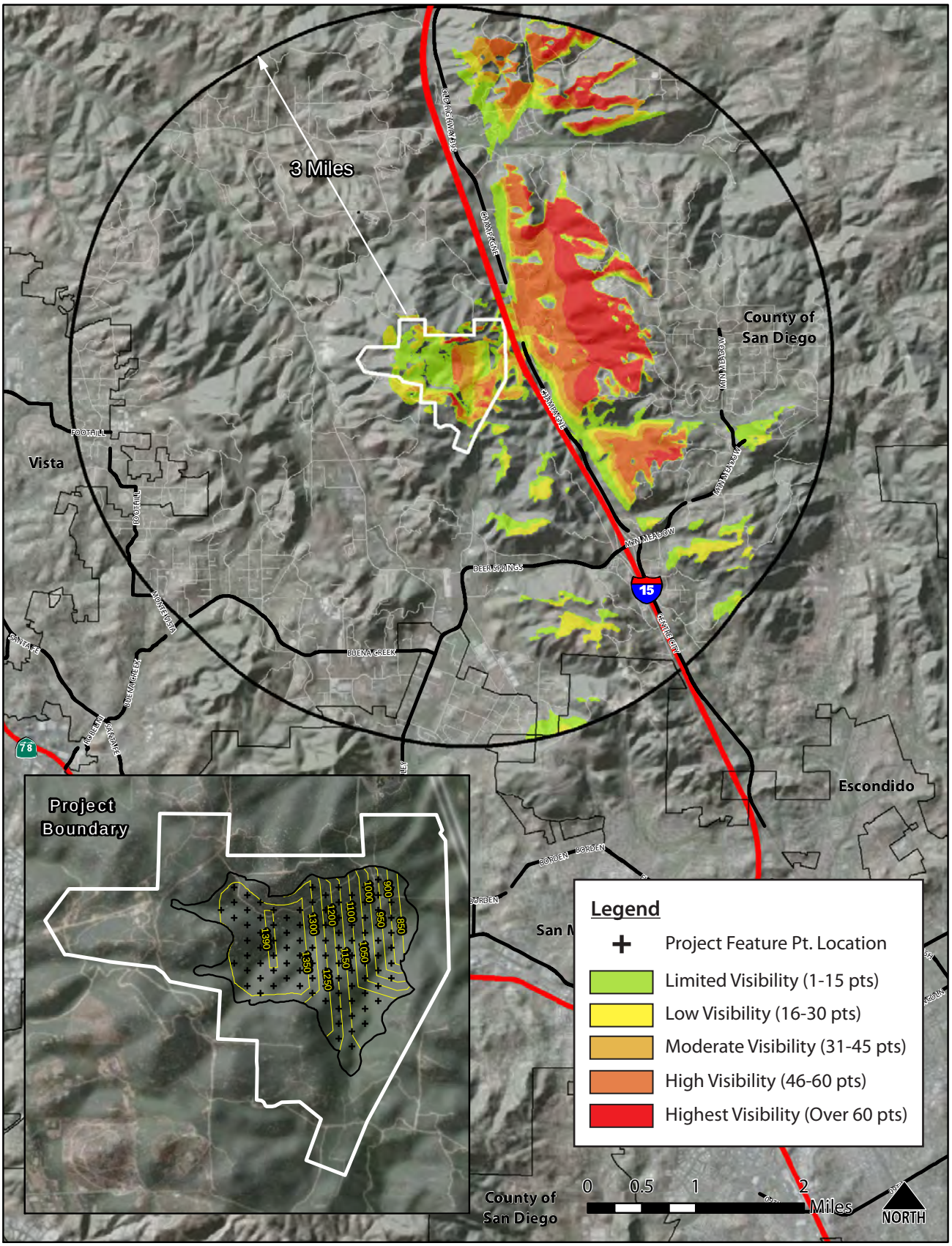


Figure 3: Viewshed of Final Landfill Form

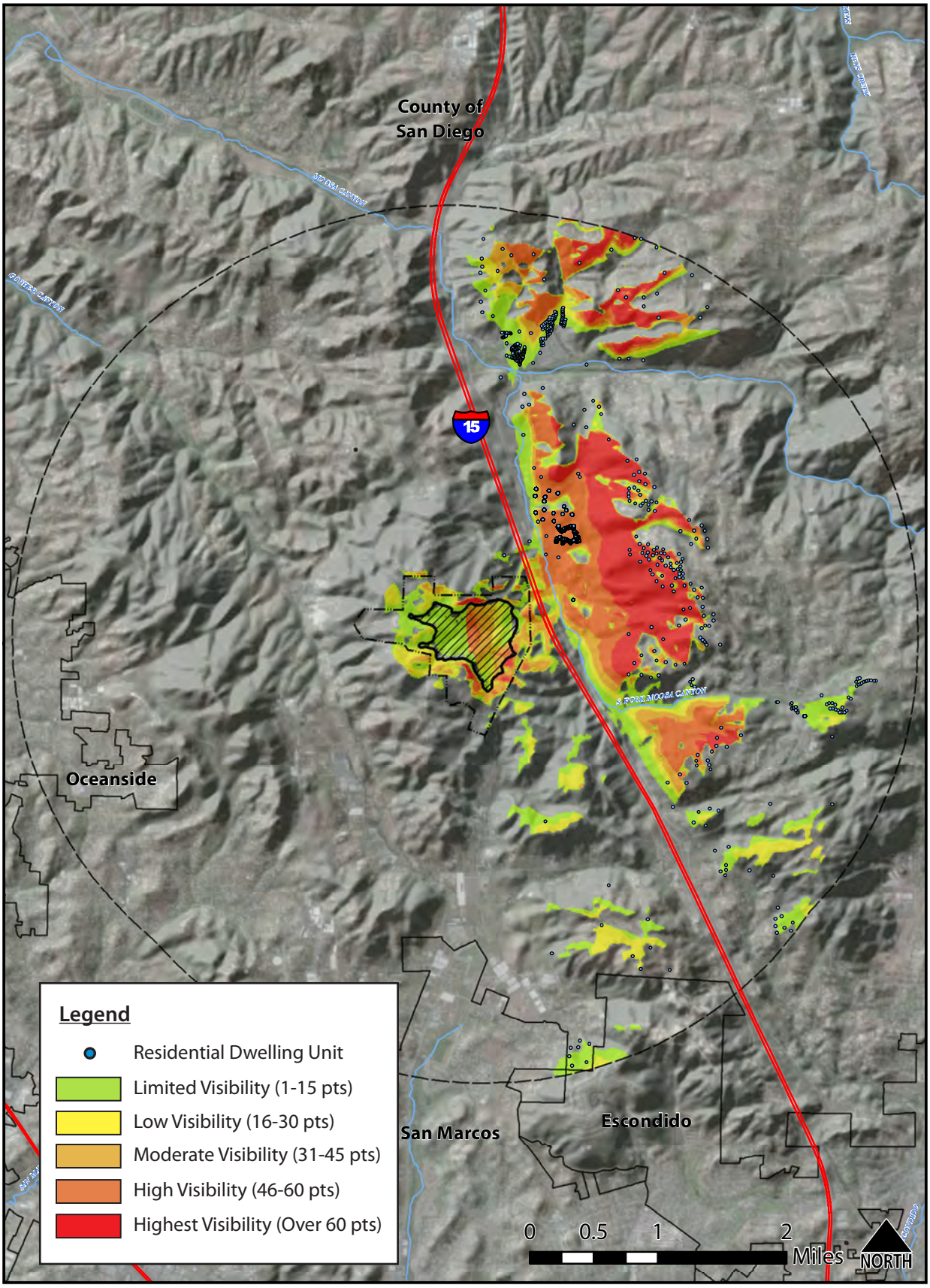


Figure 4: Viewshed with Dwelling Units

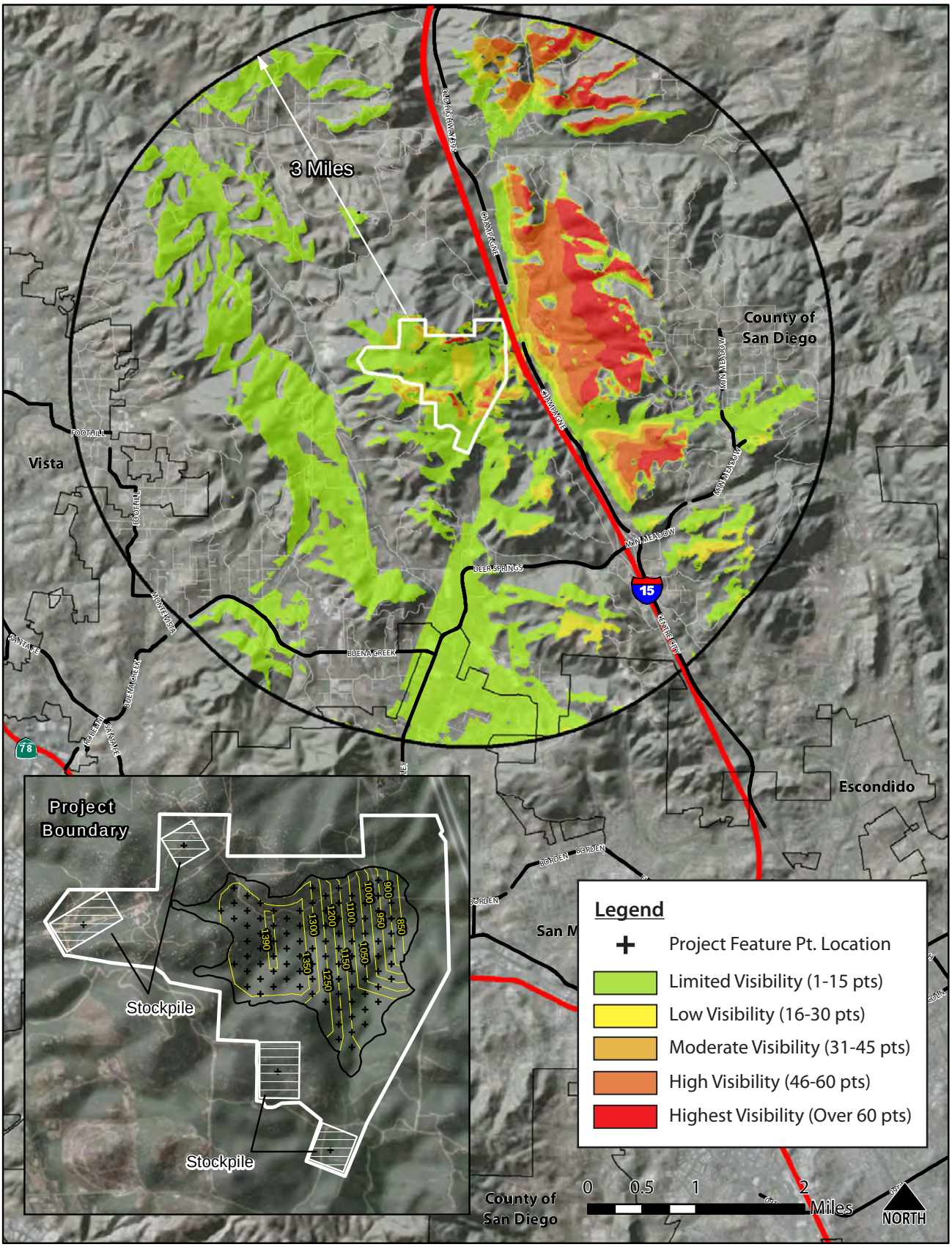


Figure 5: Viewshed of Landfill with Stockpiles

Zoning	Acres In Viewshed	Existing Dwelling Units*	Density Allowed in Zone (DU/ Acre)**	Dwelling Units Allowed in Zone***	Potential Additional Houses
A70 - Limited Agricultural	1,378	148	0.125 - 1	1,378	1,230
C36 - General Commercial Use	26	146	40	1,057	911
C42 - Visitor Serving Commercial Use	18	33	-	33	-
RMH - Mobile Home Residential	24	548	-	548	-
RR - Rural Residential	67	15	0.25-0.5	34	19
RS - Single Family Residential Use	129	510	4.35-6.5	836	326
RV - Variable Family Residential	96	194	5-6	577	383
S80 - Open Space Use	127	26	0.125	16	0
S82 - Extractive Use	15	12	0.25	4	0
S87 - Limited Control Use	27	1	0.4	11	10
S88 - Specific Planning Area Use	372	366	0.5-3.3	1,227	861
S90 - Holding Area Use	202	0	-	-	-
S92 - General Rural Use	545	0	-	-	-
TOTAL	**3,026**	**1,999**		**5,721**	**3,689**

* Dwelling unit numbers reflect SANDAG data from 2009. Dwelling unit quantities for C36 and S88 are taken from Lawrence Welk Resort timeshare unit information.

** Densities can vary within each zoning use category.

*** Assumes maximum density.

Table 1: Viewshed Acreage and Residential Viewer Projection

The spatial position of the site relative to viewers varies, depending on viewing location. Viewers are most likely one of two groups: either those in the valley on the freeway or at the Lawrence Welk resort, or those on the mesa to the east of the site. For those in the valley, the site sits in the upper portion of the viewing scene, although interceding ridges block all or parts of the landfill mass. For those on the mesa, the site is at eye level or below.

Line characteristics are not readily apparent in the undisturbed areas, with the exception of ridgelines. I-15 represents a significant visual and physical division in the landscape, as well as the edges between development and hillside foothills/ridges.

There is no dominant color pattern to the visual context of the site. Although large areas are relatively undisturbed and exhibit the typical native chaparral, sage cover, and rock outcroppings, other areas introduce the myriad colors associated with man-made structures and agricultural development. Likewise, texture and detail vary depending on viewing location.

4.1.1.2 Pattern Character

Pattern character can be described in terms of harmony, variety, contrast, and scale. The natural elements of the hillsides and the valleys can be considered harmonious. Likewise, the agricultural uses of pastures, orchards, and row crops are also harmonious with each other and the native landscape. Non-harmonious elements include the quarries, roadways, and development at suburban and urban densities.

Variety and contrast exist within the context of the alternative site. To a certain extent, the existing residential and commercial development surrounding the site balances the forms of man-made and natural elements, creating a complimentary mix of both forms. For instance, Lawrence Welk Village focuses development on the valley floor rather than encroaching on the surrounding hillsides, and the low-density residential development on the top of the mesa blends the existing topography with man-made structures. Some exceptions include roadway cuts on the slopes east of Lawrence Welk Village, where man-made lines contrast with those of the existing hillside.

The context of the alternative site is memorable, due to the distinctive canyons and ridgelines of the Merriam Mountains and hillsides to the east of I-15. The change in vertical elevation from valley floor to the ridgelines, combined with their undeveloped nature, greatly contribute to the experience.

The scale of the area varies from the sprawling landforms of the Merriam Mountains to the narrow, linear riparian corridors in the valleys. Man-made/cultural elements also vary in scale, from the small-lot mobile home development south of Lawrence Welk Village, to the large scale mining operations to the west of the Merriam Mountains. The I-15 freeway corridor, while narrow, is regional in scale in terms of its connectivity and views.

4.1.2 Visual Quality

The visual quality of the area is described in terms of its vividness, intactness, and scarcity of the specific visual elements.

The planning team evaluated each landscape unit in terms of its physical and perceptual quality, individually assessing elements such as landform, vegetation, water, harmony, vividness, and scarcity (see Appendix A for evaluation forms). Figure 6 shows the results of this evaluation in terms of high, moderate, and low visual character of each landscape unit. The point totals for each landscape unit in terms of physical and perceptual quality are provided in Table 2.

The areas with the highest visual quality are scattered throughout the study area. The landscape character unit representing the largest area of high visual quality is the undeveloped hillside character unit. This unit also surrounds the alternative on the north, south, and west. The freeway adjacent to the eastern site boundary has a low visual quality. Across the freeway from the site is the Welk Village, which exhibits a high visual quality stemming from its master-planned planning and design aesthetic, while the mobile home park to the south of Welk Village has a moderate visual quality.

The many residential and agricultural areas further away from the alternative site have a moderate visual quality. These areas have desirable/unique characteristics, but their visual quality is tempered by disorganization and/or a variety of forms within the character unit. The low visual quality areas are the landscape units of quarry, utility, and urban. The quarry and utility landscapes are rated as having low visual quality because of the chaotic appearance they present and the disruption they cause to other landscapes nearby. The urban landscape unit is rated as low because of its disruption on the nearby rural and undeveloped landscape units and its lack of a single, cohesive identity, form, or character.

4.2 Viewer Response Assessment

The response of viewers to a change in the viewing scene can be estimated by analyzing elements such as viewing distances, viewer sensitivity, and viewing duration. Table 3 displays theses elements as they relate to the various viewer groups present near the site.

The viewer groups with the highest sensitivity to change are timeshare owners/visitors to the Lawrence Welk Village, residents of the mobile home park, and residents living on the mesa east of the site. Residents are most sensitive because of the length of the duration of their exposure, the close proximity to the site (for some residents), their significant investment in property, and the value they place on the visual setting. Likewise, timeshare owners and golf course patrons invest money in their timeshares/greens fees to have an enjoyable recreational experience, which is influenced by not only the resort amenities, but also the surrounding terrain. All of these viewers, however, are viewing from private viewing locations.

The closest public viewing location, however, is from the freeway to the east of the site. While views to the site from the freeway are limited, and the viewing duration is short, some drivers have a high sensitivity to changes in the character of the corridor based on the scenic designation applied by the county. The quantities of drivers/viewers in this corridor is substantially higher than at other viewing locations. According to California Department of Transportation (CALTRANS) data for 2010, 120,000 average daily trips occur northbound and another 119,000 occur southbound. Though the viewing duration is less than 5-10 seconds at normal freeway speeds, the total viewing duration is 5 seconds times 240,000. Other surface roadways provide glimpses of the site, but are traveled by a much lower number of drivers.

5.0 Visual Impact Assessment

The visual impacts of the alternative are determined by assessing changes to existing visual resources by the alternative and predicting viewer response to any visual losses or contrasts. Visual resource change can result from the loss of visual resources which contribute to the visual character of the area and/or the introduction of visually prominent elements that contrast negatively with the visual quality/character of the area. These impacts can be to landform, the visual quality or the visual character of the site.

The viewer response to changes in the visual environment created by the alternative is determined by viewer exposure and viewer sensitivity. The resulting level of visual impact is determined by combining the severity of resource change with the degree to which people are likely to oppose or be disturbed by the change, weighted by the quantity and viewing duration of the changes.

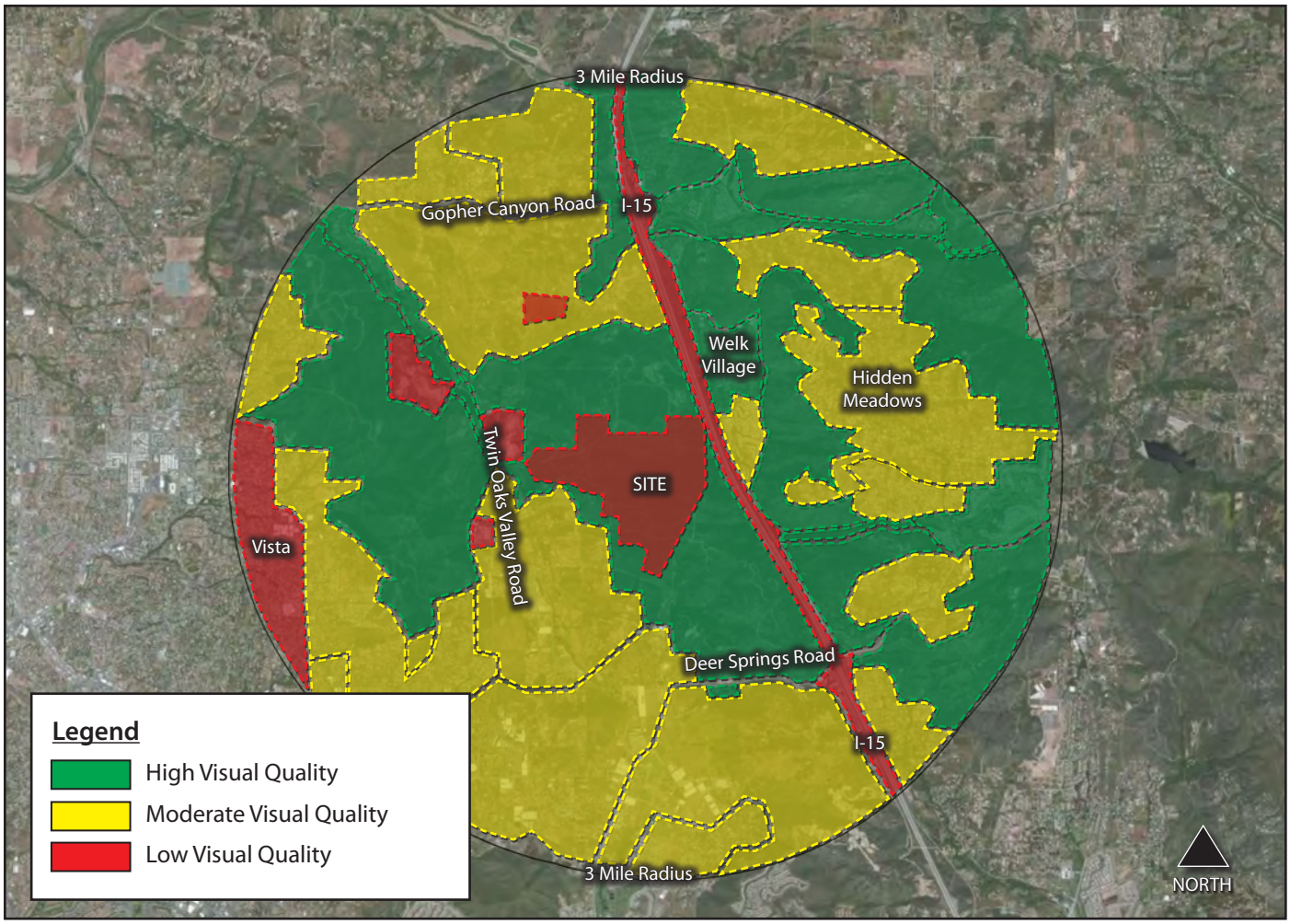


Figure 6: Landscape Character Unit Visual Quality

Unit Name	Physical	Perceptual	Total	Quality Category
Agriculture	11	2	13	Moderate
Freeway	4	3	7	Low
Golf Course	19	8	27	High
Quarry	6	-5	1	Low
Resort/Spa	15	8	23	High
Rural Residential	11	3	14	Moderate
Semi-Rural Residential	11	3	14	Moderate
Suburban Residential	11	5	16	Moderate
Undeveloped Hillside	11	12	23	High
Utility	5	-3	2	Low
Urban	11	-3	8	Low
Waterway/Riparian	18	10	28	High

Table 2: Visual Quality Inventory Evaluation Summary

Viewer Group	Viewer Quantity	View Distance	View Duration	Viewer Sensitivity	Note
Golf Course Patrons	Low	Foreground (for Vista Valley Country Club)	3 - 5 hours	High	Welk Golf Resort patrons view the landfill from a private viewing location.
Residents	Moderate	Foreground to background	12 -14 hours daily	High	Residents are highly sensitive to change based on their investment in their homes. Views from their homes are private views, although they would also frequently travel public roadways in the vicinity (and within the viewshed) of the project.
Timeshare Owners	Moderate	Middle ground	12 -14 hours daily	High	Timeshare owners have a similar sensitivity to residents, because of their financial investment in a property and the long exposure while utilizing a property. This is somewhat lessened, though by the lower financial investment and infrequent use of the property.
Agricultural Workers	Low	Middle ground to background	Up to 9 hours daily	Low	Workers may have intermittent views to the site while working and traveling to/from their place of employment, although their stake in the visual quality of the surrounding properties is limited.
Quarry Workers	Low	Foreground	Up to 9 hours daily	Low	While workers have a limited stake in the visual environment near where they work, the chaotic and industrial nature of their worksite would lessen their sensitivity to changes in the surrounding environment even more.
Water District Workers	Low	Background	Up to 9 hours daily	Low	Workers may have intermittent views to the site while working and traveling to/from their place of employment, although their stake in the visual quality of the surrounding properties is limited.
Freeway Drivers	High	Foreground to Middle ground	30 seconds or less	Moderate	Freeway drivers have varying levels of interest in the surrounding visual environment, but a higher number of drivers on this portion of freeway might choose this road to enjoy the surrounding visual resources.
Roadway Drivers	Moderate	Middle ground to background	Intermittent; 30 second intervals	Moderate	Regional residents and visitors to the area likely constitute the majority of the roadway drivers in the area. These viewers would appreciate the context of the project for its rural/agrarian aesthetic, but would have limited investment otherwise. View durations would also be brief given the varied topography and dense vegetation in the area.

Table 3: Viewer Group Response Analysis

Later sections of the report include realistic computer simulations of the alternative, along with simplified photographic integration of computer models placed over top of existing visual resources shown in the photographs.

The following sections detail the terminology used to analyze these simulations, as well as the process followed to select the simulated key views from numerous candidate key view photos/locations.

5.1 Definitions of Visual Impact Levels

The following definitions will be used in subsequent sections of the document.

No Impact

Changes in the visual environment as a result of the proposed alternative create no impact on existing visual resources. NOTE: If improvements in the visual environment occur as a result of the alternative, the impact would also be classified as "no impact."

Less than significant impact

Impacts of a degree below that of significance can result when the changes to existing visual resources are not be perceived negatively by viewers, the contrast with existing resources is too small, or the contrast occurs in an area with low visual quality/low sensitivity to visual changes. NEPA requires mitigation for all levels of adversity, even those considered to be below a level of significance.

Significant Impact

Changes in the visual environment produce a significant impact when they introduce a moderate or high level of contrast to the visual resource, resulting in a viewer response that is moderately or highly negative. Mitigation will be required to reduce the impact to a less-than-significant level.

5.2 Guidelines for Determining Significance

The visual impact assessment of the Merriam Mountain alternative is based on impact to the following visual elements: visual quality, landform quality, view quality, and community plans and policies. These significance criteria are set under guidance provided by the United States Army Corps of Engineers (USACE) as approved in the Gregory Canyon Landfill Study Plan.

An alternative will be considered to have a significant effect if it proposes any of the changes listed below. Conversely, if an alternative does not propose any of the following, it will not be considered to have a significant effect on visual resources.

Impact to Landform Quality

1. The alternative would result in a permanent adverse change in the natural landform character of a scenic area. This change must not only be noticeable to a moderate to large number of viewers, but the contrast must dominate other adjacent landforms.

Impacts to Visual Quality

2. The alternative would clearly contrast with the existing visual resources of a moderate or high quality landscape assessment unit. This contrast must be clearly visible to a moderate to large number of viewers and the contrast must dominate the visual scene to the point where the character and quality of the visual resources, or the scene as a whole, are permanently and significantly degraded.

Impacts on View Quality

3. The alternative would block a substantial percentage of an existing view corridor of a regionally or subregionally important view scene, or prevent the physical or visual access to a viewing point from which the viewing scene can be seen. An adverse effect would also occur if an alternative highly contrasts and dominates the viewing scene to the point where the view scene quality is substantially degraded.

Impacts to Community Plans and Policies

4. The alternative would prevent the attainment of a design or other aesthetic goal that is part of an adopted community plan or other County approved document. This visual character type is determined by line, form, color, contrast, texture, cultural features, scale and other elements that contribute to the character of the neighborhood and that are identified as important to the community.

In order to assess these impacts thoroughly and provide a basis of comparison with the Gregory Canyon visual impact analysis, this study utilizes the following questions to establish significance at each of the key view viewing locations:

1. Is the view available to 1,000 or more viewers per day?
2. Would the alternative result in an adverse change to the natural landform?

3. Would the alternative clearly contrast with existing moderate or high quality landscape units that make up the visual quality of the area?

4. Will the alternative result in the loss of physical visual resources?

5. Will the alternative block and existing view corridor, change a regionally important view scene, or cause the removal of access to viewing locations for the general public that would affect the overall view quality of the area?

6. Will the alternative prevent the attainment of adopted design, planning, or aesthetic goals found in adopted policies that protect neighborhood/community character?

These questions attempt to quantify a number of viewers above which would represent a "moderate" quantity of viewers (potentially resulting in a cumulative impact), as well as provide more specificity to the ways impacts could affect landform quality, view quality, visual quality, and community plans and policies.

5.3 Key Views

Because it is not feasible to analyze all the possible views in which the landfill alternative would be seen, it is necessary to select a number of key view points that most clearly display the visual effects of the alternative.

Figure 7 shows key views that represent typical views and viewing angles as seen by the different viewer groups. These are referred to as "Candidate Key Views." Each of the candidate key views on the following page includes an overlay of the landfill massing. These are not intended to be full simulations, just graphics that help to portray the general location, scale, and extent of the proposed improvements. Please note that the simulated massing of the landfill includes a solid yellow tone for visible portions of the landfill and a semi-transparent yellow tone for portions of the landfill behind foreground objects. Table 4 summarizes each of these key views. The following pages include all of the key view photos that represent the full range of views of the site. Four of these key views have been refined into full simulations with suggested mitigations.

5.4 Visual Simulation Review

Figures 8 through 11 represent photo realistic computer simulations of the landfill alternative. They were developed through the use of a three-dimensional computer model of the landform with the landfill topographical contours. This model was then transposed over top of a photo image of the site. Additional texture, color, details and shadowing were added to increase the realistic look of the simulation. Foreground elements are added that would normally block out parts of the background view.

The simulations reveal that the visibility and impact of the alternative depends greatly on the location of the viewer. While the landfill alternative is large in scale, the nondescript form and distance from many public viewing locations help to de-emphasize the landfill's presence. In an unmitigated state, however, the contrasts in color make the landfill much more noticeable. Visibility from close to the site also varies greatly; some ridgelines obscure the landfill form, while others open to reveal much of the landfill mass.

Figure 8 shows the potential impacts to the viewing scene as seen from the northbound lanes of I-15. The primary impression is of the landfill's massive scale, and when compared to the existing condition, the loss of the viewing corridor provided by the existing canyon to the upper reaches of the ridgeline. The effect of filling the canyon is two fold. It results in the loss of views to the ridgeline of the Merriam Mountains as well as the loss of a portion of the sky, which interfaces with the mountain ridgeline.

The slope/face of the landfill mass, even with revegetation, would contrast with the native undeveloped slopes and disrupt and segment the intact nature of the mountain range that currently exists. This key view represents the view for freeway drivers, which would be numerous, but similar views would be possible to residents of the mobile home park to the east of the freeway.

Figure 8 also provides a simulation of the landfill at an estimated 50% volume, assuming the landfill mass is constructed starting at the low elevations and expanded to the higher elevations. Other approaches could be utilized, but this is one feasible approach that this analysis has assumed. Further, 50% volume does not equate to 50% finished height, as excavation would have occurred and a larger portion of the volume of the landfill mass could exist at the lower elevations. The result of the simulation shows that even at a 50% volume, the character of the landfill from the northbound lanes of I-15 is very similar to the 100% volume. This is partly due to the slope of the face of the landfill, which is sloping away from the viewer. Each increment of height produces less of an impact from this viewing location, thus, the lower elevations contribute most significantly to the impact.

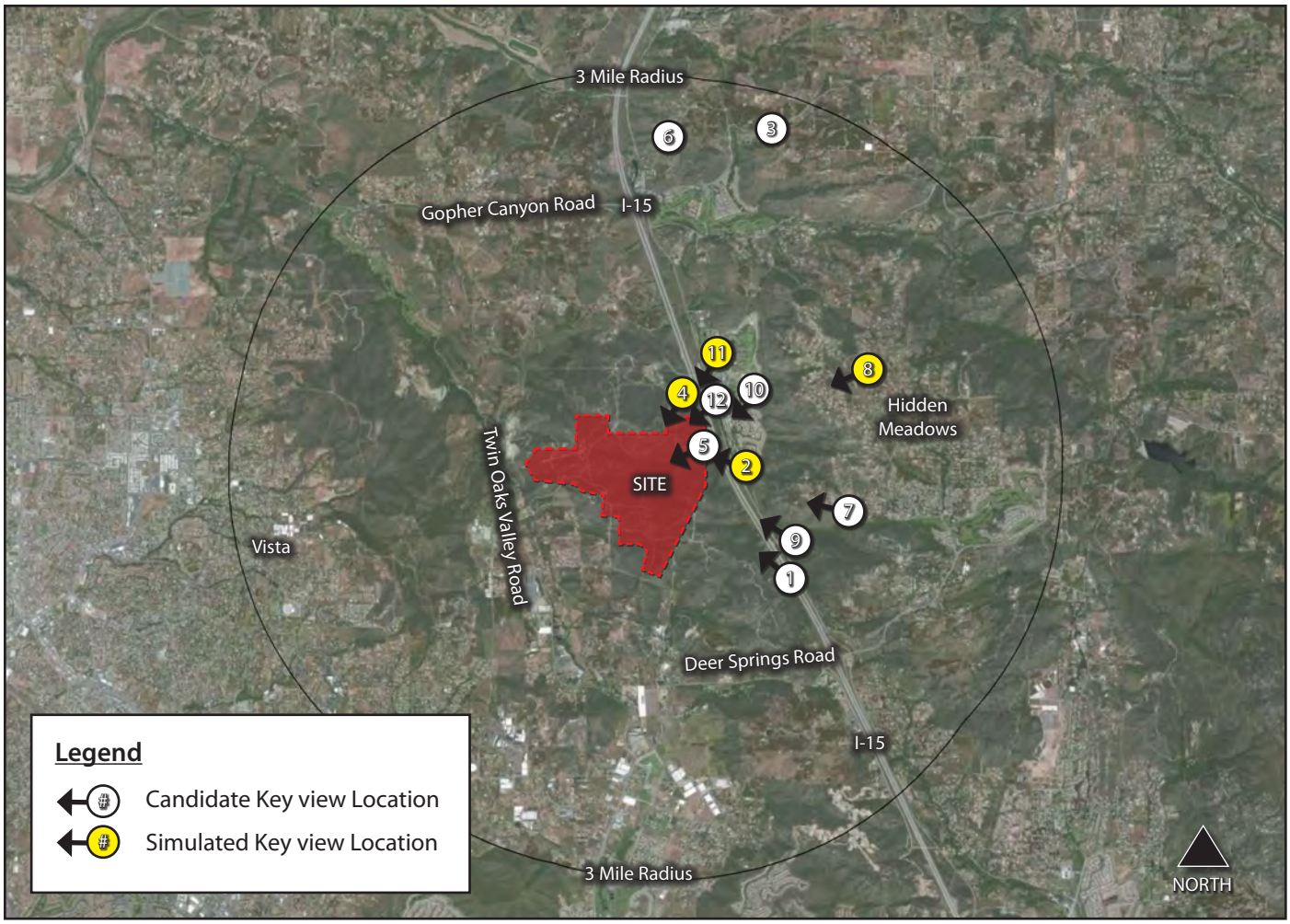


Figure 7: Key view Photo Locations

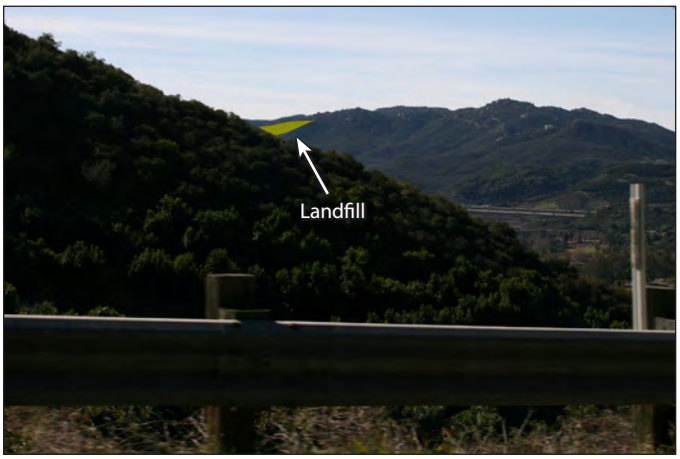
Figure 9 shows the potential impact to views from the southbound lanes of I-15. While the immense scale of the landfill is still apparent, the angle of the fill combined with the viewing angle allows for views to the tops of some of the existing peaks, as well as preservation of most of the views to the sky. This simulation also shows that more of the existing landscape remains as a foreground setting, relegating the landfill mass to the middle ground where it is less dominant. Please note that the simulation does not include ancillary facilities. It is possible that ancillary facilities would be located in the area shown in the foreground of this simulation. These facilities would present their own, unique, impacts to the viewing scene as well as draw attention to the landfill behind.

Figure 10 represents the view from a public roadway on top of the ridge to the east of the landfill, approximately 1.5 miles away from the site. The upper portions of the landfill are in plain view. This view is in contrast to the views from below since the level top elevation stands out as a contrasting form to the adjacent rounded hillsides. Also, the active bench faces and daily trash handling areas will be seen from this viewpoint. As with Figure 8, the broad face of the landfill, along with its differentiated slope, color, and texture, would disrupt the existing integrity character, and continuity of the mountain range. Because the landfill is below this vantage point, the ridgeline of the mountains is at least preserved. Viewers likely to see the landfill from this location are almost entirely local area drivers and residents.

Figure 10 also provides a simulation of the landfill at an estimated 50% volume. The result of the simulation shows that the visual impact is caused by a combination of the landfill mass and the potential excavation of the hillsides around the landfill. From this viewing location, however, the disruption to the viewing scene at 50% volume is much less noticeable than when the landfill is complete.

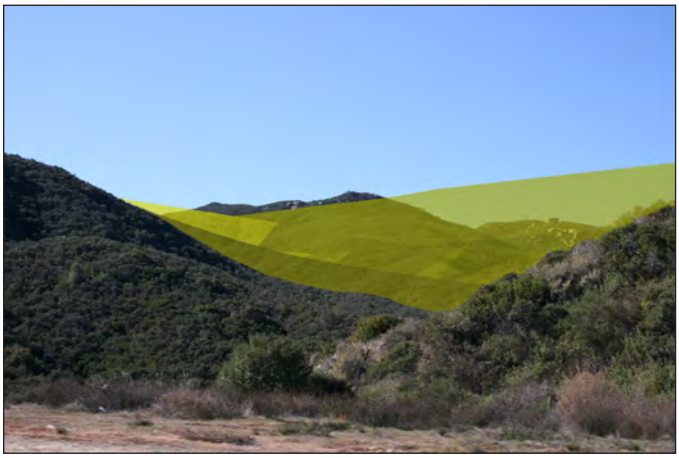
Candidate Key view 1
Looking northwest from I-15 (hidden by existing terrain)

Candidate Key view 2
Looking west from I-15



Candidate Key view 3
Looking south from Circle R Drive

Candidate Key view 4
Looking west from I-15



Candidate Key view 5
Looking west from I-15

Candidate Key view 6 (Private)
Looking south from Camino de las Lomas

Candidate Key view 7
Looking west from Indian Creek Way

Candidate Key view 8
Looking west/southwest from Meadow Mesa Drive

Candidate Key view 9
Looking northwest from Champagne Boulevard

Candidate Key view 10
Looking southwest from Lawrence Welk Drive

Candidate Key view 11
Looking southwest Lawrence Welk Drive

Candidate Key view 12
Looking west from Champagne Boulevard

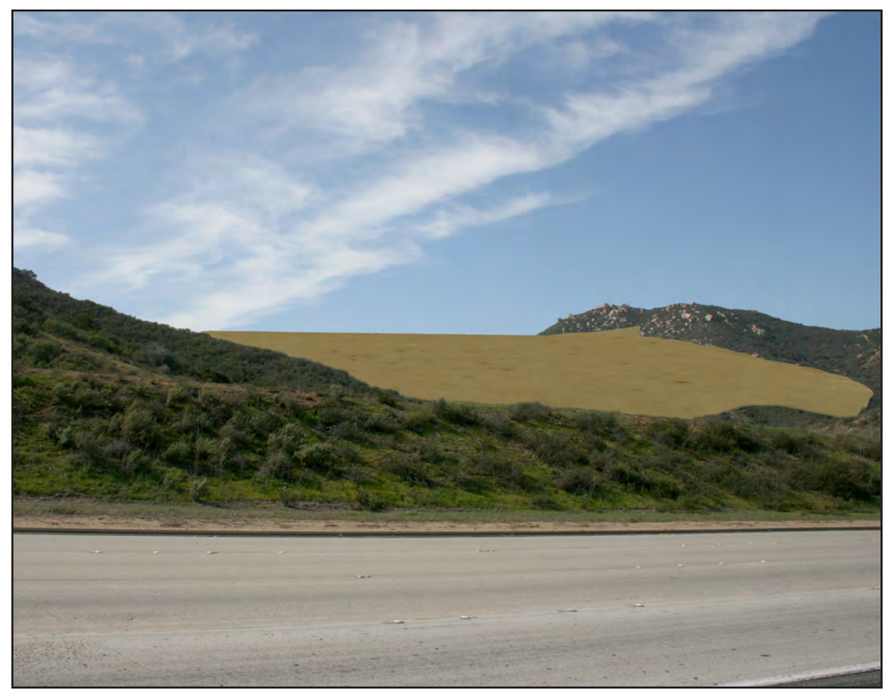
Candidate Key view Number	Character Unit Taken From	Dominant Viewer Group	Quantity of Viewers	View Duration	Distance from Viewer to Site	Notes	Recommended for Simulation
1	I-15 Freeway (northbound)	Freeway Drivers	High	Short	Middle ground	Southern slopes of project site may block view of landfill slopes	No
2	I-15 Freeway (northbound)	Freeway Drivers	HIgh	Short	Middle ground	Grade change between northbound and south-bound lanes creates a visual obstruction to project site	Yes
3	Circle R Drive	Local drivers, Residents	Low	Short	Background	Interceding slopes may block view of landfill slopes	No
4	I- 15 Freeway (southbound)	Freeway Drivers	High	Short	Foreground/ Middle ground	Provides most direct view of project site, although viewing duration is short	Yes
5	I -15 Freeway (southbound)	Freeway Drivers	High	Short	Foreground/ Middle ground	Provides most direct view of project site, although viewing duration is short	No
6	Camino de las Lomas (Semi-Rural Residential)	Local drivers, Residents	Low	Moderate	Background	Viewing corridor to project site appears to be mostly unobstructed, representa-tive of regional views	No
7	Indian Creek Way (Semi-Rural Residential)	Local drivers, Residents	Low	Moderate	Background	Interceding slopes may block view of landfill slopes	No
8	Meadow Mesa Drive (Semi-Rural Residential)	Local drivers, Residents	Low	Moderate	Background	Key view represents "worst-case scenario" impacts from public roadway location on mesa east of project site	Yes
9	Champagne Blvd (Semi-Rural Roadway)	Local drivers, Residents	Moderate	Short	Background	Similar view as from free-way, but represents view for local drivers, residents	No
10	Lawrence Welk Drive (Multi-family Residential)	Tourists, residents	Moderate	Moderate	Background	View of hillsides largely obstructed by existing vegetation	No
11	Lawrence Welk Drive (Multi-family Residential/ Commercial)	Tourists, shoppers, residents	Moderate	Moderate	Background	View of hillsides largely obstructed by existing vegetation	Yes
12	Champagne (Semi-Rural Roadway)	Local drivers, Residents	Moderate	Short	Background	Grade change between roadway and freeway cre-ates a visual obstruction to project site	No

Table 4: Key view Photo Summary and Simulation Recommendations

PROPOSED CONDITIONS (100% FULL, UNMITIGATED)

PROPOSED CONDITIONS (100% FULL, MITIGATED)

EXISTING CONDITIONS



PROPOSED CONDITIONS (50% FULL, UNMITIGATED)

Visual Setting Information / Contrast Assessment of Project Elements	Existing			Proposed		
	High Quality	Moderate Quality	Low Quality	High Contrast	Moderate Contrast	Improves/Low Cont.
Visual Quality						
Vividness		X		X		
Intactness	X			X		
Unity	X			X		
Visual Organization	X				X	
Other Elements						
Viewing Scene Quality	X			X		
Landform Quality	X			X		
Viewing Corridor Quality	X			X		

NA: Not Affected or Not Applicable

* Simulation Notes: These simulations represent approximate renderings of project elements based on currently available information from conceptual plans.

KEY VIEW PHOTOGRAPH LOCATION

North ▲

Alternative to Gregory Canyon Landfill

Merriam Mtn Key View 2

View looking west from I-15

Figure 8

PROPOSED CONDITIONS (MITIGATED)

EXISTING CONDITIONS

PROPOSED CONDITIONS (UNMITIGATED)

Visual Setting Information / Contrast Assessment of Project Elements	Existing			Proposed		
	High Quality	Moderate Quality	Low Quality	High Contrast	Moderate Contrast	Improves/Low Cont.
Visual Quality						
Vividness		X		X		
Intactness	X			X		
Unity	X			X		
Visual Organization	X				X	
Other Elements						
Viewing Scene Quality	X			X		
Landform Quality	X			X		
Viewing Corridor Quality	X				X	

NA: Not Affected or Not Applicable

* Simulation Notes: These simulations represent approximate renderings of project elements based on currently available information from conceptual plans.

KEY VIEW PHOTOGRAPH LOCATION North ▲

Alternative to Gregory Canyon Landfill

Merriam Mtn Key View 4

View looking west from I-15

Figure **9**

PROPOSED CONDITIONS (100% FULL, UNMITIGATED)

PROPOSED CONDITIONS (100% FULL, MITIGATED)

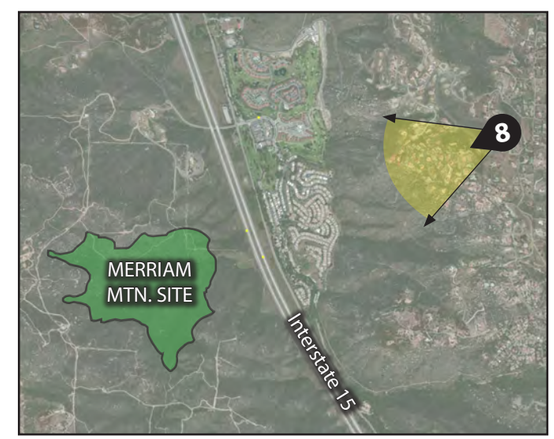
EXISTING CONDITIONS

PROPOSED CONDITIONS (50% FULL, UNMITIGATED)

Visual Setting Information / Contrast Assessment of Project Elements	Existing			Proposed		
	High Quality	Moderate Quality	Low Quality	High Contrast	Moderate Contrast	Improves/Low Cont.
Visual Quality						
Vividness	X				X	
Intactness	X			X		
Unity	X			X		
Visual Organization	X				X	
Other Elements						
Viewing Scene Quality	X				X	
Landform Quality	X				X	
Viewing Corridor Quality		X				X

NA: Not Affected or Not Applicable

* Simulation Notes: These simulations represent approximate renderings of project elements based on currently available information from conceptual plans.



KEY VIEW PHOTOGRAPH LOCATION North ▲

Alternative to Gregory Canyon Landfill

Merriam Mtn Key View 8

View looking west from Meadow Mesa Road

Figure **10**

PROPOSED CONDITIONS (MITIGATED)

EXISTING CONDITIONS

PROPOSED CONDITIONS (UNMITIGATED)

Visual Setting Information / Contrast Assessment of Project Elements	Existing			Proposed		
	High Quality	Moderate Quality	Low Quality	High Contrast	Moderate Contrast	Improves/Low Cont.
Visual Quality						
Vividness		X			X	
Intactness		X			X	
Unity		X				X
Visual Organization		X				X
Other Elements						
Viewing Scene Quality		X			X	
Landform Quality		X				X
Viewing Corridor Quality		X			X	

NA: Not Affected or Not Applicable

* Simulation Notes: These simulations represent approximate renderings of project elements based on currently available information from conceptual plans.

KEY VIEW PHOTOGRAPH LOCATION North ▲

Alternative to Gregory Canyon Landfill

Merriam Mtn Key View 11

View looking southwest from Lawrence Welk Dr.

Figure **11**

Figure 11 simulates the landfill as seen from Lawrence Welk Drive, approximately a mile to the northeast. Although there are many views to the Merriam Mountains from the development, most are private views. This view from the public roadway, near the entrance to the timeshare residences and the commercial development would be seen by many viewers and is typical of views from the public portions of the development. The landfill mass is visible from this viewing location, although the complexity of the viewing corridor helps to mitigate the landfill's mass and elevation. In addition, because the landfill sits in the background of the viewing scene, differences in color and texture between it and the existing hillsides are minimized. The landfill still changes the character of the ridgeline, however, by obstructing one of the saddles between ridges. Potential viewer groups represented by this view include timeshare owners, resort employees, golf patrons, and residents.

5.5 Assessment of Visual Character and Visual Quality

The first step in determining visual resource change is to assess the compatibility of the alternative with the visual character of the existing landscape. The following analyses utilize Figures 8 through 11 to assess potential character attributes of the alternative and determine impacts.

5.5.1 Assessment of Visual Character

The landfill alternative has a visual character that is both compatible and contrary to existing visual resources. The form and scale of the landfill are similar to some of the hills and small mountains in the area, although the landfill would likely have an angled, engineered appearance rather than the rounded and gentle slopes of the existing topography. In this sense, the landfill itself would not dominate the landscape, although it would alter the composition of the existing hillsides and contrast with its more natural forms. Unless the proposed landforms contained the same slope angles and rounded concave and convex forms, it will contrast with the existing landforms of the area.

The color, diversity, and texture of the alternative would vary from the existing hillsides. Standard revegetation that would be used on completed slopes is essentially monochromatic and devoid of the diversity and variation present in native plant communities. During construction, bare soil would introduce a starker contrast to the existing color, diversity, and texture of the hillsides surrounding the site.

5.5.2 Assessment of Visual Quality

In terms of changes in the visual quality of the site and its surroundings, the alternative would disrupt the intactness and unity of the existing landform and visual quality of the area. Few disturbances exist within the site and its context. The landfill will be highly visible and introduce a land mass with a character unlike that of the existing undisturbed hillsides/mountains. The size of the landfill will affect views from multiple locations, disrupting the visual quality of the Merriam Mountains as a whole from these locations.

The existing hillsides are memorable for their steep slopes and relatively undisturbed nature, featuring elements such as rock outcroppings and native vegetation. The introduction of the landfill would greatly detract from the existing vividness of the site by obscuring and altering the existing viewing scene.

5.6 Assessment of Viewer Response

As discussed in Section 4.2 Viewer Response, the viewer groups with the highest sensitivity to change are timeshare owners, golf patrons, and local residents. For these viewers, the close proximity to the landfill, the long duration of the view, and the vested interest in minimizing changes to the existing visual resource of the hillsides/mountains would likely produce major opposition to the alternative.

Both public and private views are included in visual impact considerations, although primary weight is given to public views. The primary public viewer would be freeway drivers and drivers of roadways on higher elevations to the east and northeast. The freeway drivers have an expectation of high visual quality because of the existing context of scenic resources and the designation of the corridor as scenic. Other roadway drivers are likely to have moderate sensitivity to changes caused by the landfill due to limited views and a short duration of views. Their moderate sensitivity may allow them to tolerate the changes presented by the landfill much more than those that own land or buildings that can see the landfill.

5.7 Community Plans and Policies

The following section highlights community goals and policies listed in Section 2.3, Regulatory Framework with which the alternative conflicts. Any goals and policies for which the alternative is compatible are not relisted in this section.

5.7.1 General Plan

Land Use Element

Goal LU-2: Maintenance of the County's Rural Character

Policy LU 2.8: Mitigation of Development Impacts. Require measures that minimize significant impacts to surrounding areas from uses or operations that cause excessive noise, vibrations, dust, odor, aesthetic impairment and/or are detrimental to human health and safety.

The alternative creates an aesthetic impairment of the site when compared with the context of the surrounding hillsides.

Goal LU-12: Infrastructure and Services Supporting Development

Policy LU 12.4: Planning for Compatibility. Plan and site infrastructure for public utilities and public facilities in a manner compatible with community character, minimize visual and environmental impacts, and whenever feasible, locate any facilities and supporting infrastructure outside preserve areas.

The alternative creates impacts to the visual environment of the site when compared with the context of the surrounding hillsides.

Conservation and Open Space Element

Goal COS-11: Preservation of Scenic Resources

Policy COS 11.1: Protection of Scenic Resources. Require the protection of scenic highways, corridors, regionally significant scenic vistas, and natural features, including prominent ridgelines, dominant landforms, reservoirs, and scenic landscapes.

Interstate 15, between Escondido city limits and Riverside County line;

The alternative disrupts the existing visual resources of the Merriam Mountains, which are adjacent to the I-15 corridor.

Policy COS 11.3: Development Siting and Design. Require development within visually sensitive areas to minimize visual impacts and to preserve unique or special visual features, particularly in rural areas, through the following:

- Creative site planning
- Integration of natural features into the project
- Appropriate scale, materials, and design to complement the surrounding natural landscape
- Minimal disturbance of topography
- Clustering of development so as to preserve a balance of open space vistas, natural features, and community character
- Creation of contiguous open space networks

The alternative, because of its landfill function and massive scale, does not accommodate some of the site planning techniques listed in this policy. Site features cannot be integrated except at the periphery of the landfill mass, existing topography cannot be minimally disturbed, landfill mass can only partially be clustered, and usable open space networks on site cannot be created.

Goal COS-12: Preservation of Ridgelines and Hillsides

Policy 12.2: Development Location on Ridges. Require development to preserve the physical features by being located down and away from ridgelines so that structures are not silhouetted against the sky.

While the alternative does not extend to the top of the existing ridgelines, its elevation above the freeway and canyon floor below have the effect of obstructing views of the ridgeline from below. The alternative also creates a new, artificial ridgeline for viewers from below. The scale of impact to the viewing scene will be determined by the final form and the silhouette of the new landform against the sky and background ridgeline. Standard landfill topography would not match existing landscape forms and would create a visual impact.

5.7.2 North County Metropolitan Subregional Plan

Policy 14: Designate Resource Conservation Areas

The Resource Conservation Area (RCA) designation is applied to protect sensitive biological, archaeological, aesthetic, mineral, and water resources. Projects requiring environmental analysis under the CEQA that occur within RCAs should be carefully analyzed to assess their impact on the RCA.

The Merriam Mountains are designated as resource conservation area #23.

The Merriam Mountain landfill alternative at least partly falls within RCA #23. While the goal of the RCA is to design projects in a way that minimally impacts sensitive resources, the alternative has few variables that can be sufficiently changed to avoid impacts, especially to visual resources. Conflicts with RCA goals are the same as those listed for COS 11.3

5.7.3 I-15 Corridor Subregional Plan

The I-15 Corridor Subregional Plan is intended to promote orderly development, protect environmental and man-made resources, and implement the County's objectives for growth management and the structure of government for the Subregion.

Scenic Preservation Guidelines

Site Planning Standards:

1. Individual projects shall reinforce the character of the sites, the attributes of adjacent projects, and preserve viewsheds, natural topographic features, and natural watercourses.

The alternative does not preserve viewsheds, natural topographic features, or natural watercourse (in the form of mountain drainage channels)

2. Individual projects shall relate on-site open space and pedestrian areas with those of other projects, both visually and in terms of providing for continuous paths of travel.

The alternative cannot provide usable open space and/or pedestrian areas, although the landfill mass will be free of structures.

3. Building orientation shall take maximum advantage of existing views and create view corridors.

The alternative will not obscure views of structures, although the mass of the landfill will block existing view corridors that see into the overall Merriam landform and associated ridgelines.

5. Ridgeline projects can be highly sensitive and are generally discouraged.

    a) Ridgeline projects shall maintain a low profile appearance and the natural physical character of the ridgeline shall be substantially maintained.

While the alternative does not extend to the top of the existing ridgelines, its elevation above the freeway and canyon floor below have the effect of obstructing views of the ridgeline from below. The alternative also creates a new, artificial ridgeline for viewers from below. The scale of impact to the viewing scene will be determined by the final form/silhouette of the new ridgeline, but standard landfill topography would not match existing landscape forms and would create a visual impact.

    b) Ridgeline projects shall be limited to one story.

The alternative will have temporary stockpiles sited near or on ridgelines. The stockpiles will potentially measure 100 feet in height from their base.

    c) Ridgelines that have been graded or disturbed shall be supplemented with a sufficient amount of trees, shrubs, and ground cover to minimize visual impacts resulting from such disturbances.

Not enough information is known about the alternative to determine if it meets this guideline.

Circulation Standards:

2. Project entries shall provide for safe and efficient circulation:

    a) Project entries and the transition from major circulation routes into the project interior shall be accomplished through the use of landforms, open space, landscape plantings, and architectural elements (i.e., wall, signs).

Not enough information is known about the alternative to determine if it meets this guideline.

Landscape Design Standards:

7. Landscape materials that aid in preventing the rapid spread of brush fires shall be applied.

Not enough information is known about the alternative to determine if it meets this guideline.

8. Earth berms shall be rounded and natural in character, and, where possible, designed to obscure undesirable views.

Not enough information is known about the alternative to determine if it meets this guideline.

9. Major strands of native trees shall be preserved.

The alternative does not preserve any vegetation that lies within the waste footprint of the landfill.

Development Standards for Steep Topography and Natural Features:

1. Extensive grading of slope areas within viewsheds will be minimized

The alternative is characterized by extensive excavation and fill grading that can only be minimally altered.

2. Hillside development shall be integrated with existing topography and landforms. Areas of steep topography, tree stands, hillside agricultural activity, and rock outcroppings shall be respected and preserved.

The alternative is characterized by extensive excavation and fill grading that does not respond to vegetation or rock outcroppings. The periphery of the landfill mass can be slightly adjusted to respond to existing topography.

3. Variety in the development of hillsides shall be encouraged through the use of appropriate site preparation techniques, grading techniques, and in the configuration, size, and placement of lots.

The alternative prioritizes maximizing waste volume rather than providing a variety of topographical forms, and thus, is characterized by constant slopes and linear landfill faces/ embankments.

4. The arrangement of building sites to optimize and retain significant viewsheds shall be encouraged.

The alternative will not obscure views with structures, although the mass of the landfill will block existing views and view corridors.

5. The protection and preservation of the public use of on-site vista points shall be encouraged.

Public access will not be granted for the alternative, although the site does not have any known existing public viewing locations.

6. The visual quality shall be maximized and the erosion potential shall be minimized by planting native and naturalized plants, especially in disturbed areas adjacent to upgraded hillsides and watercourses.

Not enough information is known about the alternative to determine if it meets this guideline.

7. Natural watercourses shall be protected; and existing watershed and groundwater resources shall be conserved.

Existing mountainside drainage channels will be replaced with engineered conveyance mechanisms to meet the needs of the remaining natural slopes and engineered landfill slopes.

8. Any grading above 25 percent slope will blend with the surrounding area, and be landscaped appropriately to look natural.

All finished landfill slopes will be revegetated, although specific details regarding the revegetation are not available at this time. Some mitigations may be possible for accentuating variations in landform as well as provide a transition from adjacent native slopes.

5.7.4 Zoning Ordinance

<u>Special Purpose Regulations: General Rural Use Regulations (S92)</u>

Building Type (C): Attached and Detached Non-Residential Structures Permitted
Max Height (G): 35 feet
Setback (C): Ranges from 15 feet to 60 feet
Special Regulations (B): Community Design Review. Requires a site plan and associated documentation be prepared in accordance with community design guidelines as a part of the discretionary review process.

The special regulations associated with this zoning designation require additional review with respect to the I-15 scenic corridor/subregional plan guidelines and policies (discussed previously). The alternative will not be able to meet many of these requirements.

5.8 Determination of Significance

Below is a discussion of the criteria/questions used to determine if the visual impacts created by the alternative constitute a significant impact or less than significant impact. These are the significance criteria introduced in Section 2.3, Regulatory Framework and discussed in more detail in Section 5.2, Guidelines for Determining Significance. They have been applied to the viewing locations shown in the simulations (Figures 8 - 11) as well as the overlay models shown on the candidate key views.

I-15 Northbound Lanes

1. Is the view available to 1,000 or more viewers per day?

Yes. The northbound lanes of the I-15 corridor near the alternative site carry approximately 120,000 vehicles per day.

2. Would the alternative result in an adverse change to the natural landform?

Yes. The alternative would fill an existing canyon and create a man-made surface that would contrast highly with other nearby undisturbed landforms.

3. Would the alternative clearly contrast with existing moderate or high quality landscape units that make up the visual quality of the area?

Yes. The alternative introduces man-made slopes, angles, and textures to an otherwise intact and cohesive landscape unit of undisturbed hillsides and canyons. This landscape unit has a high visual quality as well as a high sensitivity to change.

4. Will the alternative result in the loss of visual resources?

Yes. The alternative will remove all existing vegetation and rock outcroppings, replace them with the landfill forms, which will visually obscure some of the remaining visual resources near the site.

5. Will the alternative block an existing view corridor, change a regionally significant view scene or cause the removal of access to viewing locations for the general public that would affect the overall view quality of the area?

Yes. The alternative will block an existing view corridor that is oriented to seeing into the Merriam Mountains. It will also change the view scene of the mountains themselves by introducing a new land mass into an existing view scene that contrasts with form, color, texture, scale, hue, value and context.

6. Will the alternative prevent the attainment of adopted design, planning, or aesthetic goals found in adopted policies that protect neighborhood/community character?

Yes. See discussion from previous section on Community Goals and Policies.

Based on the analysis represented by the above significance criteria, and other considerations, the ***alternative will have a significant impact to views from I-15 northbound lanes.***

I-15 Southbound Lanes

1. Is the view available to 1,000 or more viewers per day?

Yes. The southbound lanes of the I-15 corridor near the alternative site carry approximately 119,000 vehicles per day.

2. Would the alternative result in an adverse change to the natural landform?

Yes. The alternative would fill an existing canyon and create a man-made surface that would contrast highly with other nearby undisturbed landforms.

3. Would the alternative clearly contrast with existing moderate or high quality landscape units that make up the visual quality of the area?

Yes. The alternative introduces man-made slopes, angles, and textures to an otherwise intact and cohesive landscape unit of undisturbed hillsides and canyons. The presence of ancillary landfill facilities (yet to be determined) would further increase the contrast with the existing undisturbed landscape. This landscape unit has a high visual quality as well as a high sensitivity to change.

4. Will the alternative result in the loss of visual resources?

Yes. The alternative will remove all existing vegetation and rock outcroppings, replace them with the landfill forms, which will visually obscure some of the remaining visual resources near the site.

5. Will the alternative block an existing view corridor, change a regionally significant view scene or cause the removal of access to viewing locations for the general public that would affect the overall view quality of the area?

Yes. The alternative will block an existing view corridor that is oriented into the Merriam Mountains. It will also change the view scene of the mountains themselves by introducing a new land mass into an existing view scene that contrasts with form, color, texture, scale, hue, value, and context.

6. Will the alternative prevent the attainment of adopted design, planning, or aesthetic goals found in adopted policies that protect neighborhood/community character?

Yes. See discussion from previous section on Community Goals and Policies.

Based on the analysis represented by the above significance criteria, and other considerations, the ***alternative will have a significant impact to views from I-15 southbound lanes.***

Mesa East of Alternative

1. Is the view available to 1,000 or more viewers per day?

No. Traffic count data is not available for Meadow Mesa Drive, but there are eight houses that use this section of Meadow Mesa Drive for access to Mountain Meadow Road. Assuming an average household of four people, viewers would total approximately 32.

2. Would the alternative result in an adverse change to the natural landform?

Yes. The alternative would fill an existing canyon and create a man-made surface that would contrast highly with other nearby undisturbed landforms.

3. Would the alternative clearly contrast with existing moderate or high quality landscape units that make up the visual quality of the area?

Yes. The alternative introduces man-made slopes, angles, and textures to an otherwise intact and cohesive landscape unit of undisturbed hillsides and canyons.

4. Will the alternative result in the loss of visual resources?

Yes. The alternative will remove all existing vegetation and rock outcroppings and replace them with the landfill forms.

5. Will the alternative block an existing view corridor, change a regionally significant view scene or cause the removal of access to viewing locations for the general public that would affect the overall view quality of the area?

Yes. The alternative will block existing views into the Merriam Mountains and change the view scene of the mountains themselves by introducing a new land mass into an existing view scene.

6. Will the alternative prevent the attainment of adopted design, planning, or aesthetic goals found in adopted policies that protect neighborhood/community character?

Yes. See discussion from previous section on Community Goals and Policies.

Because the number of potential viewers at this location is low, and because the landfill does not obscure the ridgeline of the existing peaks, the ***alternative will have a less than significant impact to views from the mesa east of the site.***

Lawrence Welk Drive

1. Is the view available to 1,000 or more viewers per day?

Likely. Traffic count data is not available for the segment of Lawrence Welk Drive shown in the simulation, but with the high intensity of uses within the Lawrence Welk Resort, viewers are likely to average 1,000 or more per day.

2. Would the alternative result in an adverse change to the natural landform?

Yes. The alternative would fill an existing canyon and create a man-made surface that would contrast with other nearby undisturbed landforms. The location of the landfill in the background of the view scene, however, decreases the adversity of the change.

3. Would the alternative clearly contrast with existing moderate or high quality landscape units that make up the visual quality of the area?

Yes. The alternative introduces man-made slopes, angles, and textures to an otherwise intact and cohesive landscape unit of undisturbed hillsides and canyons. Because this landscape unit is in the background, and other high quality visual elements provide context in the foreground, the impact is lessened.

4. Will the alternative result in the loss of visual resources?

Yes. The alternative will remove all existing vegetation and rock outcroppings and replace them with the landfill forms, which will visually obscure some of the remaining visual resources near the site.

5. Will the alternative block an existing view corridor, change a regionally significant view scene or cause the removal of access to viewing locations for the general public that would affect the overall view quality of the area?

Yes. The alternative will block existing views into the Merriam Mountains and change the view scene of the mountains themselves by introducing a new land mass into an existing view scene.

6. Will the alternative prevent the attainment of adopted design, planning, or aesthetic goals found in adopted policies that protect neighborhood/community character?

Yes. See discussion from previous section on Community Goals and Policies.

Although the alternative is in the background of the viewing scene and other visual elements distract the viewer from the disruption caused by the landfill, the high number of viewer, and their sensitivity to changes in the view scene, the ***alternative will have a significant impact to views from Lawrence Welk Drive.***

5.9 Cumulative Impact Analysis

There are no known projects in the area that would create a cumulative impact in association with the Merriam Mountain alternative.

5.10 Summary of Alternative Visual Impacts Significance

The Merriam Mountain Landfill alternative will have a significant impact on the visual quality of the alternative and its surroundings. Impacts include:

- **Landform quality impacts *will be significant*** since the topography of the alternative is not compatible with the existing topography/landforms that define the character of the Merriam Mountain ridgeline.
- **Visual quality impacts *will be significant*** since they will remove visually prominent visual resources that are considered to be of a high quality and are major determinants in setting the existing visual quality of the area. The alternative's visually prominent elements will introduce man-made geometry into a relatively unaltered hillside/mountain setting and will contrast with the color and texture of native plant communities that dominate the alternative site surroundings.
- **View quality impacts *will be significant*** since the landfill interrupts the viewing corridor of a regionally significant viewing scene (Merriam Mountain). This interruption is perceivable due to the landform blocking important views to the upper ridgelines and landforms of Merriam Ridge.
- **Community Plans and Policies impacts will also be *significant*** since a broad variety of goals, guidelines, ordinances, and policies will not be met with the alternative.

6.0 Visual Mitigations

The simulations for the four key views assumed a standard amount of revegetation efforts for all phases of the landfill. This revegetation effort would be required as a part of slope stabilization and erosion control. Hydroseeding of temporary slopes was also considered mandatory to reduce dust, prevent erosion, and reduce the amount of visual contrast of the landfill. Additional mitigations will be required for visual impacts and can take a variety of forms. The following sections describe a palette of potential mitigations and where/how these mitigations should be applied.

6.1 Potential Mitigations

Recommended Visual Mitigation Measures (VMM) beyond the minimum slope stabilization include the following:

1. Landscape Screening (VMM 1). This screening could occur at strategic locations along the perimeter of the site. Existing mature trees could be transplanted (up to 6-12' transplanted box size) or replaced with large trees (24" -36" box). If not replacing existing impacted trees, then new trees (mixture of seedling, 15 gallon, 24" box and 36" box) could be newly planted in key locations to block views of the landfill.

2. Landform Screening (VMM 2). Given the large scale and inescapable mass of the landfill, this technique could be used to block views of portions of the landfill from strategic locations, on or off the site. Without control of adjacent sites, however, off-site mitigation would be difficult to implement. On-site, landform screening placed at the perimeter of the site may be able to block some of the views of the landfill. This mitigation should be done in conjunction with landscape screening.

3. Landform Grading (VMM 3). The form of the landfill mass could be contoured to help blend in with the natural topography found in the immediate area. The landfill face, in particular, could be made to incorporate gentle grading and curvilinear shapes to mimic the surrounding hillsides. The highest elevations of the landfill, usually finished as a flat "mesa," could be mounded to avoid

introducing straight lines and flat landforms. Likewise, the slope and run of the face of the landfill could be altered to avoid creation of an undifferentiated pyramid-like wall. Benching notches could be backfilled up against the base of the slope to round out the obvious bench notches that show up when silhouetted against the sky. Tight right angle corners and straight line benches (as seen from above) should also be avoided and replaced with more curvilinear forms. It is recognized that these additional landforms are above and beyond the minimum cover and capping requirements. The surcharge of this landform weight and volume would also need to be taken into account.

4. Rock Outcrop Replacement (VMM 4). Since a large amount of rock outcrops occur throughout the area, and since these materials will need to be removed from the landfill footprint, they should be stockpiled and placed in strategic locations to help blend graded surfaces with the dominant textures of the area. This would need to occur primarily around the edges of the landfill face and top surface. Relatively large boulders are needed to appear in natural arrangements. Most of these boulders should be located on additional clay-capped fill with subsurface drainage to ensure no runoff enters into the landfill from around the rock formations.

5. Major Tree Groupings (VMM 5). Groups of tree plantings could be used on the landfill mass to blend the transition between landfill and surrounding landform. For a mass to be noticeable, 6-12 trees should be considered the minimum, depending on location.

6. Native revegetation and landscaping (VMM 6). The use of natives not only increases the long term survivability of revegetative plant material, but also increases compatibility with surrounding vegetation in terms of color and texture. All revegetation areas will need this treatment. Existing vegetation species in the vicinity of the alternative would be used or emulated for landscape plantings. The plant communities found on surrounding hilltops, slopes, and valleys adjacent to the landfill would be matched. Where a tree, shrub, or groundcover is needed to serve a specific purpose, and native material is not appropriate, then non-native species will be allowed. It is important to make sure that the non-native species have naturalized to the local conditions or have the appearance of relating to the adjacent native species. Appearance of color and texture are most important for matching, followed by relative size and form.

7. Contrast and Color Matching (VMM 7). All areas would be replanted in such a manner that will decease the amount of color contrast with surrounding areas. This would be accomplished through the use of native plant materials including grassland species and through the use of paint on visible buildings, structures, poles and fencing. Temporary revegetation of slopes will also help to reduce contrast, especially if the proper color and textures are utilized in the plant selection process.

8. Texture Matching (VMM 8). All revegetation efforts would attempt to match the texture of the surrounding areas. If the mitigation measures are taken as listed above, then the rocks, native plants, trees, color, and landforms will all produce compatible textures.

9. Engineering Structures Adjustments (VMM 9). Construct brow ditches with outside bench lips slightly higher than inside edges and use integral concrete color that matches a darker soil type for all gunite ditches. Pipelines connecting brow ditches need to blend with final landfill slope colors and not be allowed to stay a reflective tin or galvanized color. Pipe paintings should use a combination of colors that match the context of the area that the pipeline section is passing through. Variations in color will be necessary.

6.2 Application of Mitigations

The goal of mitigations is to reduce the severity of visual impacts caused by the alternative. The impacts discussed in Section 5.10, Summary of Alternative Visual Impact Significance, are listed in terms of landform quality, visual quality, view quality, and conformance with community goals and policies. A unique blend of mitigation techniques is necessary to reduce the impact of the alternative in terms of each of these categories. The discussion below details the mitigation combination for each category.

Landform Quality

The alternative's significant impact on the landform quality of the viewing scene relates to the filling of an existing canyon with a new land mass that does not relate to the existing topography in terms of variation, form and overall shape.

Landform grading **(VMM 3)** should add topographical undulations to the top of the landfill to eliminate the flat "mesa" look to the alternative. Because the standard surface of landfill cover is four to six feet thick, manipulation of this face will require additional fill material. The creation of ridges or swales may concentrate the flow of water and could cause erosion of the buried fill materials, so additional surface lined swales or sub-surface drainage may be needed. This mounding of the landform would decrease the visual impact from all viewing locations, though, from both below and above the landfill.

While this mounding would more closely relate to some of the landforms surrounding the site, it would not mitigate the high visibility and bulk of the landfill. **Therefore, the enormous mass of the landfill and its overall contrast with the landforms of the adjacent area preclude this impact from being reduced to less than significant**.

Visual Quality

The alternative's significant impact on the visual quality of the viewing scene relates to the removal of distinctive elements such as rock outcrops, the obstruction of ridgelines, and the replacement of native, undisturbed plant material with erosion prevention minimal revegetation that tends to be mono-type in form, color and texture. New elements such as drainage channels and piping also add to the contrast with the natural setting.

Major tree groupings **(VMM 5)** as well as native revegetation and rock outcrop replacement **(VMM 4)** would be necessary along the edges of the landfill. A transitional blending of the flat landfill face should be undertaken along the bottom and perimeter edges where it meets the existing terrain **(VMM 3)**. Large boulders and trees should be placed to resemble natural drainage channels. Special accommodations will be required for trees set along the edge of the landfill, as roots could penetrate the landfill containment soil layer and allow water into the fill, speeding decomposition.

Based on drainage and settlement problems, the elements of trees and boulders are not recommended for inclusion in the middle of the landfill. Permanent slopes will need to be stabilized with native grasses and other shallow rooted plants representative of the Inland Sage Scrub plant community **(VMM 6)**. In some cases, there may be changes and/or transition to these slopes based up on the phasing of the landfill development. In these areas, more temporary erosion control techniques will be utilized. Drainage and methane extraction structures and pipes should be painted **(VMM 8)** or be made of materials that fit into the local color environment **(VMM 7)** that match adjacent textures **(VMM 8)**. On the active face of the landfill, temporary revegetation will be required **(VMM 6)**. Any interim slope that is anticipated to remain beyond one full year will need to receive revegetation through at least hydroseeding. The permanent slopes and all areas of the landfill that are considered to be visually prominent would need to be permanently revegetated as soon as practical, with a combination of plant materials including hydroseeding, seedlings, and containerized plants.

The plantings will be irrigated by a temporary above ground spray irrigation system. All supplemental irrigation will be removed once the planting has completely covered the landfill face and is established (generally 3-5 years from installation).

Once closure of the landfill is achieved and final cover is completed, a vegetative surface cover utilizing native plant species shall be established. The species must exhibit rapid germination and be self-sowing. The cover should be comprised of low volume fire retardant species with low maintenance requirements. The following are erosion control and revegetation techniques which will be implemented:

- Application of non-living mulching materials;
- Application of living mulching materials such as mycorrhizal soil components;
- Installation of geotextile netting and/or grids;
- Chemical soil stabilization;
- Temporary vegetative nurse crop establishment;
- Surface soil scarification;
- Slope grading and terracing techniques;
- Drainage collection techniques;
- Permanent irrigated refined seed mix plantings;
- Temporary non-irrigated nurse crop plantings; and/or
- Transitional temporarily irrigated native seed mix plantings.

With these mitigations, the differentiation of the landfill and the surrounding context would be reduced. Further, by using natural materials/textures to blend undisturbed slopes with the landfill surfaces, the prominence of the landfill mass would be decreased. While the landfill would still be noticeable and recognizable, **enactment of these mitigations would reduce the visual quality impact to below a level of significance. If all mitigations are not done, then the impact to visual quality would remain above a level of significance.**

View Quality

The alternative's significant impact on the visual quality of the view results from the filling of the existing view corridor into the Merriam Mountains, which blocks views to the ridgeline from some viewing locations. This impact is considered significant since it not only blocks the view corridor but also changes the quality of the viewing scene.

The only way to decrease the amount of view blockage created by the landfill would be to substantially reduce the mass of the landfill, which is not feasible. In addition, while the recommendation under visual quality mitigations to vary the topography of the landfill ridgeline would decrease visual quality impacts, it would also add to the mass of the landfill and create minor additional view blockages. Therefore, the limited level of acceptable landform alteration dictated by the need to meet the program requirements of the landfill, as well as the mitigation requirements of visual quality impacts, **would not reduce the impact to a level below significance**.

Community Plans and Policies

The alternative's visual changes contrast highly with the goals established by the community plans and policies, particularly with respect to:

- Removal of existing visual resources, including vegetation;
- Introduction of inharmonious elements into a natural viewing scene;
- Extensive grading/alteration of existing topography;
- Existing/natural drainage systems will be replaced with engineered drainage systems; and
- The alternative does not provide dedicated open space on the site, nor public access to the site.

Mitigations previously discussed in terms of lessening landform and visual quality impacts apply to several of the community goals above, while others remain unaddressed. The replacement of natural drainage features and lack of public open space will not be able to be accommodated given standard landfill construction and maintenance practices. **In terms of the goals established by community plans and policies, the visual quality impacts could be mitigated to below a level of significance. The view quality and landform quality impacts, however, remain significant and would create a significant impact to community goals and policies.**

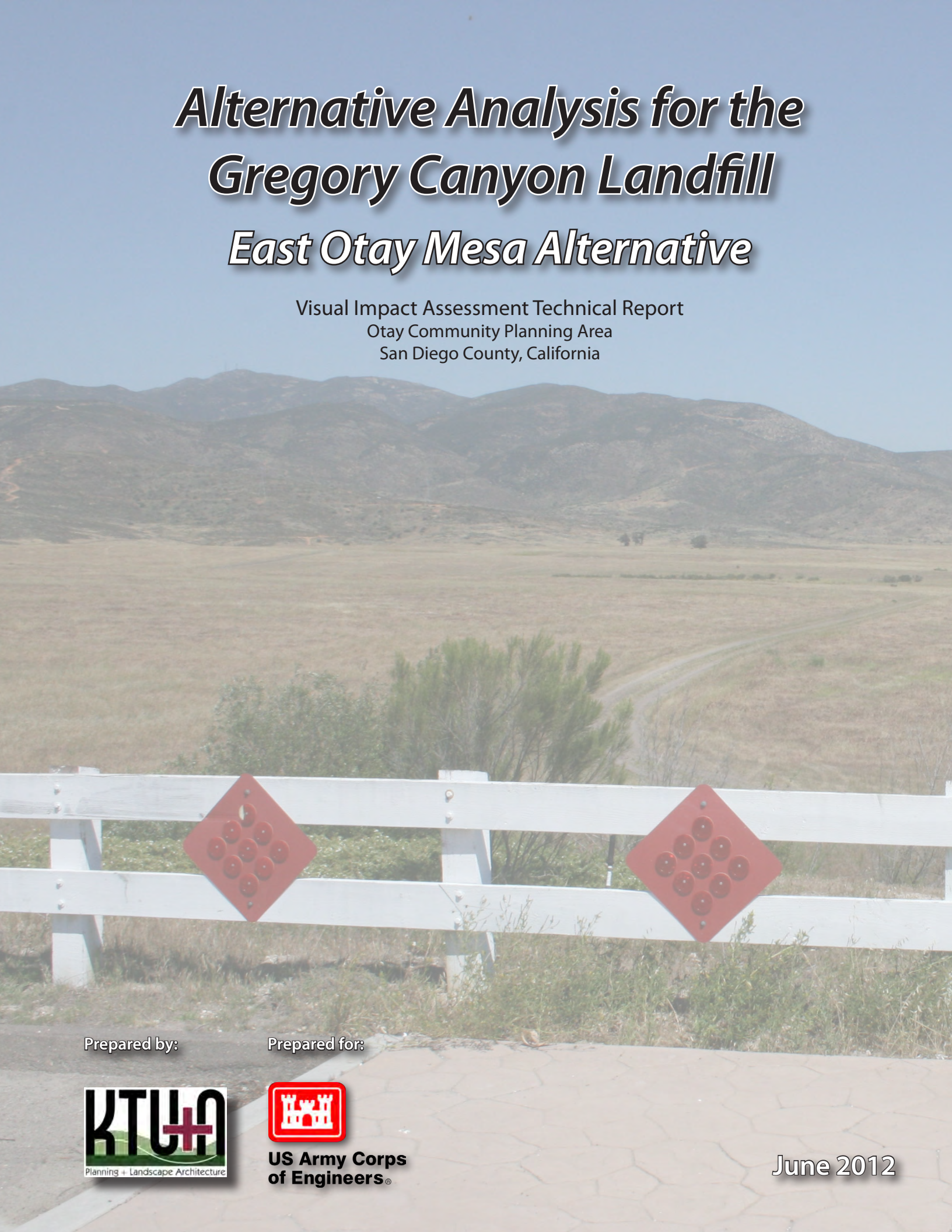
6.3 Conclusion

The Merriam Mountain Landfill alternative will be partially mitigable and mitigations will reduce the severity of the impacts to the visual environment. Mitigations to the visual quality of the site will be most effective, followed by mitigations to landform quality. However, the landform impacts will remain significant after mitigations. The view quality impacts, as well as impacts to some community goals, are unmitigable. The result is an alternative which is highly visible to a great number of viewers with a relatively high sensitivity to changes in the visual environment. While the mitigations will reduce the visual prominence of the alternative, it will still result in a loss of existing visual access to the ridgelines, change the visual scene negatively, and result in the removal of important visual resources of the area.

Alternative Analysis for the Gregory Canyon Landfill

East Otay Mesa Alternative

Visual Impact Assessment Technical Report
Otay Community Planning Area
San Diego County, California



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Prepared for:

US Army Corps of Engineers®

June 2012

VISUAL IMPACT ASSESSMENT TECHNICAL REPORT:
GREGORY CANYON LANDFILL,
EAST OTAY MESA ALTERNATIVE

June 2012

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Appendix A: Visual Quality Inventory Evaluation Worksheets

1.0 Introduction

The East Otay Mesa alternative to the Gregory Canyon Landfill is located in south San Diego county, approximately two miles east of the Otay Mesa border crossing to Mexico. The site is situated in the foothills of the Otay Mountains and is surrounded by undeveloped land on all sides (see Figure 1: Vicinity Map and Site Boundaries).

1.1 Purpose of the Visual Resources Report

The East Otay Mesa Visual Impact Assessment Technical Report assesses the potential visual impacts of the construction of a landfill at the East Otay Mesa alternative site.

1.2 Key Issues

The following analysis determines that the East Otay Mesa alternative will not create significant impacts, assuming standard revegetation is completed as part of the basic project.

1.3 Principal Key Views to be Covered

The land surrounding the site of the East Otay Mesa alternative is primarily vacant/undeveloped land and agricultural land. The regional thoroughfares of State Route (SR) 125 and SR 905 pass within the vicinity of the site, and the Otay Mesa border crossing with Mexico is approximately two miles to the southwest.

The site of the alternative is on the south-facing foothills of the Otay Mountains. The site is most visible from the south (primarily from Mexico), but is also visible from some areas to the west and southwest. Access to viewing locations to the north, east, and south of the site is restricted. Of the accessible viewing locations, the most significant public viewing locations are public roadways. This study primarily analyzes visual impacts from public viewing locations; private viewing locations are considered secondarily.

The key views analyzed include:

- SR 125/Otay Mesa Road (with key views from west of the site)
- Otay Mesa Road at Alta Road (with key views from west of the site)
- Alta Road (with key views from north of the site)
- Airway Road (with key views from southwest of the site)
- Siempre Viva Road at Enrico Fermi Drive (with key views from southwest of the site)
- Siempre Viva Road at Melksee Street (with key views from southwest of the site)
- Otay Lake County Park (with key views from northwest of the site)

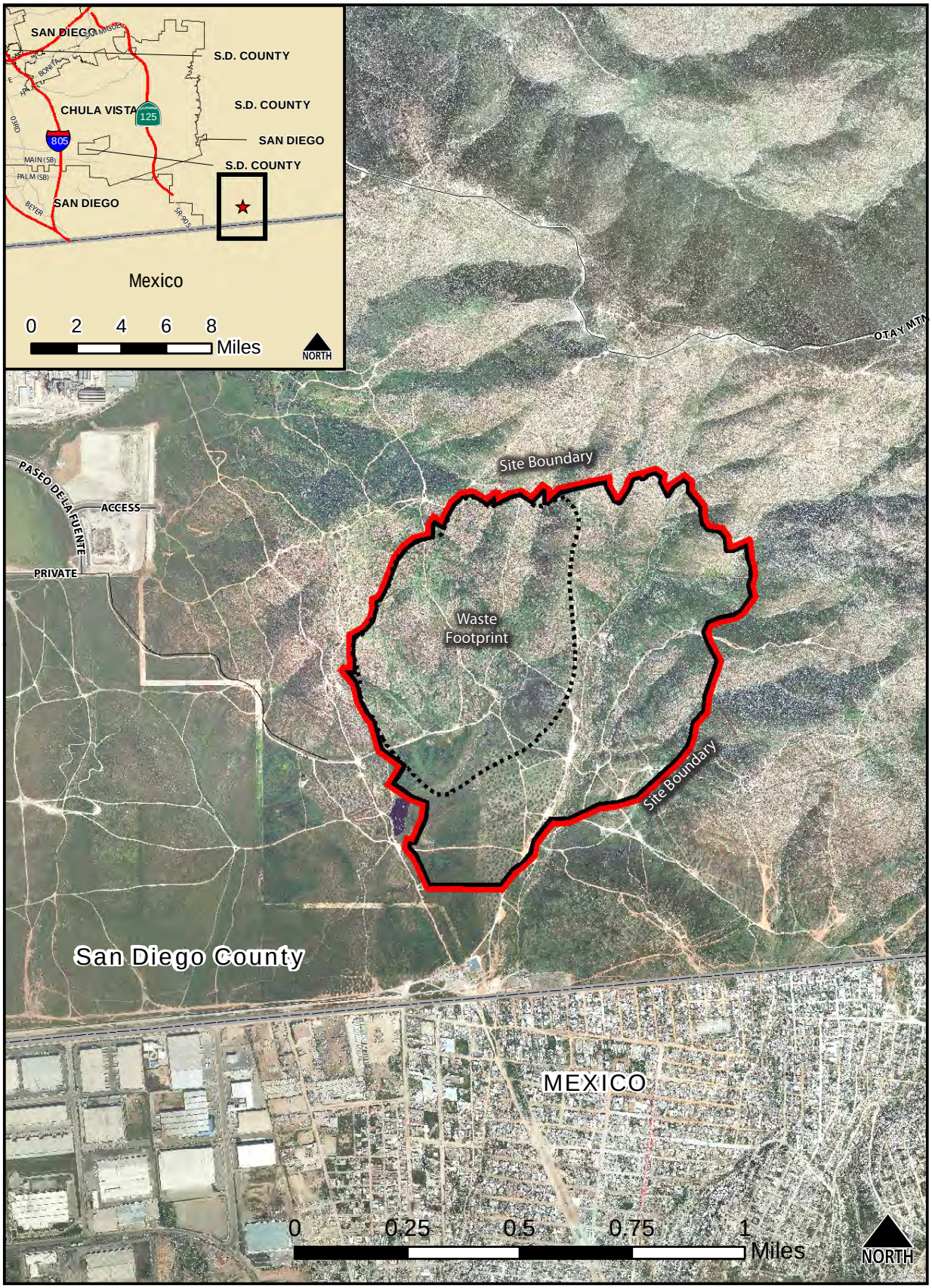


Figure 1: Vicinity Map and Site Boundaries

2.0 Alternative Description and Regulatory Framework

The following sections provide an overview of the alternative and the land use/development regulations governing the alternative site and its surroundings.

2.1 Alternative Description

The East Otay Mesa alternative would be classified as a Class III sanitary landfill. The conceptual site boundary covers approximately 450 acres, although the final footprint of the landfill is expected to be less than 146 acres. While a fully developed alternative would include site plans detailing access roads, ancillary facilities, and various utility-related structures, this visual impact analysis is based on conceptual plan information only. This site is being reviewed for comparison purposes with Gregory Canyon and is not currently being pursued by a project applicant. The conceptual plans referenced in this report include basic details such as maximum fill contours and potential zones for stockpiles and ancillary facilities.

It is expected that than an average of 3,200 tons per day (tpd), or one million tons annually, will be deposited at the landfill over its life. Accounting for the volume occupied by the containment system, daily, intermediate, and final covers, the estimated site life is approximately 25 years. The finished elevation of the landfill is expected to be 1,010 feet Mean Sea Level (MSL).

The analysis includes two estimates of an interim condition. The viewshed analysis provides two scenarios, one with the landfill form and an interim borrow/stockpile location (based on estimated maximum height during activity) and one final landfill form without the borrow/stockpile. Additionally, one of the simulation models shown later in this study displays an estimated 50% full landfill form compared to a 100% landfill form.

2.2 Land Use Designations and Zoning

The visual character surrounding a site is primarily influenced by adjacent land uses. Existing land uses establish the current visual environment, while planned land uses and zoning provide clues as to the nature of the future visual environment.

2.2.1 Existing Land Use

The East Otay Mesa alternative site is currently vacant/undeveloped land. Several dirt roadways traverse the site, but otherwise, the site generally remains in its natural state.

The area surrounding the site is also largely undeveloped. The closest developed parcels are light industry, approximately two miles to the west. According to San Diego Association of Governments (SANDAG) data from 2009, other land uses near the alternative site include: extensive agriculture, open space parks, institutions, commercial/office, and vacant/undeveloped.

2.2.2 Proposed Land Use

A general plan provides a vision for community growth for 20-30 years. This document establishes common goals and policies that guide the more specific development guidelines and regulations contained in documents like the zoning ordinance. San Diego County adopted an update of its General Plan in August 2011. The land uses proposed by the 2011 San Diego County General Plan for the vicinity of the site include:

- Open Space (Conservation)
- Public Agency Lands
- Public/Semi-Public Facilities (Correctional Facilities)
- Public/Semi-Public Facilities (Solid Waste Facility)
- Rural Lands (RL-40)
- Specific Plan Area (SPA)

Below is a brief discussion of the differences between the existing and proposed land uses near the alternative site. Please note, the General Plan designations are applied to areas larger than the existing land use designations mentioned in Section 2.2.1. As such, proposed land use categories that are in keeping with the character of exiting land use descriptions are not considered to represent a change of land use.

Differences in existing and proposed land uses include:

- The existing land use and proposed land use are largely consistent, although the proposed land use specifies Rural Lands (RL-40) for the undeveloped area immediately to the east and north of the East Otay alternative site. While both are low-intensity land uses, the Rural Lands designation would limit development on currently undeveloped land.

2.2.3 Zoning

Zoning within San Diego County has various mechanisms for controlling land use and development standards. Zones are commonly named or referred to by their Use Designation (A70, RR, S88, etc.). The standards for land use within these designations are shared, while the standards for development depend on a number of different factors. Detailed discussion of the zoning regulations affecting the visual aspects of the East Otay Mesa alternative site is included in Section 2.3.2.3. Below is a discussion of significant differences between the existing zoning and proposed land use discussed in the previous section:

- Both the existing zoning and proposed land use indicate a land use of landfill/solid waste facility for the alternative site. Zoning categories for the vicinity of the alternative are also similar, with a large portion being classified as an S90 "Holding Area," which provides flexibility for future zoning classification. The S90 "Holding Area" currently includes portions of General Plan zones Open Space/ Conservation, Rural Lands (RL-40), and Public Agency Lands. Zoning is expected to be conformed to the 2011 General Plan land use designations in the coming years.

2.3 Regulatory Framework

The East Otay Mesa alternative is within the jurisdictional control of the County of San Diego. A variety of plans and policies were reviewed in order to determine conformance with visual goals and policies.

2.3.1 Visual Resource Guidance

The County of San Diego provides guidelines for determining significance in relation to visual resource impacts. The guidelines address impacts related to landform quality, visual quality, view quality, and community plans and policies.

2.3.2 General Plan

<u>Land Use Element</u>

Goal LU-2: Maintenance of the County's Rural Character

Policy LU 2.8: Mitigation of Development Impacts. Require measures that minimize significant impacts to surrounding areas from uses or operations that cause excessive noise, vibrations, dust, odor, aesthetic impairment and/or are detrimental to human health and safety.

Goal LU-12: Infrastructure and Services Supporting Development

Policy LU 12.4: Planning for Compatibility. Plan and site infrastructure for public utilities and public facilities in a manner compatible with community character, minimize visual and environmental impacts, and whenever feasible, locate any facilities and supporting infrastructure outside preserve areas.

<u>Conservation and Open Space Element</u>

Goal COS-11: Preservation of Scenic Resources

Policy COS 11.1: Protection of Scenic Resources. Require the protection of scenic highways, corridors, regionally significant scenic vistas, and natural features, including prominent ridgelines, dominant landforms, reservoirs, and scenic landscapes.

Policy COS 11.3: Development Siting and Design. Requirement development within visually sensitive areas to minimize visual impacts and to preserve unique or special visual features, particularly in rural areas, through the following:

- Creative site planning
- Integration of natural features into the project
- Appropriate scale, materials, and design to complement the surrounding natural landscape
- Minimal disturbance of topography
- Clustering of development so as to preserve a balance of open space vistas, natural features, and community character
- Creation of contiguous open space networks

Goal COS-12: Preservation of Ridgelines and Hillsides

Policy 12.1: Hillside and Ridgeline Development Density. Protect undeveloped ridgelines and steep hillsides by maintaining semi-rural or rural designations on these areas.

Policy 12.2: Development Location on Ridges. Require development to preserve the physical features by being located down and away from ridgelines so that structures are not silhouetted against the sky.

2.3.3 Otay Subregional Plan

The Otay Subregional Plan supplements all existing Elements of the San Diego County General Plan with specific emphasis on the planning needs of the Otay Subregion.

A. Land Use Policies

4. Discourage polluting industries; The County will discourage industries that display pollution or other nuisance characteristics from locations near the Mexican border.

D. Conservation Policies

1. Protect Resource Conservation Areas

Resource Conservation Areas

The Resource Conservation Area (RCA) designation is applied to protect sensitive biological, archaeological, aesthetic, mineral, and water resources. Projects requiring environmental analysis under the California Environmental Quality Act (CEQA) that occur within RCAs should be carefully analyzed to assess their impact on the RCA.

The Otay Mountains are designated as resource conservation area #118.

2.3.4 Zoning Ordinance

Portions of the County Zoning Ordinance that affect the alternative site include:

Special Purpose Regulations: Solid Waste Facility (SWF)

On June 6, 2010, the voters adopted County of San Diego Proposition A, an initiative that applied the SWF zoning classification to the East Otay Mesa site and described a new recycling collection center and class III solid waste landfill. The SWF zoning classification allows the development of the landfill and recycling center without the need for any permits from the County of San Diego except a Grading Permit and Building Permit.

2.3.5 Resource Protection Ordinance (2007)

In order to protect and preserve the unique topography, ecosystems, and natural characteristics of San Diego County, the Board of Supervisors created the Resource Protection Ordinance. This ordinance creates special controls on development impacting the County's wetlands, floodplains, steep slopes, sensitive biological habitats, and prehistoric and historic sites.

The County requires a Resource Protection Study be conducted as a part of certain discretionary permitting processes. If the Resource Protection Study identifies the presence of sensitive resources, one or more of the following actions may be required as a condition of approval:

- Apply open space easements to portions of the project site that contain sensitive lands;
- Rezone the entire project site through the application of a special area designator for sensitive lands; or
- Other actions as determined by the decision-making body.

2.3.6 County of San Diego Board of Supervisors Hillside Development Policy (I-73)

It is the policy of the County that the development of building sites in hillside areas be planned and constructed in such a manner as to preserve, enhance, or improve the physical features of the area consistent with providing building sites while at the same time optimizing the aesthetic quality of the final product. Physical site resources may include: existing natural terrain; established vegetation; visually significant geologic displays; and portions of a site that have significant on-site vista points.

3.0 Visual Environment

Understanding the visual environment of the alternative site and its surroundings is critically important for assessing visual changes resulting from the alternative. The following sections discuss the setting of the alternative, describe existing landscape character units, and analyze site visibility from within the region.

3.1 Setting

The East Otay Mesa alternative site is located in southern San Diego County, east of the southern portion of the City of San Diego and just north of the international border with Mexico. The site itself is characterized by undeveloped hillsides and is surrounded by undeveloped/agricultural land and industrial/business parks located near the Otay Mesa border crossing.

3.2 Landscape Units

In order to better understand the visual context of the area surrounding the East Otay Mesa alternative, visual landscape units have been delineated. These landscape units possess consistent visual elements that produce a unique experience for the viewer. Landscape units can vary greatly in size, but even in very large landscape units, the visual environment should exhibit consistent visual character. The following is a discussion of the landscape units in the vicinity of the site. Figure 2 shows the geographic limits of the landscape character units and is supplemented by photos of typical conditions within each unit.

Commercial Services

The commercial services landscape unit includes retail and food service establishments that serve individuals either working in or traveling through the United States/Mexico border area. The buildings can range in architectural styling, but are consistently of a small to moderate scale, either as stand-alone structures or part of a strip-mall configuration.

The commercial services landscape unit has a moderate sensitivity to changes in the visual environment. These types of development are common in urban settings, where there is constant change and potentially dramatic changes in character from one parcel to the next. Its highest sensitivity is to uses that would degrade the visual environment so far that patrons would choose to eat/shop elsewhere. This includes any uses that would be extremely cluttered, dark/menacing, or closed off. The commercial services landscape unit is located near SR 905 at Siempre Viva Road.

Detention Facility

The detention facility landscape unit includes the two detention centers located to the northwest of the alternative site. Characteristics associated with this landscape unit include a lack of vegetation, profuse fencing and lighting, standardized building types, lack of windows, and limited parking.

Detention facilities have a low sensitivity to change in the visual environment. The focus of the facility is almost completely inwards and requirements for clear space/defensible space are contained wholly on the detention facility property. Safety and efficiency are the detention facility's highest priorities, and thus, the aesthetics of the surrounding land are inconsequential provided they do not interfere with the operation of the facility.

Freeway

The freeway landscape unit refers to the SR 125/SR 905 corridors in the western extent of the study area. The dominant element in the landscape unit is the concrete surface of the travel lanes. The majority of the viewing corridor is dominated by the lightly colored, leveled roadway. Additional features are asphalt emergency parking shoulders, gravel shoulders, and intermittent utilities/infrastructure such as call boxes, street lighting, roadway signage, etc. The extent of the freeways included in this visual analysis do not include freeway landscaping beyond the native/invasive species that have spontaneously established themselves in the median and shoulder zones.

The freeway landscape unit itself is not sensitive to change. Freeways occur in every type of environment and the minimal aesthetic quality of the freeway allows for integration of almost any element. Neither SR 125 nor SR 905 is designated as a scenic highway. The freeway landscape unit is to the west of the site and runs north/south (SR 125) and east/west (SR 905).

Industrial

The industrial landscape unit consists of areas with outdoor materials processing, power generation stations/switchyards, junkyards, etc. This landscape unit is characterized by open lots, perimeter fencing (typically chain link or concrete masonry), mounds/piles of materials, (ranging from asphalt/concrete to scrap materials), exposed metal structures, and ancillary vehicles such as trucks, forklifts, and bulldozers.

The industrial landscape unit is not sensitive to changes in the visual environment. Even though the site may be organized for operational efficiency, visually, it may appear chaotic and haphazard. The buildings and equipment associated with the industrial landscape unit take many forms and do not adhere to any particular theme or style. Instances of the industrial landscape unit occur to the northwest and west of the site.

Commercial Services

Detention Facility

Freeway

Industrial

Light Industrial/Business Park

Light Industrial/Business Park

Light Industrial/Business Park

The light industrial/business park landscape unit describes the large-scale office/warehouse businesses that operate out of concrete tilt-up buildings, supporting much of the semi-truck traffic that crosses the U.S./Mexico border at the Otay Mesa checkpoint. The buildings are usually one to two stories, although the structures may measure up to 40 feet in height. At least one side of the buildings may have individual or banded windows, whereas the other sides will either be blank walls or walls with bay doors. Large portions of the site are paved for semi-truck maneuvering, parking, and loading/unloading. Visitor/employee parking lots feature limited landscaping to help screen vehicles and provide variation to the front facade of the buildings.

The light industrial/business park landscape unit is moderately sensitive to change. Even though the buildings within the landscape unit are expansive, they are also usually part of a larger industrial park development that possesses a common theme, design aesthetic, and/or landscaping motif. The detailing on the structures is minimal, but provides enough character that developments are distinguishable from one another.

Instances of the light industrial/business park landscape unit occur to the west of the site along SR 905.

Mexico

Landscape units were not identified for areas south of the international border in Mexico. While these areas were not specifically assessed, aerial imagery reveals that the area south of the alternative site contains a mix of compact single family development, sporadic small-scale commercial structures, and large-scale warehouse/industrial buildings. Visibility of the landfill does occur from this location.

Otay Valley Regional Park

The Otay Valley Regional Park landscape unit is characterized as undeveloped hillsides and the alluvial/riparian environment of the Otay River Valley. The park boundaries stretch from southern San Diego Bay on the west to the upper and lower Otay lakes to the north and east. The park contains areas of active recreation, passive recreation, and preservation.

The Otay Valley Regional Park landscape unit is highly sensitive to change. The landscape unit's character is related to its intact natural condition and changes within or near the landscape unit would disrupt this intactness. Further, natural parks are created to preserve unique natural features and disruption of these features or their context negates the purpose of the preserve. The Otay Valley Regional Park landscape unit is located to the northwest of the site.

Undeveloped/Agriculture

The agriculture/undeveloped landscape unit refers to large tracts of land that have either been cleared of native vegetation or the native vegetation has been replaced by agricultural crops as an interim use before the site becomes fully developed. In either case, the character of the landscape unit is dominated by plant material and a lack of structures. Periodic oak/eucalyptus trees may also exist within the landscape unit. The agricultural lots take on a more orderly appearance than those lying fallow, but both maintain a sense of openness.

The agriculture/undeveloped landscape unit is only moderately sensitive to change based on the numerous uses generally associated with a rural/agrarian landscape. The landscape unit is compatible with most uses provided that elements are not introduced that have a more urban environment such as closely spaced structures, widened roadways, parking areas, man-made lighting, and overall reduction of visual access to land. The agricultural/undeveloped areas border the alternative site on the south and west and separate it from the business/industrial park areas further to the west.

Undeveloped Hillside

The undeveloped hillside landscape character area refers to the natural, undisturbed slopes of the hills, mountains, and valleys surrounding the site. The unique visual environment created by these hillsides comes from the native communities and distinctive ridgelines. The hills/mountains themselves serve as landmarks to the surrounding lowlands and canyons and create a dynamic visual backdrop.

The undeveloped hillside landscape unit is highly sensitive to change. Changes to the topography of the hillsides disrupt their natural geometry and, if located high on the slope, can be seen from great distances. Likewise, changes in the native vegetative cover can expose the light soil and/or rock below, creating an inconsistency in texture and color. The site is surrounded by undeveloped hillsides to the north and east.

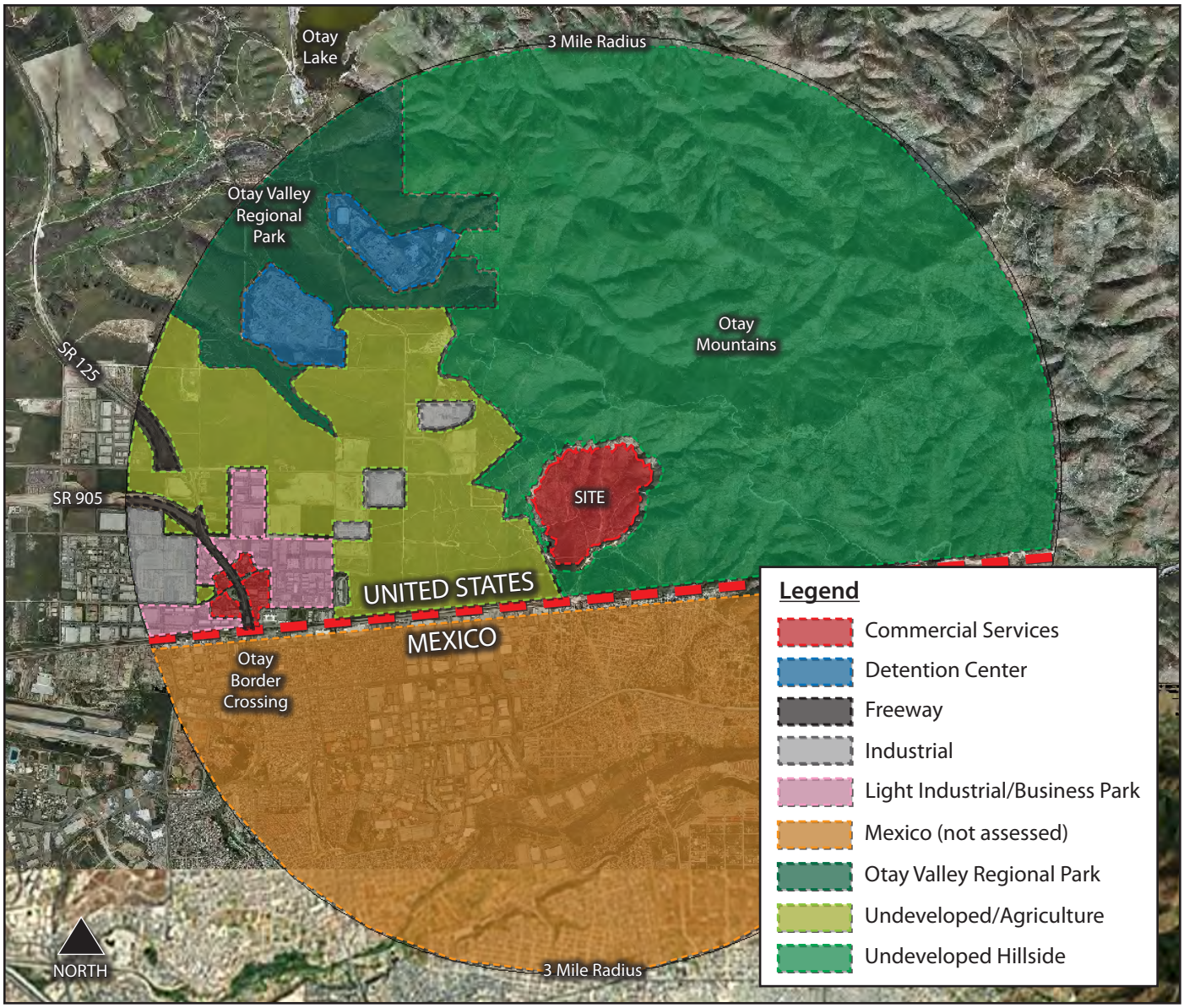


Figure 2: Landscape Character Units

3.3 Viewshed

In establishing visual impacts of the alternative, the planning team conducted a viewshed analysis to determine which areas in the vicinity of the alternative would have a view of the site. Because the active use of a landfill is likely to last decades, the visual assessment also discusses areas with views of alternative elements in its interim stages.

3.3.1 Theoretical Viewshed Limits

A viewshed is defined as the geographical area within which at least some components or elements of the alternative are visible. The viewshed for the East Otay Mesa alternative was developed utilizing Digital Elevation Models (DEM). These DEM files consist of x, y, and z data (north south, east west and elevational data) representing an area 10 meters by 10 meters per data point. This analysis is considered a theoretical limit since it only takes into account the position of the viewer, the location of the element being viewed, and the intervening topography. It does not analyze the effects of buildings, trees, and other structures that can severely limit the visibility of elements. It also does not take into account the effects of distance on the visibility of these elements. It does, however, represent the worst-case visibility of the alternative's elements. In reality, intervening uses, structures and plant materials, as well as distance, can affect the overall significance of visual impacts.

Viewshed analyses are limited to a distance within which changes in the visual environment are considered noticeable and visually prominent. For the purposes of the East Otay Mesa alternative, this distance was set at three miles from the site. Please note, only viewing locations within the three miles and within the United States were included (viewing locations in Mexico were excluded). The computer model used a total of 100 observation points to determine the degree of visibility of the site. Observation points were arranged to reflect two scenarios: one where the landfill is under construction, including a borrow/stockpile area and one where the landfill is completed with no remaining borrow/stockpile. The borrow/stockpile location is generalized for this analysis as a specific location and grading information were not available. Approximate maximum stockpile height was provided by Geosyntec.

Ancillary facilities (maintenance facilities, scales, basins, flares, etc.) were not modeled in either scenario because of their relatively minor scale in comparison to the landfill and borrow/stockpile elements (maximum of approximately 30 feet for ancillary facilities vs. hundreds of feet for the landfill and stockpile).

3.3.2 Viewing Conditions

Viewing conditions can be determined by physical conditions including topography, temporary and permanent obstructions, lighting, and atmospheric conditions.

Lighting can have a significant effect on views. Clouds and fog can also change viewing conditions by increasing or decreasing contrast. Atmospheric conditions in San Diego County tend to be hazy a large percentage of the time. A combination of fog, mist, haze, and smog combine to decrease visibility. Often, details of visual features are not discernible when more than three miles away. Based on typical viewing conditions in this area, objects more than two miles away generally will not be considered visually prominent. If these objects are large enough to be visible, they would not be prominent, since the distance decreases scale and contrast that is normally perceived by changes in texture, color, and pattern.

3.3.3 Views of the Site

The viewshed analysis indicates that potions of the East Otay Mesa alternative are visible from locations to the east, south, and west (see Figure 3). Much of the area with visibility of the alternative, however, is currently undeveloped. Many of the trails associated with the Otay Mesa Regional Park do not have visibility of the site because they lie in canyons or hillsides below the level of Otay Mesa, and thus, are shielded from view. Of the developed areas with views to the site, most are characterized as business/light industrial park. Viewers in these areas are few and have a low to moderate sensitivity to change. Additionally, for the areas within the light industrial/business park area to the southwest of the site, "real world" obstructions such as buildings and vegetation reduce visibility below what is indicated on the viewshed. While some view corridors exist that allow views to the site, visibility diminishes west of Enrico Fermi Drive and south of Airway Road. Although not assessed as part of the viewshed model, numerous viewing locations in Mexico would likely have views to some, if not all, of the landfill.

Almost no residential structures exist within the extents of the viewshed, excluding residences across the border in Mexico. Mapping data indicates that there are four residences within the three mile radius of the site, and only one of these has a view to the project (see Figure 4 and Table 1). A cursory analysis of the zoning that falls within the viewshed shows that the number of dwelling units allowed could increase substantially (to 5,230) if maximum densities were allowed on a dwelling unit/acre basis. This number, while a technical possibility, is extremely unlikely given the political impetus to preserve large portions of the Otay Mountains which currently allow some residential development. Further, the densities assumed for the Specific Plan zone can vary, and it is likely that non-residential use will dominate future development in this zone.

The second viewshed analysis, including the anticipated borrow/stockpile location and elevation, reveals that the stockpile, by itself, does not increase visibility for those areas that cannot see the landfill surfaces (see Figure 5).

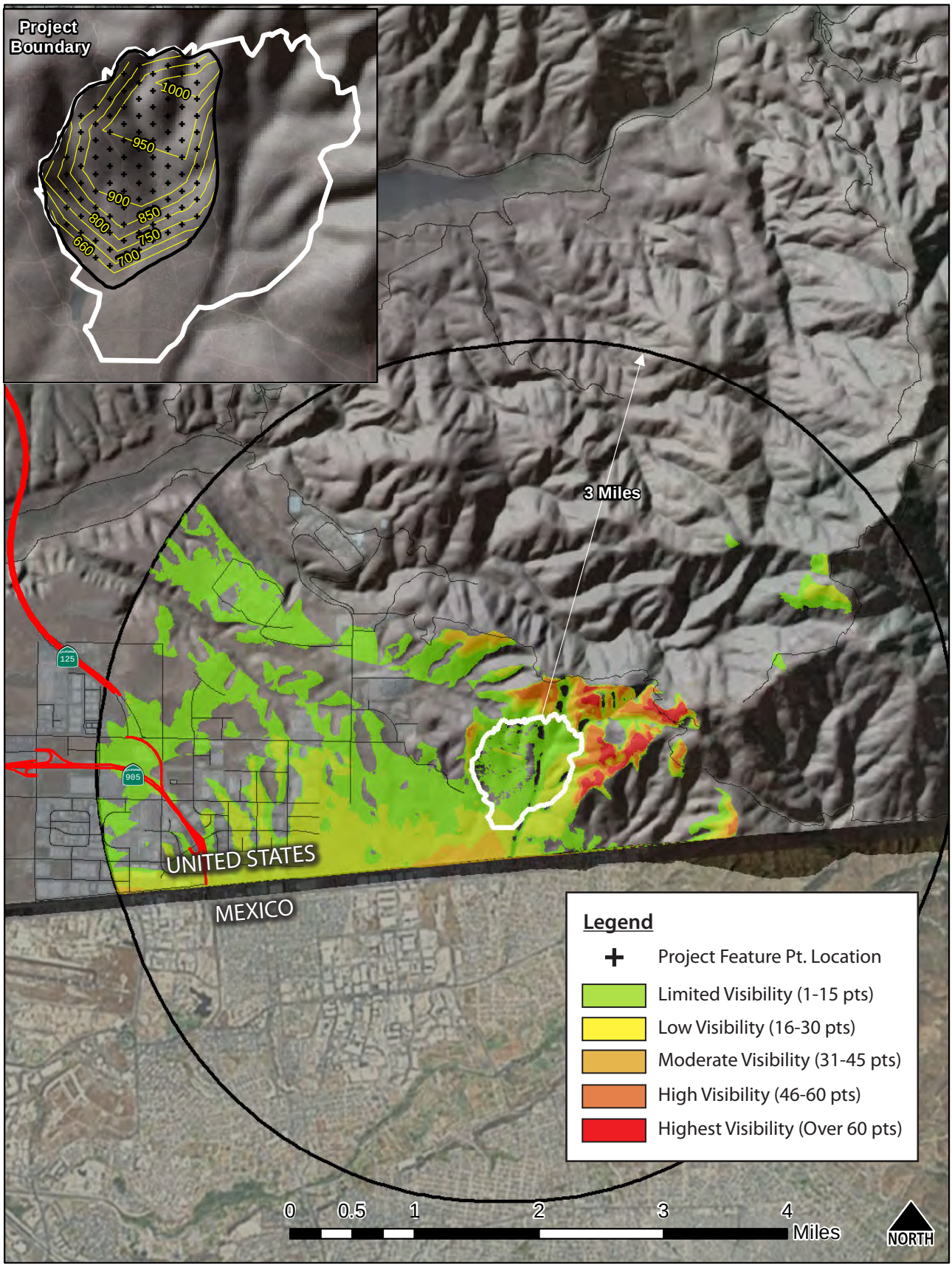


Figure 3: Viewshed of Final Landfill Form

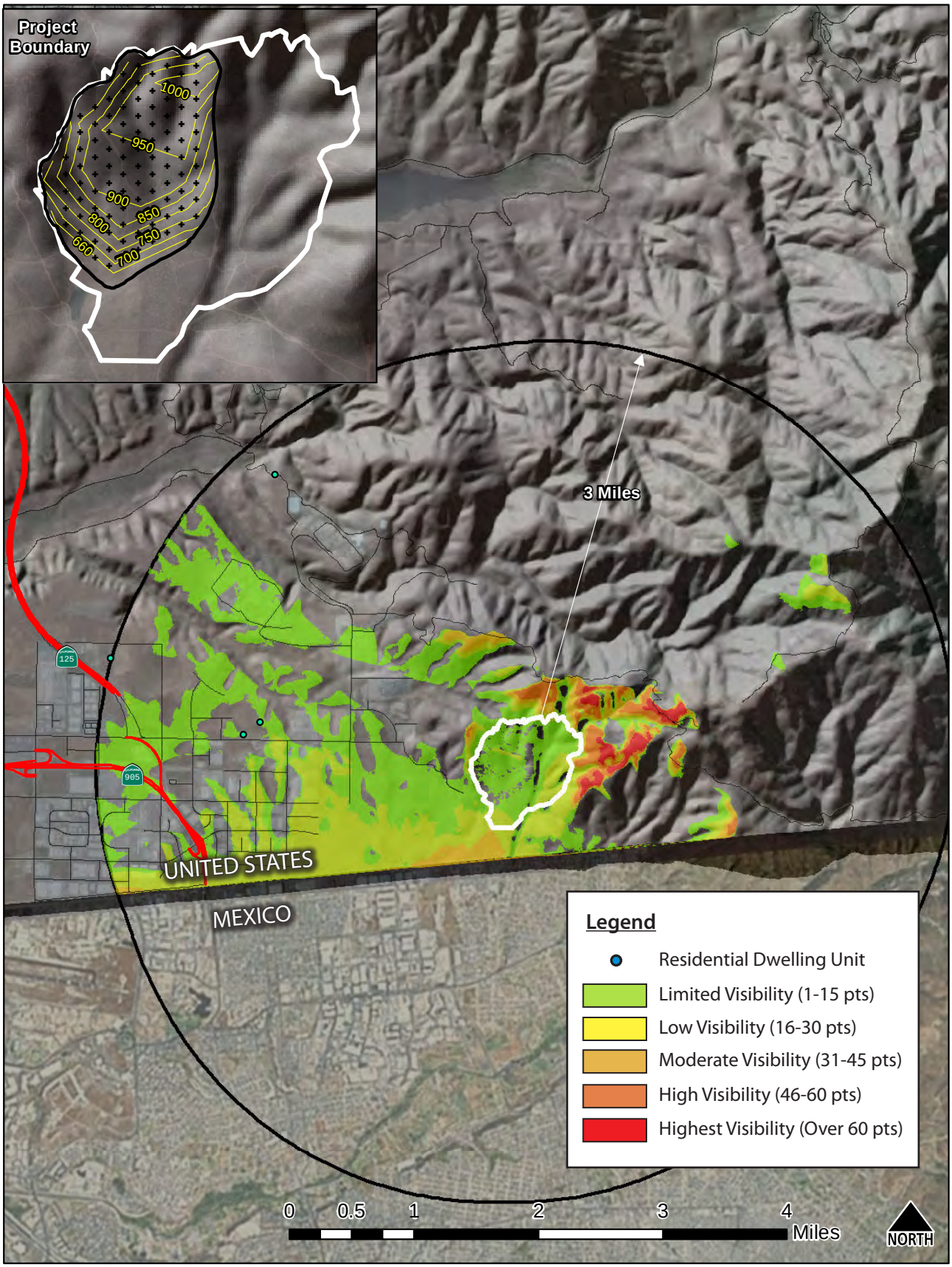


Figure 4: Viewshed with Dwelling Units

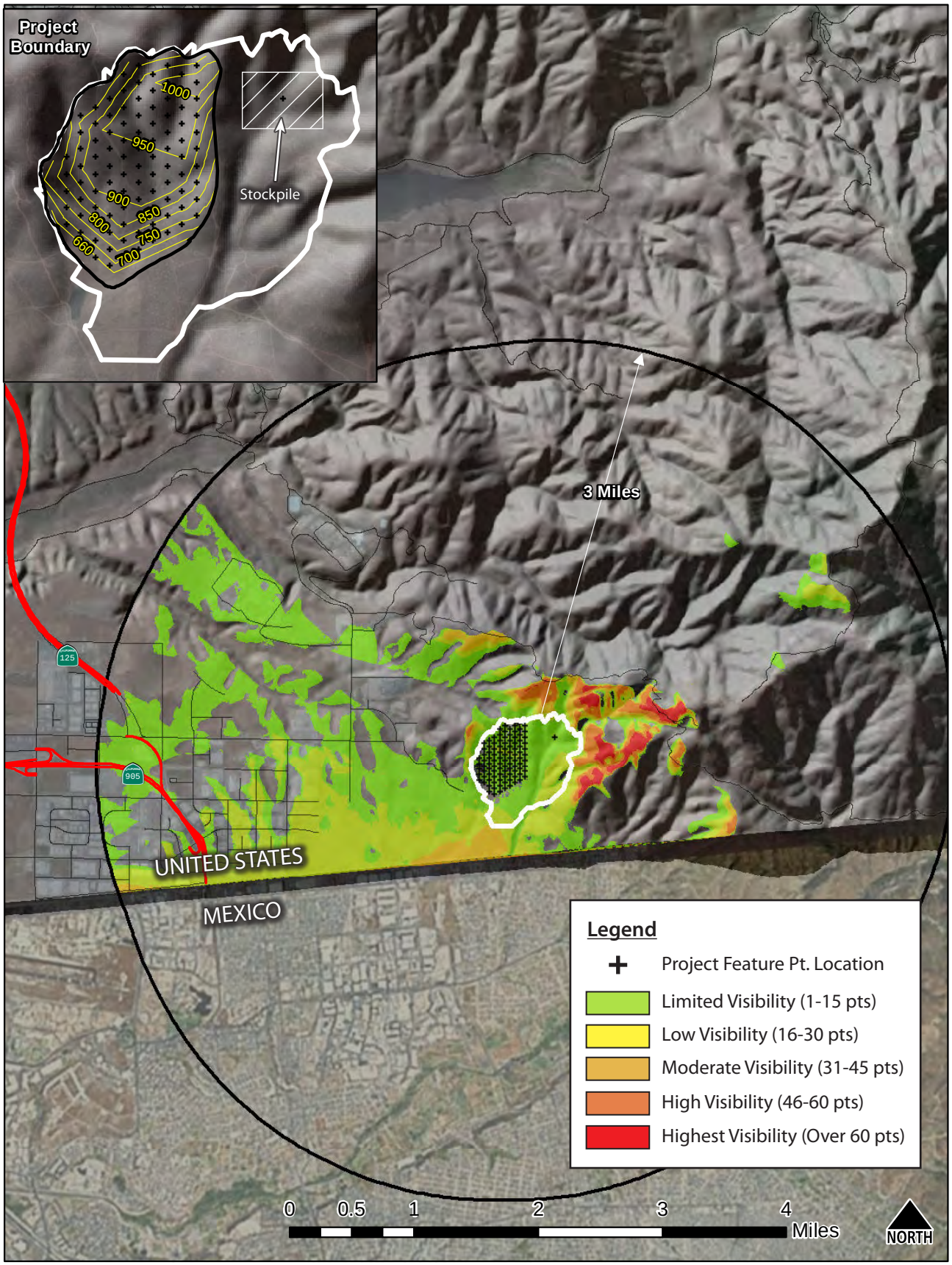


Figure 5: Viewshed of Landfill with Stockpile

Zoning	Acres In Viewshed	Existing Dwelling Units*	Density Allowed in Zone (DU/ Acre)**	Dwelling Units Allowed in Zone***	Potential Additional Houses
A70 - Limited Agricultural	25	0	0.25	6	6
OMDD-INDUST-SUBD - Otay Mesa Development District: Industrial Subdistrict (City of San Diego)	514	0	0	0	0
OMDD-INTL-SUBD - Otay Mesa Development District: International Center (City of San Diego)	449	0	0	0	0
S80 - Open Space Use	737	0	0	0	0
S87 - Limited Control	7,311	0	0.4	2,924	2,924
S88 - Specific Plan	3,280	1	0.05-0.66	2,165	2,164
S90 - Holding Area	2,708	0	0.05	135	135
Total	**15,024**	**1**		**5,230**	**5,229**

* Dwelling unit numbers reflect SANDAG data from 2009

** Densities can vary within each zoning use category.

*** Assumes maximum density.

Table 1: Viewshed Acreage and Residential Viewer Projection

4.0 Existing Visual Resources and Viewer Response

When determining potential impacts to the visual environment, a common vocabulary must be established to describe the aspect of a setting that could be altered or impacted by the alternative. Likewise, characteristics of potential viewers must be discussed and defined. The following sections provide these definitions.

4.1 Existing Visual Resources

Visual resources are defined by their character and their quality. The character describes the elements that make the resource unique in terms of appearance, while the quality refers to the public perception of the resource and their reaction to the resource.

4.1.1 Visual Character

The character of a visual resource can be further subdivided into pattern element and pattern character to better describe the distinctive features of a resource.

4.1.1.1 Pattern Elements

Visual character is generally defined by pattern elements such as form, spatial position relative to the viewer, line, color, texture, and detail.

The landforms of the site are large scale and dominant. The typical angle of slope is between 15 and 20 degrees with slopes ranging from 10-35%. The bottom of slopes are generally concave while the tops are generally convex. A strong contrast between these slopes and the ground plane exists. The abrupt change in slope at the mesa level is very apparent. The ridgelines of the nearby mountains provide the distinguishing background for views in the area.

The site is spatially positioned midway up the foothills of the Otay Mountains. Above the landfill site, the slopes become steeper and form the ridgelines/peaks of the mountains. Since the position of the landfill is moderately high in the viewing scene, changes will be noticeable.

Line characteristics that naturally occur consist of the hillside slopes and ridgelines of the area. The border fence and transmission lines are visible from several viewing locations, but otherwise, few man-made elements exist in the viewing scene.

The dominant color pattern of the site relates to the native chaparral and sage cover of the area. Even the disturbed foothills of the mountains exhibit the dominant green and brown vegetation and rock outcrops present on the hillsides.

4.1.1.2 Pattern Character

Pattern character can be described in terms of harmony, variety, contrast, and scale. The natural elements of the hillsides and the valleys can be considered harmonious. Likewise, the nearby agricultural uses are also harmonious with each other and the native landscape. Non-harmonious elements include the urbanized elements of industry, light industry, the detention facilities, and commercial services.

The context of the East Otay Mesa alternative is largely undeveloped. As such, variety is low within the viewing scene. Contrast exists, but only in terms of the flat foothills and the moderately to steeply sloped hillsides of the Otay Mountains.

The context of the alternative site is memorable, due to the distinctive mountains and ridgelines. The change in vertical elevation from valley floor to the ridgelines, combined with their undeveloped nature, greatly contribute to the experience.

Visual elements within the context of the site are mostly large in scale; the mountains and the mesa span large areas and create a sense of vastness and openness. Even the Otay River valley to the northwest of the site is a broad riparian plain which extends for miles. The man-made/cultural elements are large in comparison to other non-industrial uses/archetypes, but are miniscule when compared to the mountains and the mesa.

4.1.2 Visual Quality

The visual quality of the area is described in terms of its vividness, intactness, and scarcity of the specific visual elements.

Each landscape unit was analyzed in terms of its physical and perceptual quality, assessing elements such as landform, vegetation, water, harmony, vividness, and scarcity (see Appendix A for evaluation forms). Figure 6 shows the results of this evaluation in terms of high, moderate, and low visual character of each landscape unit. The point totals for each landscape unit, in terms of physical and perceptual quality, are provided in Table 2.

The areas with the highest visual quality are generally located to the north and east of the alternative site. The landscape character units representing the areas of high visual quality are the Otay Valley Regional Park and the undeveloped hillside character units. Much of the developed areas surrounding the project site (including graded lots with no structures) exhibit a moderate visual quality, containing some elements that are balanced and memorable, but others that are chaotic and/or unremarkable. The scattered industrial sites, the detention centers, and the freeway landscape character unit are examples of areas with low visual quality.

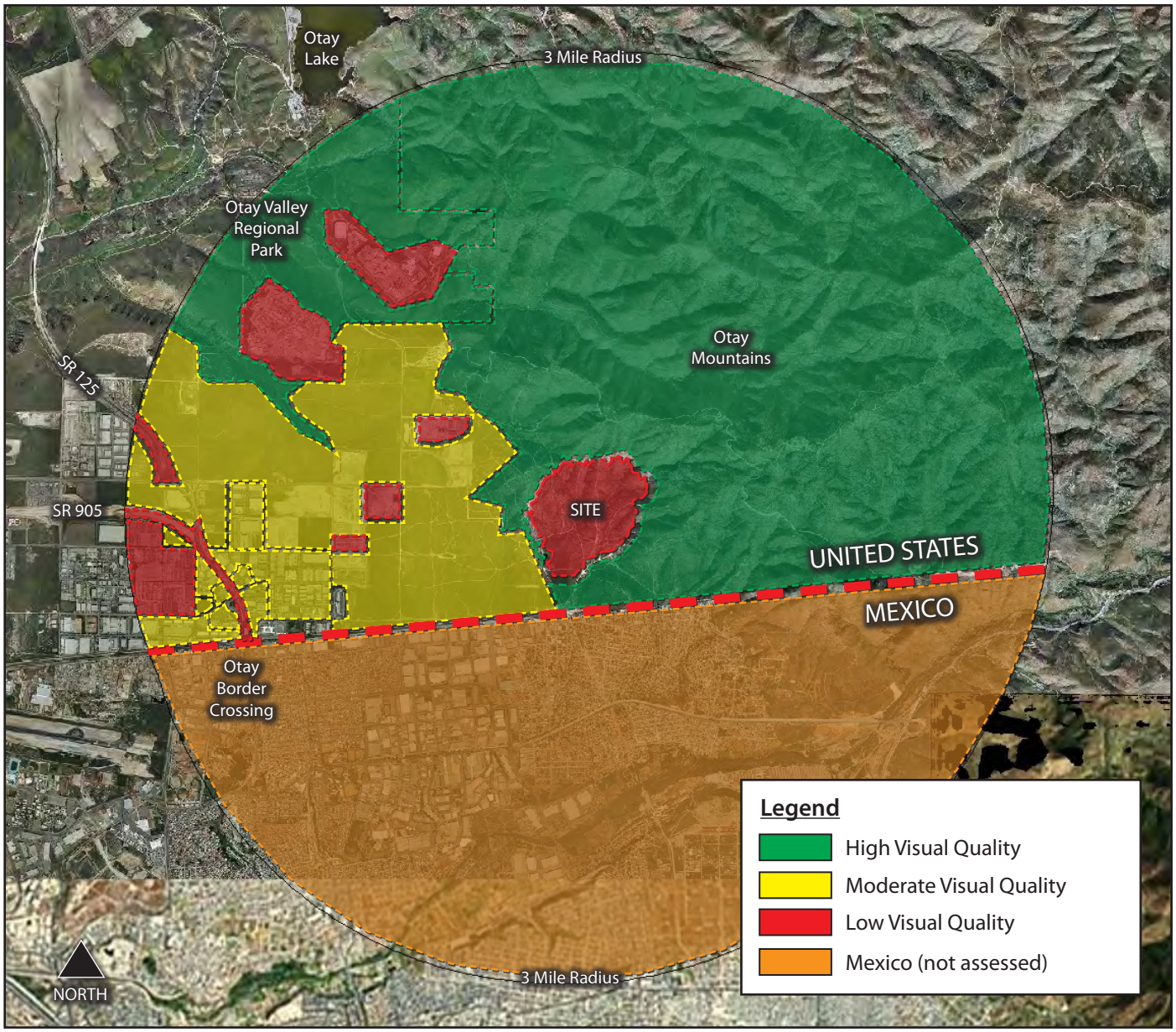


Figure 6: Landscape Character Unit Visual Quality

Unit Name	Physical	Perceptual	Total	Quality Category
Commercial Services	10	4	14	Moderate
Detention Center	5	5	10	Low
Freeway	4	3	7	Low
Industrial	4	1	5	Low
Light Industrial/Business Park	8	5	13	Moderate
Otay Valley Regional Park	17	7	24	High
Undeveloped/Agriculture	11	4	15	Moderate
Undeveloped Hillside	11	12	23	High

Table 2: Visual Quality Inventory Evaluation Summary

Viewer Group	Viewer Quantity	View Distance	View Duration	Viewer Sensitivity	Note
Residents	Extremely Low	Background	12 -14 hours daily	High	Residents are highly sensitive to change based on their investment in their homes. Views from their homes are private views, although they would also frequently travel public roadways in the vicinity (and within the viewshed) of the project.
Area Workers	Moderate to High	Middle ground to background	Up to 9 hours daily	Moderate	Workers may have intermittent views to the site while working and traveling to/from their place of employment, although their stake in the visual quality of the surrounding properties is limited.
Roadway Drivers	Moderate to High	Middle ground to background	Intermittent; 30 second intervals	Low	Workers/international travelers likely constitute the majority of the roadway drivers in the area. These viewers have limited investment in the visual environment. View durations would also be brief since direction of travel is generally north/south, giving few opportunities to directly face the landfill.

Table 3: Viewer Group Response Analysis

4.2 Viewer Response Assessment

The response of viewers to a change in the viewing scene can be estimated by analyzing elements such as viewing distances, viewer sensitivity, and viewing duration. Table 3 displays theses elements as they relate to the various viewer groups present near the site.

The viewer group with the highest sensitivity to change is residents near the alternative site. Residents are most sensitive because of the length of the duration of their exposure, their investment in property, and the value they place on the visual setting. Very few residences are located within three miles of the East Otay Mesa alternative, however, so the effect on viewers would be low.

While much of the land surrounding the East Otay Mesa alternative site is undeveloped and offers uninterrupted views to the site, most of these viewing locations are private and are likely to be developed in the future. There is also a lack of dedicated public spaces in the area that provide viewing locations near the site. The most significant public viewing locations, therefore, occur along public roadways in the vicinity of the site. The most highly traveled roadways near the site include SR 125, SR 905, and Otay Mesa Road. The remaining roadways either have very limited views to the site because of surrounding development or have an extremely low number of viewers.

5.0 Visual Impact Assessment

The visual impacts of the alternative are determined by assessing changes to existing visual resources by the alternative and predicting viewer response to any visual changes resulting from contrasts between the existing setting and the added project elements. Visual resource change can result from the loss of visual resources which contribute to the visual character of the area and/or the introduction of visually prominent elements that contrast negatively with the visual quality or character of the area. These impacts can be to landform, the visual quality of its resources or the visual character of the site.

The viewer response to changes in the visual environment created by the alternative is determined by viewer exposure and viewer sensitivity to the alternative. The resulting level of visual impact is determined by combining the severity of resource change with the degree to which people are likely to oppose or be disturbed by the change, weighted by the quantity and viewing duration of the viewers.

Later sections of the report include realistic computer simulations of the alternative, along with simplified photographic integration of computer models placed over top of existing visual resources shown in the photographs. The following sections detail the terminology used to analyze these simulations, as well as the process followed to select the simulated key views from numerous candidate key view photos/locations.

5.1 Definitions of Visual Impact Levels

The definitions below will be used in the remainder of this report. Normally, NEPA utilizes several levels of adversity (low, moderate, moderate to high, and high) and CEQA utilizes terms of significance and less than significant. However, to accommodate both levels of review and to be consistent with impact levels used in the 2003 Visual Impact Assessment for Gregory Canyon, the CEQA terms are used here to accommodate a direct comparison of all of the project alternatives being considered.

No Impact

Changes in the visual environment have no impact on existing visual resources. NOTE: If changes in the visual environment occur that are considered to be positive, the impact would also be classified as "no impact."

Less than significant impact

Impacts below that of significance can result when the changes to existing visual resources are not perceived negatively by viewers, the number of viewers is low, the contrast with existing resources is low, or the contrast occurs in an area with low visual quality/low sensitivity to visual changes.

Significant Impact

Changes in the visual environment produce a significant impact when they introduce a moderate or high level of contrast to the visual resource that is considered to have a high level of quality and intactness, and result in a viewer response that is moderately or highly negative. Mitigation will be required to reduce the impact to a less-than-significant level.

5.2 Guidelines for Determining Significance

The visual impact assessment of the East Otay Mesa alternative is based on impact to the following visual elements: visual quality, landform quality, view quality, and community plans and policies. These significance criteria are set under guidance provided by the United States Army Corps of Engineers (USACE) as approved in the Gregory Canyon Landfill Study Plan.

An alternative will be considered to have a significant effect if it proposes any of the changes listed below. Conversely, if an alternative does not propose any of the following, it will not be considered to have a significant effect on visual resources.

Impact to Landform Quality

1. The alternative would result in a permanent adverse change in the natural landform character of a scenic area. This change must not only be noticeable to a moderate to large number of viewers, but the contrast must dominate other adjacent landforms.

Impact to Visual Quality

2. The alternative would clearly contrast with the existing visual resources of a moderate or high quality landscape assessment unit. This contrast must be clearly visible to a moderate to large number of viewers and the contrast must dominate the visual scene to the point where the character and quality of the visual resources, or the scene as a whole, are permanently and significantly degraded.

Impact to View Quality

3. The alternative would block a substantial percentage of an existing view corridor of a regionally or subregionally important view scene, or prevent the physical or visual access to a viewing point from which the viewing scene can be seen. An adverse effect would also occur if an alternative highly contrasts and dominates the viewing scene to the point where the view scene quality is substantially degraded.

Impact to Community Plans and Policies

4. The alternative would prevent the attainment of a design or other aesthetic goal that is part of an adopted community plan or other County approved document. This visual character type is determined by line, form, color, contrast, texture, cultural features, scale and other elements that contribute to the character of the neighborhood and that are identified as important to the community.

In order to assess these impacts thoroughly and provide a basis of comparison with the Gregory Canyon visual impact analysis, this study utilizes the following questions to establish significance at each of the key view viewing locations:

1. Is the view available to 1,000 or more viewers per day?
2. Would the alternative result in an adverse change to the natural landform?
3. Would the alternative clearly contrast with existing moderate or high quality landscape units that make up the visual quality of the area?

Candidate Key View Number	Character Unit Taken From	Dominant Viewer Group	Quantity of Viewers	View Duration	Distance from Viewer to Site	Notes	Recommended for Simulation
1	SR 125 at Otay Mesa Road	Area Drivers	High	Short	Background	Number of viewers is high, although distance decreases visibility. Representative of views from three miles away.	Yes
2	Alta Road at Otay Mesa Road	Area Workers, Drivers	Moderate	Short	Background	Mostly unobstructed view to site. Roughly represents closest potential view from an Otay Valley Regional Park trailhead	Yes
3	Alta Road North	Area Workers	Low	Short	Middle ground	Number of viewers is low and terrain reduces visibility of landfill	No
4	Airway Road	Area Workers	Low	Short	Middle ground to Background	Clear view of landfill, although existing viewers are also low, but may increase in the future	Yes
5	Siempre Viva Road	Area Workers	Low	Short	Middle ground to Background	Clear view of landfill, although existing viewers are also low, but may increase in the future. View comparable to #4	No
6	Otay Lake	Residents	Low	Moderate to Long	Background	Landfill not visible because of terrain and vegetation, also more than three miles from landfill	No

Table 4: Key View Photo Summary and Simulation Recommendations

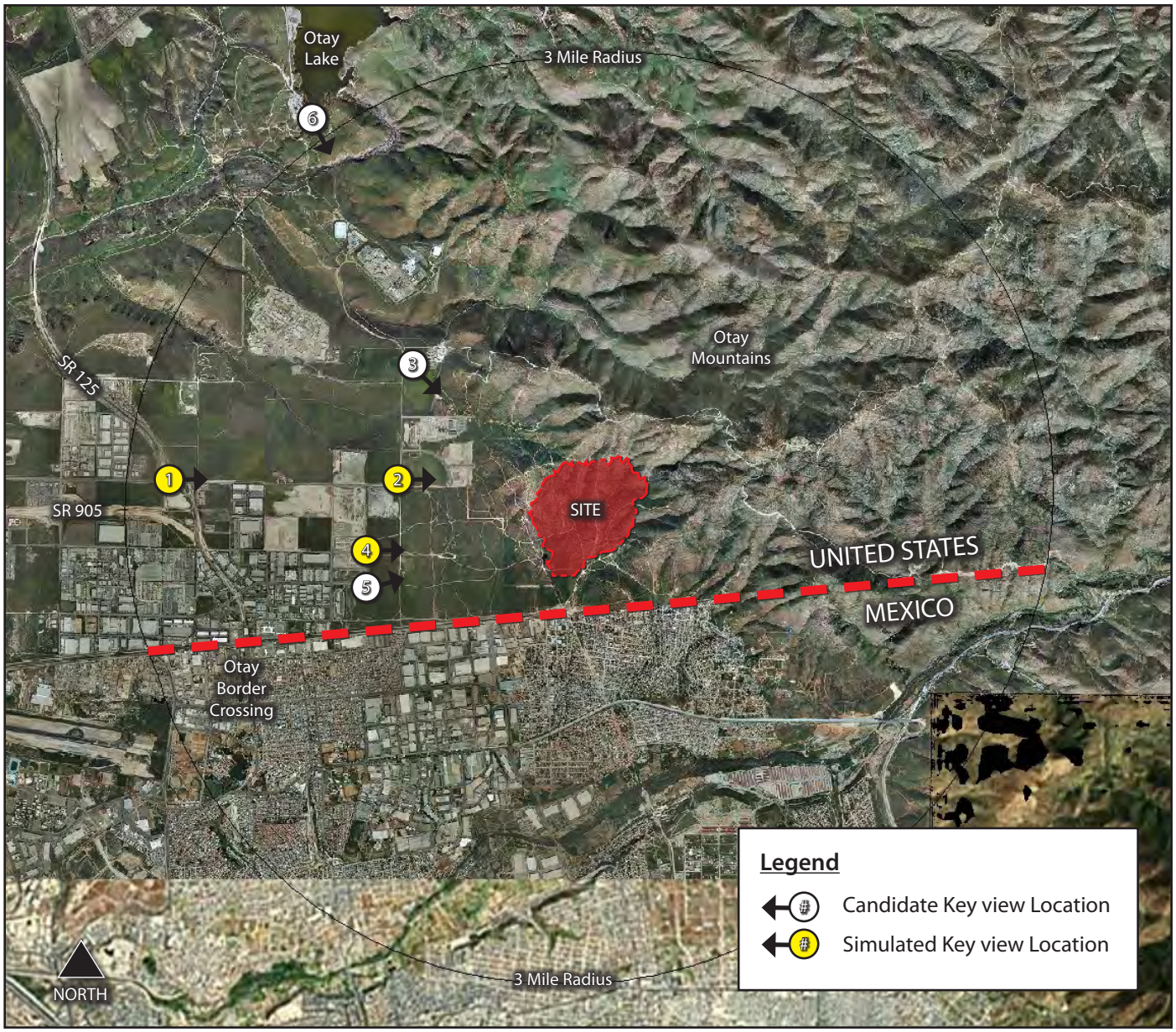


Figure 7: Key view Photo Locations

4. Will the alternative result in the loss of physical visual resources?

5. Will the alternative block and existing view corridor, change a regionally important view scene, or cause the removal of access to viewing locations for the general public that would affect the overall view quality of the area?

6. Will the alternative prevent the attainment of adopted design, planning, or aesthetic goals found in adopted policies that protect neighborhood/community character?

These questions attempt to quantify a number of viewers above which would represent a "moderate" quantity of viewers (potentially resulting in a significant impact), as well as provide more specificity to the ways impacts could affect landform quality, view quality, visual quality, and community plans and policies.

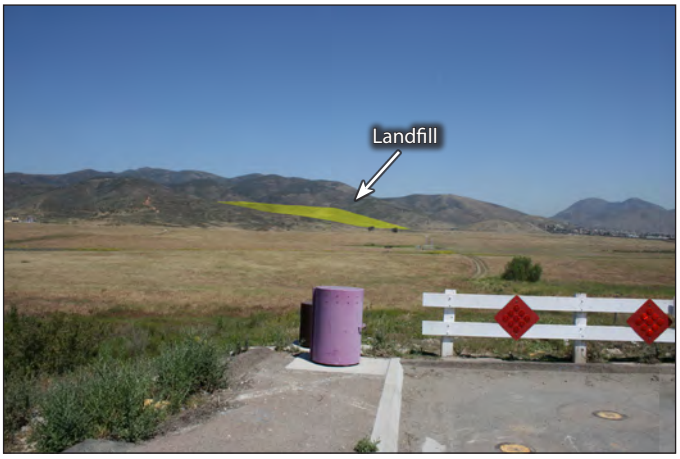
5.3 Key Views

Because it is not feasible to analyze all the possible views in which the landfill alternative would be seen, it is necessary to select a number of key view points that most clearly display the visual effects of the alternative.

Candidate Key View 1
Otay Mesa Road at SR 125 Looking East

Candidate Key View 2
Otay Mesa Road at Alta Road Looking East

Candidate Key View 3
Alta Road North Looking Southeast



Candidate Key View 4
Airway Road Looking East

Candidate Key View 5
Siempre Viva Road Looking East

Candidate Key View 6
Otay Lake County Park Looking South/Southeast

Figure 7 shows key views that represent typical views and viewing angles as seen by different viewer groups. These are referred to as "candidate key views." Each of the candidate key views on the following page includes an overlay of the landfill massing. These are not intended to be full simulations, rather, graphics that help to portray the general location, scale, and extent of the proposed elements. Please note that the simulated massing of the landfill includes a solid yellow tone for visible portions of the landfill and a semi-transparent yellow tone for portions of the landfill behind foreground objects. Table 4 summarizes each of these key views. The following pages include all of the key view photos that represent the full range of views of the site. Three of these key views have been refined into full simulations with suggested mitigations.

5.4 Visual Simulation Review

Figures 8 through 10 represent photo realistic computer simulations of the landfill alternative. They were developed through the use of a three-dimensional computer model of the landform with the landfill topographical contours. This model was then transposed over top of a photo image of the site. Additional texture, color, details and shadowing were added to increase the realistic look of the simulation. Foreground elements are added that would normally block out parts of the background view. The simulations reveal that the alternative, while visible, only moderately contrasts with existing visual elements. Existing ridges effectively screen much of the mass of the landfill and the landfill is not built high enough to create a new ridgeline. The landform that is created mimics the general slope, direction, and form of the area. In addition, existing viewing locations are at least a mile from the site, helping to reduce the prominence of the landfill through distance. In the interim stages, however, the light color of the minimally revegetated slopes makes the landfill noticeable.

Figure 8 shows the potential impacts to the viewing scene as seen from Otay Mesa Road at the SR 125 off ramp, approximately three miles to the west of the site. The existing viewing scene has three distinct elements: the roadway, the roadside development, and the Otay Mountains in the background. The mountains represent an element with high visual quality, while the road and industrial development have moderate to low visual quality. The viewing scene is moderately organized, but utility poles add clutter to the viewing corridor. Only the northern portion of the landfill mass can be seen from this viewing location, the remainder is obscured by roadside development and utility poles. This portion of the landfill is flat and appears in the bottom third of the existing mountains. Because of the already compromised character of the viewing scene, and the small amount of the viewing scene disturbed by the landfill, the alternative creates no impacts on the visual quality or character of the viewing scene This key view represents the view for residents, workers, and area drivers. The number of viewers at this location is high.

Figure 9 shows the potential impacts to views from Otay Mesa Road at Alta Road, approximately one mile to the west of the site. The scene is characterized as mostly undeveloped, with several scattered trees, native/non-native grasses, and informal dirt roads crossing the foreground/middle ground. There are currently no structures within the viewing scene, although this may change with future development. The natural colors and forms of the plants and Otay Mountain foothills dominate the scene and present a high visual quality, even though the intactness and organization are less than pristine. The simulation shows that the addition of the landfill is moderately intrusive. Contrasts with the existing visual environment are greatest during the interim stages in which the soil is without vegetation, while even minor revegetation effectively camouflages the new land mass. The top of the landfill is visible above some of the middle ground ridges, but the horizontal shape of the landfill matches the sprawling nature of the mountains. Several eucalyptus trees also help to break up to the mass of the landfill. Viewers from this location include workers and local area drivers.

Figure 10 represents the view from Airway Road, approximately one mile to the west of the site. The viewing scene provides a completely unobstructed view of the Otay Mountain foothills and the surrounding undeveloped land. Even though the land surrounding the mountains has been disturbed, its undeveloped nature provides a visual extension of a "natural" visual landscape. The expansive view emphasizes the horizontal character of the landscape with the dominant browns of the grasses in the middle ground turning to grays and dark greens in the mountains in the background. The scene is memorable, relatively intact, harmonious, and balanced.

Figure 10 also provides a simulation of the landfill at an estimated 50% volume. The simulation shows that the visibility and character of the landfill at half full is similar to that of the completed landfill, although the highest extent of the landfill mass is lower. The temporarily smaller mass of the landfill helps to reduce contrast with the intactness of the viewing scene, but other contrasts remain the same as with the completed landfill.

This simulation shows a view typical for workers and local area drivers. While the view simulated in Figure 10 is currently at the eastern edge of development, additional business/light industrial parks are planned for the area in the future. The viewer groups will remain the same, although the quantities of these viewers will increase. In either case, both workers and area drivers have a moderate sensitivity to change in the visual environment.

PROPOSED CONDITIONS (MITIGATED)

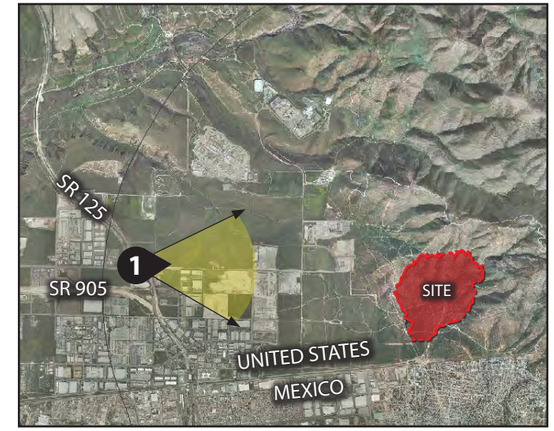
EXISTING CONDITIONS

PROPOSED CONDITIONS (UNMITIGATED)

Visual Setting Information / Contrast Assessment of Project Elements	Existing			Proposed		
	High Quality	Moderate Quality	Low Quality	High Contrast	Moderate Contrast	Improves/Low Cont.
Visual Quality						
Vividness		X				X
Intactness			X			X
Unity			X			X
Visual Organization		X				X
Other Elements						
Viewing Scene Quality			X			X
Landform Quality		X				X
Viewing Corridor Quality			X			X

NA: Not Affected or Not Applicable

* Simulation Notes: These simulations represent approximate renderings of project elements based on currently available information from conceptual plans.



KEY VIEW PHOTOGRAPH LOCATION North ▲

Alternative to Gregory Canyon Landfill

East Otay Key View 1

View looking east from SR 125/Otay Mesa Road

Figure 8

PROPOSED CONDITIONS (MITIGATED)

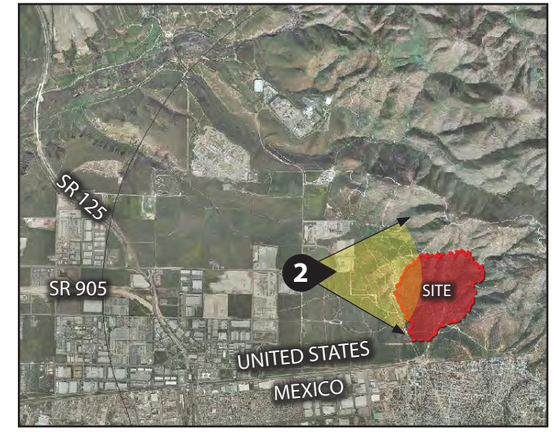
EXISTING CONDITIONS

PROPOSED CONDITIONS (UNMITIGATED)

Visual Setting Information / Contrast Assessment of Project Elements	Existing			Proposed		
	High Quality	Moderate Quality	Low Quality	High Contrast	Moderate Contrast	Improves/Low Cont.
Visual Quality						
Vividness	X					X
Intactness		X			X	
Unity	X					X
Visual Organization	X					X
Other Elements						
Viewing Scene Quality	X					X
Landform Quality	X					X
Viewing Corridor Quality		X				X

NA: Not Affected or Not Applicable

* Simulation Notes: These simulations represent approximate renderings of project elements based on currently available information from conceptual plans.



KEY VIEW PHOTOGRAPH LOCATION North ▲

Alternative to Gregory Canyon Landfill

East Otay Key View 2

View looking east from Otay Mesa Rd at Alta Rd

Figure **9**

PROPOSED CONDITIONS (100% FULL, UNMITIGATED)

PROPOSED CONDITIONS (100% FULL, MITIGATED)

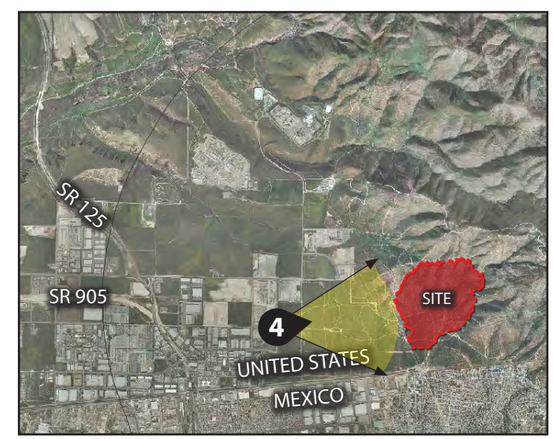
EXISTING CONDITIONS

PROPOSED CONDITIONS (50% FULL, UNMITIGATED)

Visual Setting Information / Contrast Assessment of Project Elements	Existing			Proposed		
	High Quality	Moderate Quality	Low Quality	High Contrast	Moderate Contrast	Improves/Low Cont.
Visual Quality						
Vividness	X					X
Intactness	X				X	
Unity	X				X	
Visual Organization	X					X
Other Elements						
Viewing Scene Quality	X				X	
Landform Quality	X					X
Viewing Corridor Quality		X				X

NA: Not Affected or Not Applicable

* Simulation Notes: These simulations represent approximate renderings of project elements based on currently available information from conceptual plans.



KEY VIEW PHOTOGRAPH LOCATION North ▲

Alternative to Gregory Canyon Landfill

East Otay Key View 4

View looking east from Airway Road

Figure 10

5.5 Assessment of Visual Character and Visual Quality

The first step in determining visual resource change is to assess the compatibility of the alternative with the visual character of the existing landscape. The following discussion utilizes Figures 8 through 10 to assess potential character attributes of the alternative and determine impacts.

5.5.1 Assessment of Visual Character

The future visual character of the alternative, especially once the revegetative cover is established, is relatively compatible with existing visual resources. The form and scale of the landfill mimic some of the existing foothills. While the landfill would have angled/engineered slopes that could contrast with gradual natural slopes, the visibility of these man-made slopes is limited by existing terrain and the distance from public viewing locations de-emphasizes landfill slope geometry. The placement of the landfill at the base and middle of the Otay Mountains preserves the existing characteristic ridgelines and peak shapes.

The color, diversity, and texture of the alternative would vary from the existing hillsides, although the distance from public viewing locations helps to visually blend the natural slopes and revegetated landfill surfaces. In addition, the plant palette of the Otay Mountain foothills surrounding the site contain less diversity (biologically and topographically) than elsewhere, allowing the landfill to mirror its character with standard revegetation. During construction, however, bare soil would introduce a greater contrast to the existing color, diversity, and texture of the hillsides surrounding the site.

5.5.2 Assessment of Visual Quality

The site and its surroundings currently possess a quality of intactness and unity. As previously mentioned, the middle ground of the view has been disturbed, but is characterized by grassy fields which complement the undisturbed hillsides behind. The landfill in its interim stages (with unvegetated slopes) disrupts the intactness and unity of the viewing scene, although after revegetation is completed, the mass would be mostly indistinguishable.

The vividness of the viewing scene relates to views of the regionally important Otay Mountains. While the Otay Mountains contain even more memorable topography and vegetation/rock outcroppings in other places, the portion surrounding the alternative site is still of a high visual quality. The location of the landfill in the foothills of the mountains minimally disrupts the vividness of the viewing scene because no distinctive ridgelines or slopes are impacted.

5.6 Assessment of Viewer Response

As discussed in Section 4.2 Viewer Response, the viewer group with the highest sensitivity to change is local residents. These viewers are not located close to the landfill, however, and their numbers are extremely low. Second to residents in sensitivity is area workers, although their investment in the visual environment is limited. Opposition would be unlikely from this group because of the diversity of opinions and values held by individuals within this group as they relate to visual impacts.

5.7 Community Plans and Policies

The following section highlights community goals and policies listed in Section 2.3, Regulatory Framework with which the alternative conflicts. Any goals and policies with which the alternative is compatible are not relisted in this section.

5.7.1 General Plan

<u>Conservation and Open Space Element</u>

Goal COS-11: Preservation of Scenic Resources

Policy COS 11.3: Development Siting and Design. Require development within visually sensitive areas to minimize visual impacts and to preserve unique or special visual features, particularly in rural areas, through the following:

- Creative site planning
- Integration of natural features into the project
- Appropriate scale, materials, and design to complement the surrounding natural landscape
- Minimal disturbance of topography
- Clustering of development so as to preserve a balance of open space vistas, natural features, and community character
- Creation of contiguous open space networks

The alternative, because of its landfill function and massive scale, does not accommodate some of the site planning techniques listed in this policy. Site features cannot be integrated except at the periphery of the landfill mass, existing topography cannot be minimally disturbed, landfill mass can only partially be clustered, and usable open space networks on site cannot be created.

5.7.2 Otay Mesa Community Plan

A. Land Use Policies

4. Discourage polluting industries; The County will discourage industries that display pollution or other nuisance characteristics from locations near the Mexican border.

The alternative is sited near the international border with Mexico and will be visible from viewing locations in Mexico. The visual impact (as viewed from south of the border) may be considered a "nuisance characteristic."

Resource Conservation Areas

The Resource Conservation Area (RCA) designation is applied to protect sensitive biological, archaeological, aesthetic, mineral, and water resources. Projects requiring environmental analysis under the California Environmental Quality Act (CEQA) that occur within RCAs should be carefully analyzed to assess their impact on the RCA.

The Otay Mountains are designated as resource conservation area #118.

It is unclear, based on Community Plan graphics, whether the alternative site falls within the Otay Mountains Resource Conservation Area. If it does, the overlap would be at the eastern/northeastern edge of the site. While the goal of the RCA is to design projects in a way that minimally impacts sensitive resources, the landfill alternative has few variables that can be sufficiently changed to avoid impacts, especially to visual resources. Conflicts with RCA goals are the same as those listed for COS 11.3.

5.8 Determination of Significance

Below is a discussion of the criteria/questions used to determine if the visual impacts created by the alternative constitute a significant impact or less than significant impact. These are the significance criteria discussed in Section 5.2, Guidelines for Determining Significance and they have been applied to the viewing locations simulated in Figures 8 - 10.

Otay Mesa Road at SR125

1. Is the view available to 1,000 or more viewers per day?

Yes. *SANDAG data estimated the Average Daily Traffic on Otay Mesa Road between the City of San Diego and Alta Road at 6,400 trips/24 hours in 2010.*

2. Would the alternative result in an adverse change to the natural landform?

No. *The portion of the landfill that is visible from this viewing location minimally affects the natural landform.*

3. Would the alternative clearly contrast with existing moderate or high quality landscape units that make up the visual quality of the area?

No. *The amount of the landfill that is visible is minor and the color and texture of the landfill (revegetated) blends with the existing hillside character.*

4. Will the alternative result in the loss of visual resources?

No. *The landfill obscures only a small portion of the hillsides to the east of the alternative site. The portion of the hillsides that is blocked does not contain unique or regionally significant features.*

5. Will the alternative block an existing view corridor, change a regionally significant view scene or cause the removal of access to viewing locations for the general public that would affect the overall view quality of the area?

No. *The background of the viewing scene is formed by the Otay Mountains and the landfill is sited in the mountains, therefore, it does not block any viewing corridors. Because the base of the landfill is screened by an existing hillside (which remains undisturbed) its impact on the intactness and unity of the viewing scene of the Otay Mountains is minor.*

6. Will the alternative prevent the attainment of adopted design, planning, or aesthetic goals found in adopted policies that protect neighborhood/community character?

Possibly, *depending on the definition of a "nuisance characteristic" with regards to impacts on Mexico. Otherwise, community goals and policies are met or addressed from this viewing location.*

Based on the analysis represented by the above significance criteria, and other considerations, the ***alternative will have an impact, but this impact will be below a level of significance to views from Otay Mesa Road at SR 125.***

Otay Mesa Road at Alta Road

1. Is the view available to 1,000 or more viewers per day?

Yes. *SANDAG data estimated the Average Daily Traffic on Otay Mesa Road between the City of San Diego and Alta Road at 6,400 trips/24 hours in 2010.*

2. Would the alternative result in an adverse change to the natural landform?

No. *The portion of the revegetated landfill that is visible from this viewing location minimally affects the natural landform. The unvegetated landfill (during construction) would produce a moderately adverse change to the landform.*

3. Would the alternative clearly contrast with existing moderate or high quality landscape units that make up the visual quality of the area?

No. *The color and texture of the revegetated landfill visually blends with the existing hillside character from this distance. These elements may contrast from a closer viewing location, but access to these locations is currently restricted and these locations lack viewers.*

4. Will the alternative result in the loss of visual resources?

No. *The landfill obscures only a moderate amount of the hillsides to the east of the alternative site, and the site is partially screened by existing vegetation. Further, the portion of the hillsides that is blocked does not contain unique or regionally significant features.*

5. Will the alternative block an existing view corridor, change a regionally significant view scene or cause the removal of access to viewing locations for the general public that would affect the overall view quality of the area?

No. *The foothills of the Otay Mountains form the middle ground in this view, although the only views beyond the mountains are over the ridgeline and to the south of the foothills. Therefore, the alternative does not block any view corridors. The interim stages of the landfill (where the slopes remain unvegetated) disrupt the intactness and unity of the viewing scene, but once standard revegetation occurs, impacts become very minor.*

6. Will the alternative prevent the attainment of adopted design, planning, or aesthetic goals found in adopted policies that protect neighborhood/community character?

Possibly, *depending on the definition of a "nuisance characteristic" with regards to impacts on Mexico. Otherwise, community goals and policies are met or addressed from this viewing location.*

Based on the analysis represented by the above significance criteria, and other considerations, the ***alternative will have an impact, but this impact will be below a level of significance to views from Otay Mesa Road at Alta Road.***

Airway Road

1. Is the view available to 1,000 or more viewers per day?

Unlikely. *Traffic count data is not available for Airway Road (or any of its connecting roads), but the context of the viewing location is sparsely developed business/light industrial park land uses. Airway Road goes no further east than this viewing location, and thus, trips must head away from the viewing location to access other locations in the region.*

2. Would the alternative result in an adverse change to the natural landform?

No. *The portion of the revegetated landfill that is visible from this viewing location minimally affects the natural landform. The unvegetated landfill (during construction) would produce a moderately adverse change to the landform.*

3. Would the alternative clearly contrast with existing moderate or high quality landscape units that make up the visual quality of the area?

No. *The color and texture of the landfill (revegetated) visually blends with the existing hillside character from this distance. These elements may contrast from a closer viewing location, but access to these locations is currently restricted and these locations lack viewers.*

4. Will the alternative result in the loss of visual resources?

No. *The landfill obscures only a moderate amount of the hillsides to the east of the alternative site. Further, the portion of the hillsides that is blocked does not contain unique or regionally significant features.*

5. Will the alternative block an existing view corridor, change a regionally significant view scene or cause the removal of access to viewing locations for the general public that would affect the overall view quality of the area?

No. *The background of the viewing scene is formed by the Otay Mountains and the landfill is sited in the mountains, therefore, it does not block any viewing corridors. Because the base of the landfill is screened by an existing hillside (which remains undisturbed) its impact on the intactness and unity of the viewing scene of the Otay Mountains is minor.*

6. Will the alternative prevent the attainment of adopted design, planning, or aesthetic goals found in adopted policies that protect neighborhood/community character?

Possibly, *depending on the definition of a "nuisance characteristic" with regards to impacts on Mexico. Otherwise, community goals and policies are met or addressed from this viewing location.*

Based on the analysis represented by the above significance criteria, and other considerations, the ***alternative will have an impact, but this impact will be below a level of significance to views from Airway Road.***

5.9 Cumulative Impact Analysis

There are no known projects in the area that would create a cumulative impact in association with the East Otay Mesa alternative.

5.10 Summary of Alternative Visual Impacts Significance

The East Otay Mesa alternative will have impacts, but these impacts are considered to be below a level of significance. The impacts include:

- **Landform quality impacts *will be less than significant*** since the topography of the alternative is compatible with the existing topography/landforms that define the character of the existing site.
- **Visual quality impacts *will be less than significant*** since they will not remove or obscure visual resources that are considered to be of a high quality and are major determinants in setting the existing visual quality of the area.
- **View quality impacts *will not occur*** since the landfill does not block a viewing corridor.
- **Community Plans and Policies impacts *will be less than significant*** since only the goal regarding "nuisance characteristics" near the international border with Mexico may not be met.

6.0 Visual Mitigations

The simulations for the three key views assumed a standard amount of revegetation efforts for all phases of the landfill. This revegetation effort would be required as a part of slope stabilization and erosion control. Hydroseeding of temporary slopes was also considered mandatory to reduce dust, prevent erosion, and reduce the amount of visual contrast of the landfill. If these standard revegetative measures are employed, no additional mitigations would be required to ensure that visual impacts remain below a level of significance.

In terms of reducing impacts of a moderate level of adversity (which would be considered below a level of significance but still requiring mitigation under NEPA), only landform grading/footprint adjustment would be able to decrease the landfill's mass to more completely blend with the existing hillsides. This measure, however, is impractical based on the mass and volume necessary to make the alternative meet its program level of use. Enhanced revegetation, therefore, is an acceptable second mitigation alternative which does not completely mitigate impacts, but is able to reasonably reduce them more than standard revegetation which generally consists only of hydroseeding a mono-culture of deep rooting native groundcovers versus enhance revegetation that include diversity of species, textures and sizes of plantings.

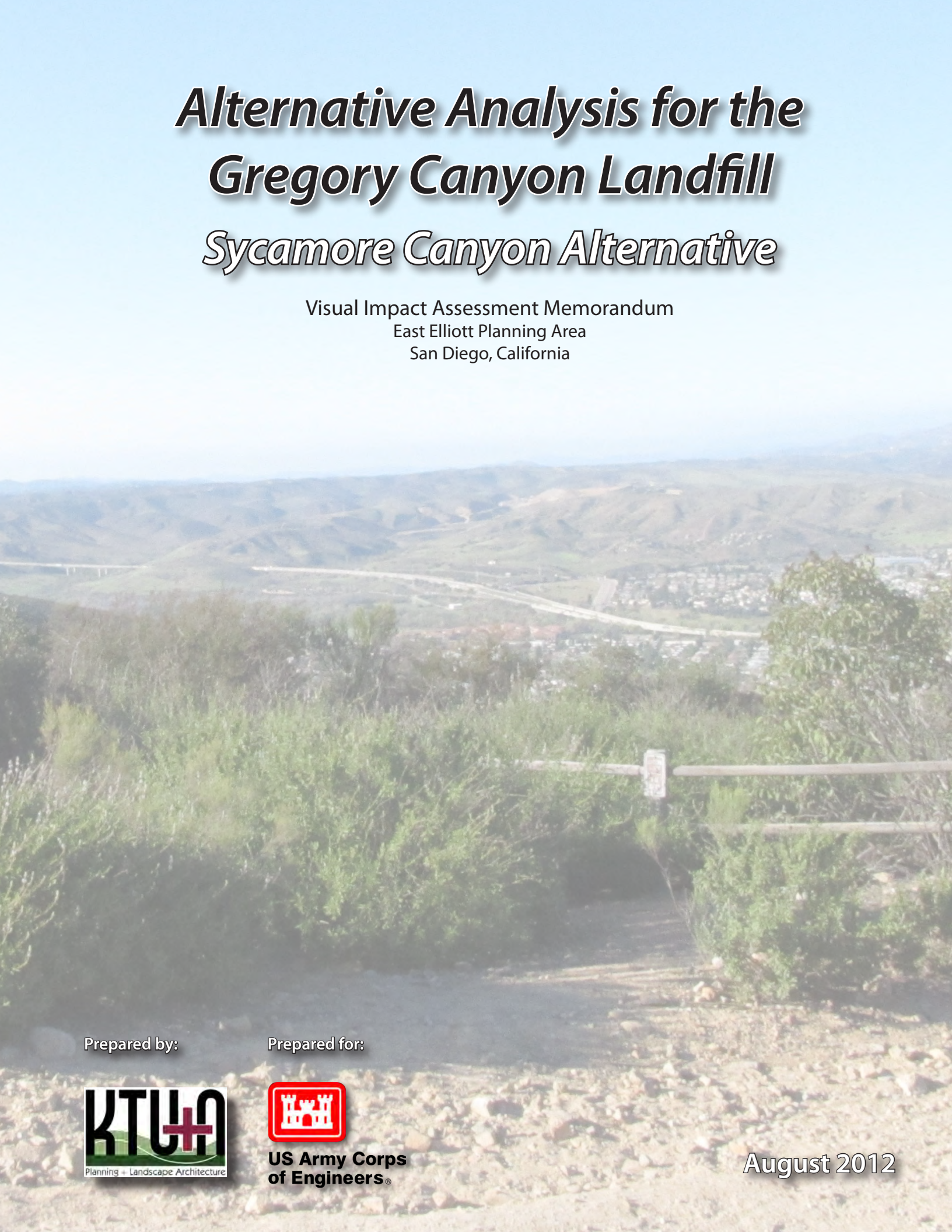
7.0 Conclusion

The East Otay Mesa alternative does not produce significant visual impacts based on existing viewing locations and viewer groups typical of the setting. Future development may create new viewing locations, although planning documents produced by the County of San Diego reveal that growth will be in keeping with the existing light industrial uses and the extent of growth will be moderate (maintaining some distance between development and the landfill). The greatest potential for visual impacts would occur south of the site in Mexico. Although these impacts are not considered applicable to the scope of this study, the visibility of the changes would be much greater than from viewing locations in the United States and would affect the landform and visual quality of the viewing scene of the Otay Mountains. From viewing locations within the United States, however, the siting of a landfill at the East Otay Mesa alternative site would create only minor visual impacts that could be meaningfully mitigated with standard revegetation techniques.

Alternative Analysis for the Gregory Canyon Landfill

Sycamore Canyon Alternative

Visual Impact Assessment Memorandum
East Elliott Planning Area
San Diego, California



Prepared by:

KTU+A
Planning + Landscape Architecture

Prepared for:

US Army Corps of Engineers®

August 2012

VISUAL IMPACT ASSESSMENT MEMORANDUM:
GREGORY CANYON LANDFILL,
SYCAMORE CANYON ALTERNATIVE

August 2012

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CERTIFICATION

Michael L. Singleton, ASLA, AICP – Principal Planner/Landscape Architect; B.S. Landscape Architecture; 25 years experience; California registered Landscape Architect #2386; registered on the County-approved Consultants List to prepare Visual Analyses (updated January 1, 2012).

Introduction

The U.S. Army Corps of Engineers (USACE), lead agency for the preparation of an Environmental Impact Statement (EIS) for the proposed Gregory Canyon Landfill, has identified the proposed Sycamore Canyon Landfill Expansion as an alternative to be evaluated in the EIS. As such, the following discussion compares aspects of the proposed Sycamore Canyon Landfill Expansion to the proposed Gregory Canyon Landfill as one of its project alternatives. The basis for the following analysis is the May 2012 Sycamore Landfill Master Development Plan Revised Environmental Impact Report (EIR). The EIR provides the background information and simulations necessary to conduct a comparable visual impact assessment, which has been reformatted to match NEPA standards and the Gregory Canyon analysis.

An important aspect of the Sycamore Canyon Landfill Expansion project proposal is the inclusion of measures above and beyond those assumed as standard landfill practices in the other landfill alternative analyses. The EIR states that the project design includes creation of irregular landform features and installation of a native plant revegetative cover (vs. standard erosion control hydroseed) after landfill closure. The EIR states, "Plant materials shall be chosen to create a texture similar to that of surrounding natural areas. Natural variations in soil and vegetation shall be used to avoid a uniform geometric appearance." (p 5.4-18) Because these measures are being proposed up-front as a part of the project design, the visual impacts of the alternative with respect to landform character and visual quality are meaningfully reduced.

The EIR includes seven photo simulations which inform and supplement the impact analysis. These simulations have been reviewed with respect to the alternatives for the proposed Gregory Canyon landfill, which utilized a combination of NEPA and CEQA guidance. This same guidance was used to provide consistency with the previous Gregory Canyon documents. Not all the simulations were reviewed as many of the view points demonstrate redundant aspects of the Sycamore Canyon alternative. This memorandum selects four of the seven simulations which demonstrate either the highest visibility or distinctive character attributes of the landfill and/or its setting.

The criteria used in the selection of the four simulations includes:

- Number of viewers represented by view (greater number preferred over lesser)
- Amount of landfill mass visible in simulation (higher amount preferred over lesser)
- Visual quality of context/setting (higher visual quality preferred over lower)

Viewshed

The viewshed analysis provided in the EIR (Figure 5.4-4) appears to utilize the standard Digital Elevational Model (DEM) approach to determining areas with a view of project elements. Utilization of DEM is a common methodology and accounts for visual obstructions created by landforms, but does not include structures, roadways, or vegetation. The DEM utilized in the EIR appears to pre-date the landform changes associated with the construction of SR-52, which created visual blockages to the site from some viewing locations immediately south of the freeway. While incorporation of newer DEM data would produce a more accurate viewshed analysis, the use of the older data results in an output with higher visibility. This approach is more conservative, but equally valid.

Key Views

The EIR identified 15 key views as candidates for simulation, seven of which were selected for full simulation. Approximately half of the candidate key view locations were to the west, south, and east of the site in the cities of San Diego and Santee. The other half were to the northeast of the site on currently undeveloped land, but in locations estimated to be of importance in the proposed development of Fanita Ranch. All key view locations lie within the viewshed of the alternative and represent a wide array of viewing locations, number of viewers, and types of viewers.

The following analysis focuses on four simulations assessing impacts from Viewpoint 1: Eastbound SR-52, Viewpoint 12: Northbound Mission Gorge Road, Viewpoint B: Planned Residential Area east of Sycamore Canyon School, and Viewpoint 6: Planned Park Site east of Sycamore Canyon High School.

The following criteria were used in the evaluation of impacts from the selected simulations:

Impact to Landform Quality

1. The alternative would result in a permanent adverse change in the natural landform character of a scenic area. This change must not only be noticeable to a moderate to large number of viewers, but the contrast must dominate other adjacent landforms.

Impact to Visual Quality

2. The alternative would clearly contrast with the existing visual resources of a moderate or high quality landscape assessment unit. This contrast must be clearly visible to a moderate to large number of viewers and the contrast must dominate the visual scene to the point where the character and quality of the visual resources, or the scene as a whole, are permanently and significantly degraded.

Impact to View Quality

3. The alternative would block a substantial percentage of an existing view corridor of a regionally or subregionally important view scene, or prevent the physical or visual access to a viewing point from which the viewing scene can be seen. An adverse effect would also occur if an alternative highly contrasts and dominates the viewing scene to the point where the view scene quality is substantially degraded.

Impact to Community Plans and Policies

4. The alternative would prevent the attainment of a design or other aesthetic goal that is part of an adopted community plan or other County approved document. This visual character type is determined by line, form, color, contrast, texture, cultural features, scale and other elements that contribute to the character of the neighborhood and that are identified as important to the community.

Viewpoint 1: Eastbound SR-52

Figure 5.4-17 of the Revised EIR represents a viewing location from Eastbound SR-52, with the alternative site to the left side of the field of view (north of the freeway). This viewing location is populated by a large number of viewers (estimated at about 63,000/day based on 2010 CALTRANS traffic count data).

Impact to Landform Quality

1. The simulation reveals that while the landfill is visible from this viewing location, the majority of the new landform would be screened from view by interceding ridges. In addition, the form of the landfill would be similar to the other landforms in the viewing scene; existing hills are gently sloped with rounded hilltops, creating more of a horizontal character than vertical. The forms of the landfill, especially as seen from this distance, visually blend with these forms. The simulation does not provide a photo-realistic rendering of the landfill prior to "several years after closure," however. ***In its interim phases, the impacts to landform quality could be significant***, although interim impacts related to landform cannot be verified because the simulation does not provide information on interim levels of excavation/fill. ***On a long-term basis, the impact to landform quality would be less than significant provided landform grading and revegetation of landfill slopes occurs as depicted in the simulation.***

Impact to Visual Quality

2. The visual quality of the viewing scene is determined by the natural landforms of the hills adjacent to the freeway right-of-way. While these hills do not exhibit the vertical variation and surface feature complexity (rock outcropping, plant material, etc.) of the other more notable landforms in the region, they nonetheless possess a moderate visual quality that is sensitive to change. Although the simulation does not depict the landfill during the years of operation, the engineered landfill slopes (benching), access ramps, drainage infrastructure, and bare earth texture/color likely to occur ***would highly contrast with the visual quality of the existing hillsides, creating a significant impact***.

Impact to View Quality

3. The important viewing corridors within the viewing scene from Viewpoint 1 are to the east and southeast. Existing hillsides bordering SR-52 prevent distant views to the north. The location of the landfill within these hills to the north of the freeway ensures that it does not block an existing view corridor. Even though the finished elevation of the landfill rises slightly above the existing hilltops, there is no distant view to obscure. ***There is no impact to view quality.***

Impact to Community Plans and Policies

4. Based on the community plans and policies listed in the EIR, potential impacts relate to two plans/policies:

- State of California, California Scenic Highway Program. SR-52 has been identified as "eligible for designation as a State Scenic Highway." Because the route has not yet been designated, the project cannot violate regulations related to scenic designation. The landfill could, however, prevent or make more difficult the designation of the corridor as scenic.

- City of Santee General Plan, Conservation Element, Policy 10.2: "Encourage preservation of significant natural features, such as watercourses, ridgelines, steep canyons, and major rock outcroppings." While the character of the existing viewing scene is not significantly changed, the landfill creates a ridgeline that replaces an existing one. In this sense, the existing ridgeline is not preserved.

Although the landfill creates impacts to community plans and policies, ***the level of impact remains below a level of significance.***

Viewpoint 1 Impact Summary

Impacts from the alternative, as seen from Viewpoint 1, are mixed. Impacts are likely to occur in terms of landform quality and visual quality. These impacts are balanced with the lack of impacts to view quality and less than significant impacts to community plans and policies. The implementation of landform grading and revegetation as indicated in the visual simulations would help to reduce impacts after landfill closeout, although the simulations do not account for the numerous years of active landfill operation. Overall, given the number of viewers at this viewing location, the visibility of the upper portions of the landfill, and the length of time the landfill will be active, the impact would be significant. After closeout and the execution of landform grading and revegetation, these impacts could be reduced to less than significant.

A. Existing View

- - - - - - Approved Height - 883' AMSL

— — — — Ultimate Planned Height - 1,050' AMSL

B. Photosimulation of proposed 1,050' AMSL design, several years after closure.

Source: BRG Consulting, Inc. 2007

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Photosimulation From Eastbound SR-52, Viewpoint 1

SYCAMORE LANDFILL MASTER DEVELOPMENT PLAN EIR

Figure 5.4-17

Viewpoint 12: Northbound Mission Gorge Road

Figure 5.4-18 of the Revised EIR represents a viewing location from northbound Mission Gorge Road with the alternative site to the left side of the field of view. SANDAG data for this portion of Mission Gorge Road shows an ADT of 11,100 trips, although this number is for both northbound and southbound lanes; only the northbound lanes have this view.

Impact to Landform Quality

1. The viewing scene is characterized by distinctive landforms both in the foreground and the background of the viewing scene. The most dynamic, because of topographical variation and close proximity to the viewer, are the hillsides along Mission Gorge road. The hills in the background are gently sloped and their prominence is reduced by distance from the viewer. The land in the middle ground gently slopes away from the viewer as it merges with the San Diego River valley. The simulation reveals that the form of the landfill would be highly visible and would create a new ridgeline. The distance to the landfill helps to mitigate its bulk and scale, but even at this distance the change is very noticeable. The landform would be silhouetted against the sky, thereby increasing its visibility and prominence. ***While interim simulations were not provided, it is reasonable to assume that interim impacts would be significant for areas that have not been reclaimed, revegetated or re-contoured with landform grading***. The contouring measures included as a part of the landfill close-out, however, would help to blend the landform into its setting, and with the aid of distance, should relate to other parts of the viewing scene. Therefore, ***the impact to landform quality would be less than significant in the long-term.***

   NOTE: The finished landfill height shown in Figure 5.4-18 appears to be higher than the height depicted in the other simulations. This simulation may be either over-stating the prominence of the landfill as seen from Mission Gorge Road or understating the prominence from the other viewing locations. This issue is limited to prominence, however, since additional views are not blocked and the character remains the same regardless of size. Of the four simulations, the topographical variation of the landfill is most visible from this location, and thus, represents the "worst-case-scenario" in terms of prominence.

Impact to Visual Quality

2. The visual quality of the viewing scene is largely shaped by the natural landforms of the hills adjacent to the roadway and some of the trees/vegetation leading down to the San Diego River valley. While the hills do not exhibit the vertical variation and surface feature complexity (rock outcropping, plant material, etc.) of the other more notable landforms in the region, they nonetheless possess a moderate visual quality that is sensitive to change. The vegetation, both urban and natural, provides variety to the scene in terms of color, shape, and texture, and continues the dominance of naturalistic forms and colors exhibited by the undisturbed hillsides. From this viewing location the landfill represents a noticeable portion of the viewing scene. The simulation does not depict the landfill during the years of operation, but the engineered landfill slopes (benching), access ramps, drainage infrastructure, and bare earth texture/color likely to occur on the project site during these years would be highly visible and ***would highly contrast with the visual quality of the existing hillsides and other naturalistic forms, creating a significant impact***.

Impact to View Quality

3. While the primary viewing corridor of the viewing scene is down Mission Gorge Road towards the San Diego River valley, view corridors also exist to Sycamore Canyon and to a series of ridgelines to the north[1]. The landfill not only obscures views into Sycamore Canyon, but its height above the surrounding hillsides also obscures views to hills/ridgelines further to the north. The landfill also creates a new ridgeline that becomes the focal point of the background in place of the existing hillsides. Based on the inherent function of the landfill, however, preservation of view corridors through substantial landform modification would not be possible without non-attainment of the program requirements. Therefore, ***the landfill would have a significant, unmitigable impact to views.***

Impact to Community Plans and Policies

4. Based on the community plans and policies listed in the EIR, potential impacts relate to two plans/policies:

- City of San Diego General Plan, Conservation Element: Policy CE-B.1 calls for "protection and conservation of landforms, canyon lands, and open spaces that (among other things) provide public views/vistas, serve as core biological areas and wildlife linkages, provide buffers within and between communities, or provide outdoor recreational opportunities." The landfill impacts the existing landforms, Sycamore Canyon, and public views/vistas, and therefore, does not meet this community policy.
- City of Santee General Plan, Conservation Element, Policy 10.2: "Encourage preservation of significant natural features, such as watercourses, ridgelines, steep canyons, and major rock outcroppings." The landfill creates a ridgeline that replaces an existing one and fills an existing canyon, and therefore, this policy is not met.

The landfill does not meet the criteria cited above. Based on the inherent function of the landfill, substantial landform modification would not meet attainment of the program requirements. ***The landfill would have a significant, unmitigable impact.***

Viewpoint 12 Impact Summary

The impacts to the viewing scene as seen from Viewpoint 12 are substantial, very visible, and visible to a high number of viewers. Because impacts to visual quality, view quality, and community plans and policies were determined to be significant, the overall impact of the landfill to the viewing scene from Viewpoint 12 is also significant and unmitigable.

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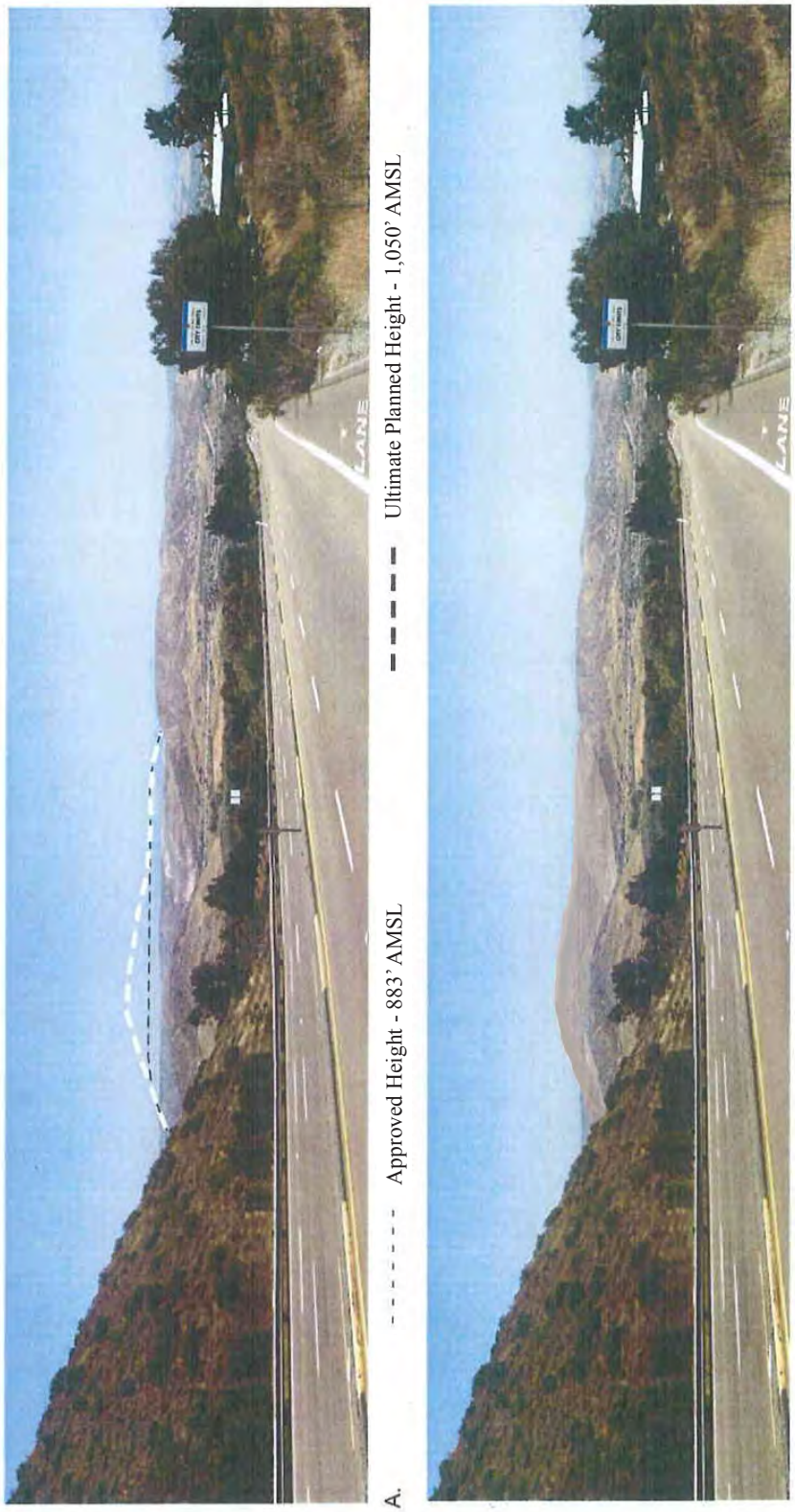
1 There are no officially designated scenic vista locations near the alternative site (p 5.4-11). The EIR assessment criteria considered impacts to designated scenic vista locations only per City of San Diego criteria, and thus, found no impact.



Source: BRG Consulting, Inc. 2006
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Photosimulation from Mission Gorge Road, Viewpoint 12

SYCAMORE LANDFILL MASTER DEVELOPMENT PLAN EIR

Figure 5.4-18

Viewpoint 6: Planned Park Site

Simulation 5.4-21 represents a viewing location from east of Sycamore Canyon High School, with the alternative site in the middle of the field of view. The status of the park proposed for the site is uncertain. The analysis below evaluates impacts based on the existing number of viewers (extremely low) rather than a potential future number. If and when the park is developed, impacts would be multiplied by the increase in number of viewers.

Impact to Landform Quality

1. The simulation reveals that while the landfill is visible from this viewing location, the majority of the new landform is screened from view by interceding ridges In addition, the form of the landfill is similar to the other landforms in the viewing scene; existing hills are gently sloped with rounded hilltops, creating more of a horizontal character than vertical. The forms of the landfill, especially as seen from this distance, visually blend with these forms. ***The impact to landform quality, therefore, is less than significant.***

Impact to Visual Quality

2. The visual quality of the viewing scene is determined by the natural landforms of the hills in the background, with development and vegetation characterizing the middle ground. While the hills do not exhibit the vertical variation and surface feature complexity (rock outcropping, plant material, etc.) of the other more notable landforms in the region, they nonetheless possess a moderate visual quality that is sensitive to change. The development and vegetation in the middle ground provide variety to the viewing scene but do not create a cohesive scene in terms of shape or color. The addition of the landfill does not create enough change to dominate the viewing scene or significantly alter or degrade the existing visual quality. Only the top portion of the landfill is visible, and from this distance, the character of the landfill landforms mimics that of the existing hillsides. ***The impact to visual quality is less than significant.***

Impact to View Quality

3. The important viewing corridors within the viewing scene terminate with the existing hills in the background. There is a view to the mountains of Mission Trails Regional Park, including Pyles Peak, but they are in the distance and their scale appears the same as the closer hillsides. The location of the landfill behind the existing hillsides ensures that it does not block an existing view corridor. Even though the finished elevation of the landfill rises above the existing hilltops, there is no distant view to obscure. ***There is no impact to view quality.***

Impact to Community Plans and Policies

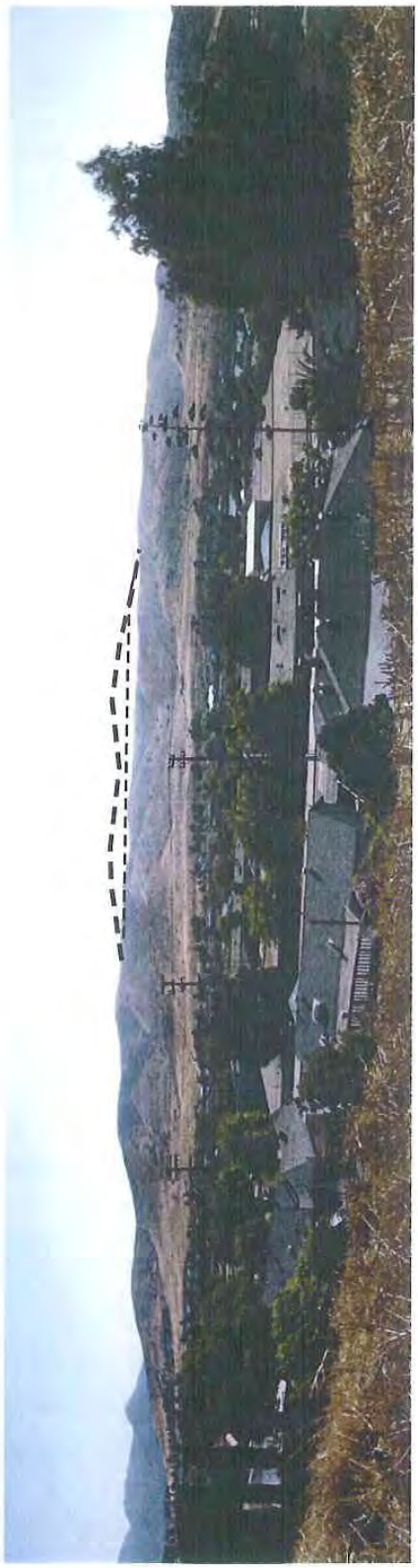
4. Based on the community plans and policies listed in the EIR, potential impacts relate to one plan/policy:

- City of Santee General Plan, Conservation Element, Policy 10.2: "Encourage preservation of significant natural features, such as watercourses, ridgelines, steep canyons, and major rock outcroppings." While the character of the existing viewing scene is not significantly changed, the landfill creates a ridgeline that replaces an existing one. In this sense, the existing ridgeline is not preserved.

Although the landfill creates impacts to community plans and policies, ***the level of impact remains below a level of significance.***

Viewpoint 6 Impact Summary

The impacts to the viewing scene as seen from Viewpoint 6 are minimal. While some impacts occur in terms of landform quality and community plans and policies, these remain below a level of significance. Further, overall impacts are kept to a minimum since there are almost no impacts in terms of visual quality and none related to view quality.



A. Existing View

– – – – – – Approved Height - 883' AMSL

– – – – – – Ultimate Planned Height - 1,050' AMSL

B. Photosimulation of proposed 1,050' AMSL design, several years after closure.

Source: BRG Consulting, Inc. 2006

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Photosimulation from Potential Park Site
East of Sycamore Canyon High School, Viewpoint 6

SYCAMORE LANDFILL MASTER DEVELOPMENT PLAN EIR

Figure 5.4-21

Viewpoint B: Fanita Ranch Proposed Residential Area

Simulation 5.4-23 represents a viewing location from a currently undeveloped area, but one that is planned as a residential area within the proposed Fanita Ranch community. The alternative site is in the middle of the field of view. The status of the Fanita Ranch development is uncertain, although as of March 2012 it was reported that market conditions, not regulatory delays/constraints, were the reason for inaction. Whatever the case, the analysis below evaluates impacts based on the existing number of viewers (extremely low) rather than a potential future number. If and when the community is developed, impacts would be multiplied by the increase in number of viewers.

Impact to Landform Quality

1. The simulation reveals that while the landfill is visible from this viewing location, the bottom half of the new landform is screened from view by interceding ridges. A long expanse (from left to right) of the landfill is visible, but the form of the landfill is similar to other landforms in the viewing scene; the landfill generally mimics the gentle slopes and rounded hilltops of the surrounding landforms. The forms of the landfill, especially as seen from this distance, visually blend with these forms. ***The impact to landform quality, therefore, is less than significant.***

Impact to Visual Quality

2. The visual quality of the viewing scene is determined by the natural landforms of the hills in the foreground and background, with the development, vegetation, and water of Santee Lakes characterizing the middle ground. While the hills do not exhibit the vertical variation and surface feature complexity (rock outcropping, plant material, etc.) of the other more notable landforms in the region, they nonetheless possess a moderate visual quality that is sensitive to change. The vegetation and water in the middle ground provide variety to the viewing scene and create a composition of balanced form, color, and scale. The addition of the landfill, however, does not create enough change to dominate the viewing scene or significantly alter or degrade the existing visual quality. Only the top portion of the landfill is visible, and from this distance, the character of the landfill landforms mimics that of the existing hillsides. ***The impact to visual quality is less than significant.***

Impact to View Quality

3. The important viewing corridors within the viewing scene terminate with the existing hills in the background. There is a view to Fortuna Mountain, but it stands alone as a distant focal point beyond the background ridgeline. The location of the landfill behind the existing hillsides ensures that it does not block an existing view corridor. The landfill does rise above the existing hilltops and blocks a minor portion of the view of Fortuna Mountain, but otherwise, it only blocks views to the sky. ***There is no impact to view quality.***

Impact to Community Plans and Policies

4. Based on the community plans and policies listed in the EIR, potential impacts relate to one plan/policy:

- City of Santee General Plan, Conservation Element, Policy 10.2: "Encourage preservation of significant natural features, such as watercourses, ridgelines, steep canyons, and major rock outcroppings." While the character of the existing viewing scene is not significantly changed, the landfill creates a ridgeline that replaces an existing one. In this sense, the existing ridgeline is not preserved.

Although the landfill creates impacts to community plans and policies, ***the level of impact remains below a level of significance.***

Viewpoint B Impact Summary

The impacts to the viewing scene as seen from Viewpoint B are minimal. While some impacts occur in terms of landform quality and community plans and policies, these remain below a level of significance. Further, overall impacts are kept to a minimum since there are almost no impacts in terms of visual quality and none related to view quality.

A. Existing Conditions — — — Approved Height - 883' AMSL — — — Ultimate Planned Height - 1,050' AMSL

B. Photosimulation of proposed 1,050' AMSL design, several years after closure.

Source: BRG Consulting, Inc. 2006

I:\ArcGIS\SSLH01 Sycamore Landfill\Map\ENVEIR\Fig5_4-23_Photosimulations.indd -RK

Photosimulation from Proposed Residential Area 3,000 Feet East of Sycamore Canyon School

SYCAMORE LANDFILL MASTER DEVELOPMENT PLAN EIR

Figure 5.4-23

Mitigations

The proposed Sycamore Canyon Landfill Expansion Alternative creates two types of significant impacts: those that exist during the operation of the landfill (pre-closure) and those that exist and are unmitigable. The "interim" significant impacts affect landform quality as seen from eastbound SR-52 and northbound Mission Gorge Road. With the project feature elements of contour grading and native plant revegetation, however, these impacts are reduced below a level of significance. The unmitigable impacts affect view quality and community plans and policies and are based on the mass and location of the landfill. Neither of these can be substantially adjusted and still attain the program goals of the landfill, and thus, are unmitigable.

Conclusion

The proposed Sycamore Canyon Landfill expansion most significantly impacts views from viewing locations to the south, represented by the simulation from Mission Gorge Road. From this location, the landfill's mass and siting within a canyon creates significant impacts to view quality, visual quality, and goals established by community plans and policies. From the other viewing locations, impacts are either below a level of significance, or are reduced to below a level of significance by landfill closure with landform grading and native plant community revegetation.