

Review of Changes to Central Site Alternative for Sonoma County Waste Management Agency Compost Facility

Prepared for
Sonoma County Waste Management Agency

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Summary

Sonoma County Waste Management Agency (SCWMA) has prepared documentation under the California Environmental Quality Act (CEQA) to assess the environmental effects of the construction of a new compost facility in Sonoma County that would replace the existing composting facility at the Central Disposal Site. A Draft Environmental Impact Report (DEIR) that evaluated the potential effects on the environment of three project alternatives was released for public review in December 2011. A Recirculated Draft Environmental Impact Report (RDEIR) was released in October 2012 to review changes in one of the alternatives, the Central Site Alternative. The Final Environmental Impact Report (Final EIR) was prepared with responses to comments on both the DEIR and RDEIR and was presented to the SCWMA Board in April 2013. Subsequently, the Board directed staff to evaluate options to reduce or eliminate compost contact stormwater from the Central Site Alternative.

SCWMA proposes several changes to the Central Site Alternative:

- The pre-processing areas will be fully enclosed to eliminate stormwater contact with the materials and to reduce odor potential.
- Metal “pole barn” structures with roofs and open sides will be placed over the compost piles to eliminate stormwater contact with the compost.
- The total quantity of soil that would be handled would increase from approximately 727,000 cubic yards to approximately 750,000 cubic yards, with the base elevation of the compost site lowering by approximately 10 to 20 feet. Most of the excavation will be performed by the landfill operator as part of landfill operations, whether or not the compost project is implemented.

CEQA Guidelines Section 15088.5 require that a lead agency “recirculate an EIR when significant new information is added to the EIR after public notice is given of the availability of the draft EIR for public review under Section 15087 but before certification.” Significant new information that would require recirculation includes:

- A new significant environmental impact would result from the project or from a new mitigation measure proposed to be implemented. (15088.5[a][1])
- A substantial increase in the severity of an environmental impact would result unless mitigation measures are adopted that reduce the impact to a level of insignificance (15088.5[a][1])
- A feasible project alternative or mitigation measure considerably different from others previously analyzed would clearly lessen the environmental impacts of the project, but the project’s proponents decline to adopt it (15088.5[a][1])

Based on the analysis contained in this report, no new significant impacts, no substantial increase in the severity of any impact included in the RDEIR, and no new mitigation measures would result from the revisions to the Central Site Alternative. The revisions are expected to reduce the severity of some impacts described in the RDEIR, especially impacts associated with stormwater quality. In this case, the Central Site Alternative would continue to be the environmentally preferred alternative as determined in Section 4.11 of the RDEIR.

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Acronyms and Abbreviations

AB 939	California Integrated Waste Management Act of 1989
ASP	aerated static pile
BAAQMD	Bay Area Air Quality Management District
CEQA	California Environmental Quality Act
CNDDB	California Natural Diversity Database
DEIR	Draft Environmental Impact Report
DEM	digital elevation model
Final EIR	Final Environmental Impact Report
GHG	greenhouse gas
HVAC	heating, ventilation, air conditioning
IESNA	Illuminating Engineering Society of North America
mg/kg	milligrams per kilogram
RDEIR	Recirculated Draft Environmental Impact Report
RCSI	Report of Composting Site Information
ROG	reactive organic gas
SCWMA	Sonoma County Waste Management Agency
SWRCB	State Water Resources Control Board
USGS	United States Geologic Survey
WDRs	Waste Discharge Requirements

Introduction

1.1 Background

Sonoma County Waste Management Agency (SCWMA) previously prepared a Draft Environmental Impact Report (DEIR) under the California Environmental Quality Act (CEQA) to assess the environmental effects of the construction of a new compost facility in Sonoma County that would replace the existing composting facility at the Central Disposal Site. The DEIR evaluated the potential effects on the environment of three project alternatives known as Site 5A, Site 40, and the Central Site. The DEIR was released for public review in December 2011.

Comments on the DEIR included the results of engineering and processing reviews of the potential capacity at the Central Site Alternative. In the 2011 DEIR, the Central Site Alternative was analyzed to only have the capacity to process approximately 110,000 tons of incoming feedstock materials per year, an insufficient quantity to meet the project goal of 200,000 tons per year. One comment letter indicated that 200,000 tons per year could be processed at the Central Site Alternative through the use of cutting edge technologies that would allow for additional tons of materials to be composted on less space than with traditional windrow or other aerated static pile composting processes. Per CEQA Guidelines Section 15088.5, a lead agency is required to recirculate a Draft EIR, prior to certification, when “significant new information” is added to the EIR after the public review period begins. SCWMA determined that changes to the Central Site Alternative would constitute significant new information and prepared a Recirculated Draft Environmental Impact Report (RDEIR) to evaluate potential impacts of the revised approach.

The RDEIR was released for public review in October 2012. The RDEIR provided a partial recirculation of only the chapters and sections that changed as a result of the changes to the Central Site Alternative. The RDEIR indicates that, with these changes, the Central Site Alternative meets all project objectives and is the environmentally preferred alternative. The Final Environmental Impact Report (Final EIR) was prepared with responses to comments on both the DEIR and RDEIR and was presented to the SCWMA Board in April 2013. Subsequently, the Board directed staff to evaluate options to reduce or eliminate compost contact stormwater from the Central Site Alternative.

SCWMA is currently proposing additional changes to the Central Site Alternative as it was included in the 2012 RDEIR. These changes are intended to improve the management and quality of stormwater on the project site through elimination of compost contact stormwater. In addition, Sonoma County, in preparing for the reopening of the Central Disposal Site and establishing a Master Operations Agreement, determined that it will be excavating from the proposed composting site approximately 590,000 cubic yards of soil for storage and used at the landfill for ongoing operations and future uses.

1.2 Purpose of Report

As noted above, CEQA Guidelines Section 15088.5 required that a lead agency “recirculate an EIR when significant new information is added to the EIR after public notice is given of the availability of the draft EIR for public review under Section 15087 but before certification.” Significant new information that would require recirculation includes:

- A new significant environmental impact would result from the project or from a new mitigation measure proposed to be implemented. (15088.5[a][1])
- A substantial increase in the severity of an environmental impact would result unless mitigation measures are adopted that reduce the impact to a level of insignificance (15088.5[a][1])

- A feasible project alternative or mitigation measure considerably different from others previously analyzed would clearly lessen the environmental impacts of the project, but the project's proponents decline to adopt it (15088.5[a][1])

The purpose of this report is to evaluate the proposed revisions to the Central Site Alternative and determine if any of the conditions that would require recirculation are met. The RDEIR used the same baseline conditions as the DEIR for the environmental impact analysis in order to allow comparison to the other DEIR alternatives. The evaluation in this report similarly assumed the same baseline conditions. Information on the proposed revisions to the Central Site Alternative was obtained from the following sources:

- TetraTech BAS letter to SCMWA, "West Canyon Compost Facility - Technical Analysis and Engineering Services for the Central Site," dated October 8, 2014
- Bryan A. Stirrat Associates Cost Estimate for Sonoma Landfill West Canyon Compost Facility, October 15, 2014
- Clements Environmental Corporation, *Sonoma County Compost Facility Capacity and Design Study*, prepared for SCWMA, October 2014
- SCWMA *Compost Wastewater Zero Discharge Plan*, July 2014
- Central Proposed Site Engineering Report from SCMWA October 15, 2014 Board Meeting
- Illustrations of plan view layout and typical roofing provided by SCWMA staff
- Phone conversations with SCWMA staff

1.3 Conclusions

Based on the analysis contained in this report, no new significant impacts, no substantial increase in the severity of any impact included in the RDEIR, and no new mitigation measures would result from the revisions to the Central Site Alternative. The revisions are expected to reduce the severity of some impacts described in the RDEIR, especially impacts associated with stormwater quality. In this case, the Central Site Alternative would continue to be the environmentally preferred alternative as determined in Section 4.11 of the RDEIR.

1.4 Organization of Report

Section 2 of the report describes the revisions to the Central Site Alternative compared to the alternative as described in the RDEIR.

Sections 3 through 11 address each of the resource chapters in the RDEIR; identify the revisions to the Central Site Alternative that could affect the RDEIR impact analysis; and identify any changes to the environmental evaluation and conclusions that could result. These sections consist of:

- Section 3: Air Quality
- Section 4: Biological Resources
- Section 5: Cultural Resources
- Section 6: Hydrology and Water Quality
- Section 7: Land Use and Agriculture
- Section 8: Noise
- Section 9: Public Services and Utilities

- Section 10: Traffic and Transportation
- Section 11: Aesthetics

Revisions to the Central Site Alternative

The Central Site Alternative is described in Chapter 4 of the Recirculated Draft EIR (Environmental Science Associates [ESA], 2012), with references to some project description information in the Draft EIR. This section describes the proposed revisions to the Central Site Alternative as described in these documents. Project description information not addressed here remains unchanged from what is included in the DEIR and RDEIR. The Central Site Alternative location is shown in Figure 2-1 and the vicinity of the Central Site Alternative is shown in Figure 2-2.

2.1 Changes in Excavation

The Central Site Alternative as described in the RDEIR includes leveling the proposed composting facility area by cutting approximately 421,000 cubic yards of soil and filling with approximately 306,000 cubic yards of the excavated soil. The excess of soil would be used at the adjacent landfill site for ongoing operations. The total quantity of soil that would be handled is approximately 727,000 cubic yards.

Since the 2012 RDEIR, the application for re-opening the landfill states that the landfill operator will be excavating from the composting site approximately 590,000 cubic yards of soil, most of which will be stored and used at the adjacent landfill site for ongoing operations and future uses. The landfill operator, Republic, will excavate the soil whether or not the compost project is implemented. Leveling the proposed composting facility area after the Republic excavation would require moving and filling approximately 160,000 cubic yards of onsite materials. The total quantity of soil that would be handled is approximately 750,000 cubic yards, an approximately 4 percent increase from the quantity in the RDEIR.

A result of Republic's excavation is that the base elevation of the compost site will be approximately 10 to 20 feet lower than in the RDEIR and the grading of areas immediately adjacent to the primary pad may have minor variations in slope compared to the RDEIR. Overall site drainage from the northeast to the southwest will remain unchanged from the RDEIR; the revised Central Site Alternative site would be graded and designed such that all on-site drainage would be directed into the proposed onsite retention pond.

2.2 Roofing and Building Structures

The pre-processing areas will be fully enclosed to eliminate stormwater contact with the materials and to reduce odor potential. The building enclosures will consist of standard 29 gauge painted ribbed steel; coatings will be applied to resist corrosion. The main processing building will be approximately 420 feet long and 160 feet wide; the non-organic processing building will be approximately 173 feet long and 161 feet wide. Both buildings are expected to be no more than 47 feet high. Each building will include a negative air pressure system to minimize odor emissions. Typical systems pull the air from the inside of the building through exhaust fans and piping to an air scrubber within the buildings that removes odors and other VOCs. Once treated, the air will be exhausted to the atmosphere.

As shown in Figure 2-3, the compost piles would be organized in eight groups of eight piles, for a total of 64 piles. The revised Central Site Alternative would use a positive pressure ASP system, which uses a membrane covered aerated static pile design, as described in the RDEIR; a typical membrane cover is shown in Figure 2-4. The membranes would be placed on the piles using an approximately 17 to 18-foot tall rigging system. Each group of eight compost piles would be covered by a metal "pole barn" structure with a roof and open sides to eliminate stormwater contact with the compost. A profile sketch of the proposed roofing is shown in Figure 2-5. Each roofing structure would be approximately 160 feet wide by 260 feet long, with a sloping roof approximately 20 feet high at the eaves to accommodate the rigging systems and up to 47 feet high at the peak. The needed height will be determined during project design. The material for the roof is expected to be standard 29 gauge painted ribbed steel; coatings will be applied to resist corrosion.

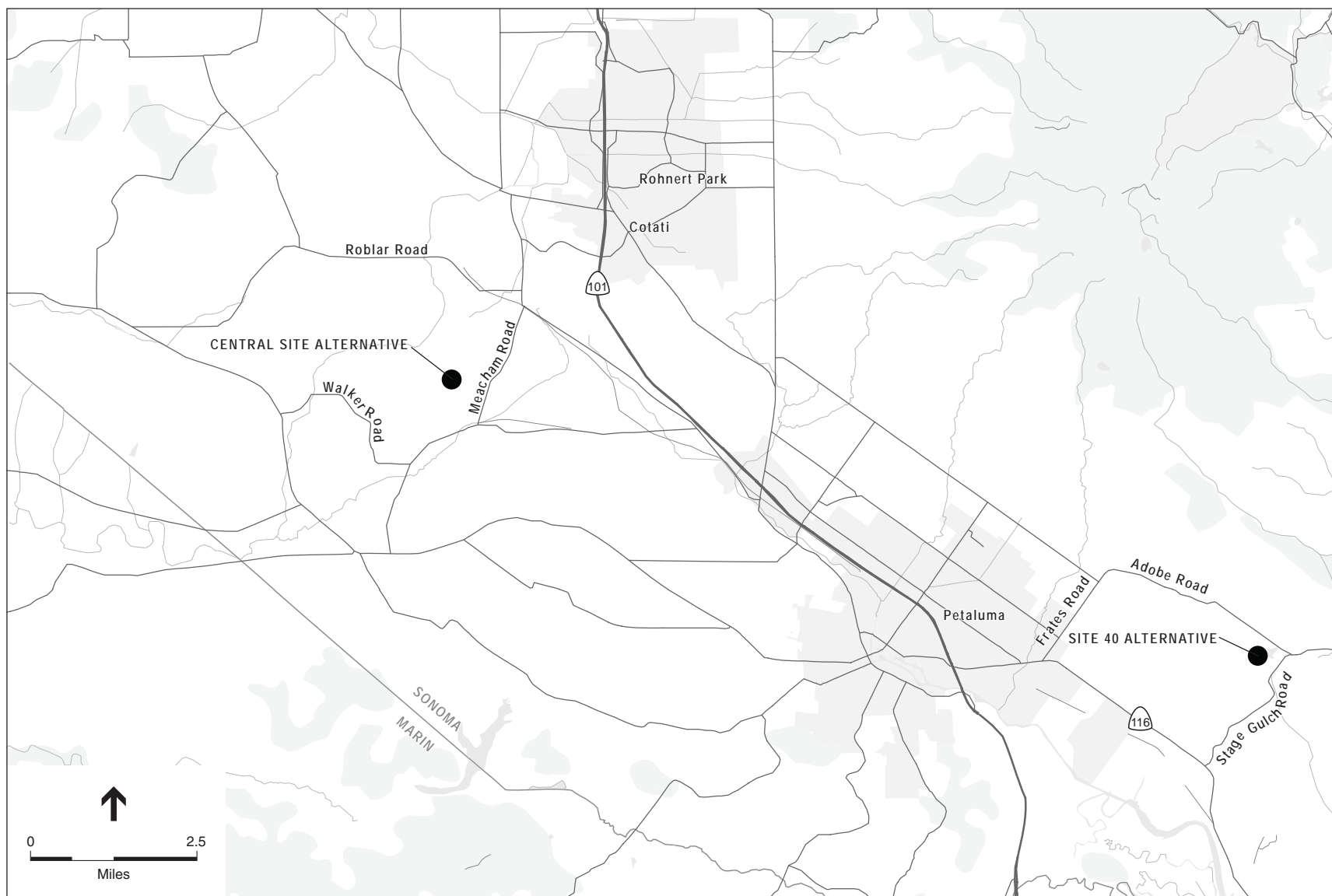
The layout of the stockpile areas with the roofing was developed with Fire Marshal input. The site would include required Fire Marshal access roads of 20 feet between the sets of eight compost bunkers as well as vehicle maneuvering areas.

2.3 Other Revisions

Pre-processing facilities are now planned to be located on the south end of the site rather than the east side.

The administrative offices will be located in the pre-processing buildings.

The existing truck scales will be used; no new truck scales will be constructed.



Source: DeLorme Street Atlas, 2000; and ESA, 2010.
 Figure from *Sonoma County Waste Management Agency Compost Facility*,
 Recirculated Draft Environmental Impact Report, State Clearinghouse: 2008122007,
 Figure 4-8, Central Site Alternative.

FIGURE 2-1
Project Location
Sonoma County Waste Management Agency
Compost Facility CEQA Documentation Review



FIGURE 2-2
 Project Vicinity
 Sonoma County Waste Management Agency
 Compost Facility CEQA Documentation Review

Aerial based on Google Earth Pro © 2014. Additional information added by CH2M HILL.



Source: TT BAS 2014.

FIGURE 2-3
Project Layout
Sonoma County Waste Management Agency
Compost Facility CEQA Documentation Review

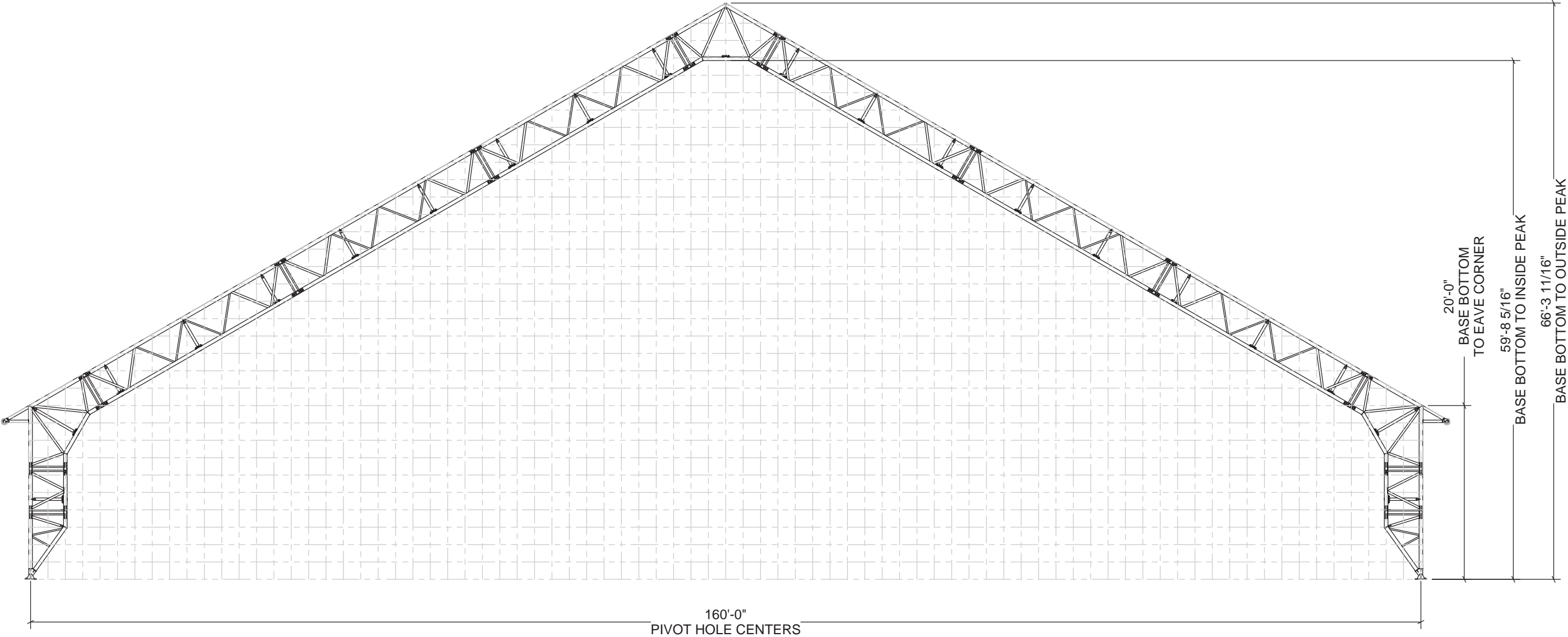


Image from Sonoma County Compost Facility: Capacity and Design Study,
Figure 1: Photo of a standard GORE bunker, Clements Environmental, October 2014.

FIGURE 2-4
Typical GORE Bunker
Sonoma County Waste Management Agency
Compost Facility CEQA Documentation Review

NOTE: PROFILE SHOWN WITH OPTIONAL AWNING ATTACHMENT.

T160BJ20
24" GRID



Source: Clear Span, Sheet A1-1.0, October 2014.

FIGURE 2-5
Typical Roofing Structure
Sonoma County Waste Management Agency
Compost Facility CEQA Documentation Review

Air Quality

Potential air quality and greenhouse gas (GHG) impacts from the Central Site Alternative are discussed in Chapter 24 of the Recirculated Draft EIR. The proposed revisions to the Central Site Alternative that have been identified as potentially affecting the analysis of air quality impacts as described in the RDEIR are:

- The enclosure of the pre-processing facilities and the scrubbing of air from within the enclosures
- An approximately 4 percent increase in the total amount of soil to be handled during excavation and backfilling
- Construction equipment to erect the pre-processing buildings and the roofing over the compost piles

The air quality analysis in the RDEIR was reviewed to determine if the proposed revisions to the Central Site Alternative would change the analysis in the RDEIR. This methodology for evaluating potential air quality impacts from the revised Central Site Alternative and the review of individual impacts in the RDEIR are described below.

No new significant air quality impacts, no substantial increase in the severity of any air quality impact, and no new air quality mitigation measures were identified.

3.1 Methodology

The RDEIR existing environmental setting and impact analysis, as well as the detailed air modeling assumptions and results Appendix AIR-5 and Appendix AIR-6 to the RDEIR, were reviewed and compared to the proposed revisions to the Central Site Alternative.

The RDEIR describes existing conditions of air quality in terms of local meteorological conditions, local air quality monitoring data, and sensitive land uses. Because the revised Central Site Alternative would be at the same location, the meteorological conditions and existing air quality conditions described in the RDEIR remain the same. The project site is still within the Bay Area Air Basin and is under the jurisdiction of the Bay Area Air Quality Management District (BAAQMD). In addition, the footprint of the revised Central Site Alternative would not change; therefore, the sensitive land uses near the project site discussed in the RDEIR would remain the same.

3.2 Evaluation of Project Revisions

Each air quality and GHG impact identified in the RDEIR was reviewed to determine if the proposed revisions to the Central Site Alternative would change the analysis in the RDEIR. This review is briefly described by numbered impact below.

- Impact 24.1 regarding construction emissions: The construction emissions calculated in the RDEIR represent the peak daily construction emissions that were estimated based on the worst-case daily construction activities, equipment usage, and vehicle miles traveled of the entire construction phase. According to Appendix AIR-5 of the RDEIR, the peak day construction activities covered two overlapping construction phases of the mass grading and building/structure construction lasting approximately 3-4 months. The other construction phases, which would last for 8-9 months, would have lower equipment and vehicle usage, thus lower emissions than the peak day emissions. Although the revised Central Site Alternative would require additional construction activity to build the roofing and pre-processing building enclosures and create a minor increase in the total amount of soil to be excavated or backfilled, it is not expected that these additional construction activities would be additive to the worst-case construction scenario for several reasons:
 - The same construction approaches are planned to be used for the revised Central Site Alternative.

- The site footprint limits the number of pieces of equipment that could be operating at the same time. The minor additional quantities of soil excavated or backfilled would result in a minor increase in the duration of construction, not in increase in the total equipment use on an individual day. Total equipment use with the additional excavation and backfill activity would stay below the level of the equipment use of the peak day construction.
- Construction of the roofing and pre-processing buildings would use the same equipment (e.g., cranes) already planned for building construction in the RDEIR and already included in the emissions calculations in the RDEIR.

Any changes in air emissions from the revisions to the Central Site Alternative would be expected to be accommodated within the range of the peak day construction activities presented in the RDEIR.

Construction of the compost roofing and pre-processing buildings and the increased volume of soil excavation and backfilling would not require additional construction equipment or cause additional daily construction vehicle travel on top of what were already included in the peak day construction analysis in the RDEIR. Therefore, increases in air emissions from the worst-case peak day levels are not expected, and the emissions presented in the RDEIR still represent the worst-case daily construction emissions with the revised Central Site Alternative. Mitigation Measure 24-1 as described in the RDEIR would be implemented with the revised Central Site Alternative.

- Impact 24.2 regarding operational criteria pollutant emissions: Operational emissions from the revised Central Site Alternative are not expected to increase from what were calculated and analyzed in the RDEIR because the operations would remain the same except that the pre-processing units would be enclosed and emissions from them would be scrubbed before venting to atmosphere. The air pollutant emissions, especially reactive organic gas (ROG) emissions, from the pre-processing units would be lower than the original operation analyzed in the RDEIR, resulting an overall lower air pollutants emissions with the proposed changes. Therefore, operational emissions are expected to be lower than those presented in the RDEIR.
- Impact 24.3 regarding localized CO emissions: The RDEIR concluded that the vehicle travel in the project site vicinity would not cause localized CO concentrations to exceed the national or state ambient air quality standards on nearby roadways and intersections. The proposed revisions to the Central Site Alternative would not affect the number of vehicles traveling near the project area during project operations as presented in the RDEIR. Therefore, the conclusions described in the RDEIR regarding vehicle CO emissions impacts on roadways and intersections would remain the same for the revised Central Site Alternative.
- Impact 24.4 regarding odor impacts: According the RDEIR, operation of the composting site will have the potential to cause significant odor that affects people who live or work near the site without mitigation. The revisions to the Central Site Alternative would enclose the pre-processing units and scrub the pre-processing emissions before release. This revision would reduce odor emissions compared to what was evaluated in the RDEIR. In addition, use of a food pre-processing building was cited in the RDEIR as a factor that would reduce odor emissions. No other revisions proposed for the Central Site Alternative would affect odor potential. Mitigation Measure 24.4 would still be implemented for the Central Site Alternative as described in the RDEIR.
- Impact 24.5 regarding increases in chronic exposure of sensitive receptors: The RDEIR performed air dispersion modeling and evaluated the health risks associated with the Central Site Alternative operation. The revisions to the Central Alternative would not increase the project's operational emissions. In fact, enclosing the pre-processing units would decrease air toxic emissions from project operation. Because the revisions to the Central Site Alternative would decrease the air toxic emissions and the locations of the project site and surrounding residential and worker receptors would not

change, health risks due to the revised Central Site Alternative would be expected to be the same or lower than the risks as evaluated in the RDEIR.

- Impact 24.6 regarding cumulative GHG emissions: As discussed above, operation of the revised Central Site Alternative and associated emissions for the revised Central Site Alternative would be generally the same or less as what is described in the RDEIR. Contributions of the revised Project to cumulative GHG emissions would therefore be the same or less than is described in the RDEIR.

The approximately 4 percent increase in total earthwork activity could result in a minor increase in GHG construction emissions compared to estimates in the RDEIR. GHG emissions associated with the construction phase of the Central Site Alternative would result in a maximum annual generation of 584 metric tons of CO₂e, significantly less than the annual operational GHG emissions. In addition, the BAAQMD has not established a threshold of significance for construction GHGs.

- Impact 24.7 regarding cumulative regional criteria pollutants: The RDEIR concluded that the Central Site Alternative would result in a less than significant project impact from criteria pollutant emissions with implementation of mitigation for Impact 24.1, and therefore would not have a considerable contribution to cumulative air quality (criteria air pollutants) during construction or operations, and the impact would be considered less than significant. As discussed above, criteria air pollutant emissions for the revised Central Site Alternative would be generally the same or less as what is described in the RDEIR. Contribution of the revised Central Site Alternative to cumulative regional criteria air pollutants would be the same or less as described in the RDEIR.
- Impact 24.8 regarding cumulative risk to sensitive receptors to PM_{2.5} and TACs: The RDEIR concluded that the cumulative toxic emission impacts from sources within 1,000 feet of the site would be less than significant. As discussed above, air pollutant emissions from operation of the revised Central Site Alternative would be the same or less as what is described in the RDEIR.

Biological Resources

Potential biological resource impacts from the Central Site Alternative are discussed in Chapter 25 of the RDEIR, which notes that the project site vegetation communities consist of non-native annual grasslands, annual grasslands/ruderal, and a man-made freshwater detention pond, as well as unvegetated areas (e.g., gravel roads). Special-status species with medium to high potential to occur within the vicinity of the project area were identified as California red-legged frog (*Rana draytonii*), California tiger salamander (*Ambystoma californiense*), western pond turtle (*Emys marmorata*), hoary bat (*Lasiurus cinereus*), white-tailed kite (*Elanus leucurus*), and showy Rancharia clover (*Trifolium amoenum*). Per Impact 25.1, tree removal and grading activities, including removal of the freshwater pond, could result in direct and indirect impacts to five of these six species (California red-legged frog, western pond turtle, hoary bat, white-tailed kite, and showy Rancharia clover).

The biological resources analysis in the RDEIR was reviewed to determine if the proposed revisions to the Central Site Alternative would change the analysis in the RDEIR. This methodology for evaluating potential biological resource impacts from the revised Central Site Alternative and the review of individual impacts in the RDEIR are described below.

No new biological resource impacts, no substantial increase in the severity of any biological resource impact, and no new biological resources mitigation measures were identified.

4.1 Methodology

Species occurrence lists were obtained in February 2015 from the California Natural Diversity Database (CNDDB) Rarefind 3.1 computer program; the CDFW Threatened and Endangered Plants List and Animals List; and the California Native Plant Society: Inventory of Rare and Endangered Plants. No new species with potential to occur in the project area have been listed since the RDEIR was prepared. The only recent occurrences in the Central Site vicinity of the six species listed above not included in the RDEIR are listed below.

- In 2007, one adult CRLF was detected during a daytime CTS survey 0.3 miles southwest of the intersection of Roblar Road and Carniglia Lane, approximately 2.1 miles from the project site. The site where this CRLF was observed is threatened by the presence of bullfrogs, water quality, and a proposed gravel quarry; it is also further away than the known CRLF population observed in 2007, 0.75 miles away from the Central Site discussed in the RDEIR.
- In 2010, a CTS breeding pool was discovered about 1.6 miles west of the project site, roughly 0.5 mile south of Roblar Road at Canfield Road, and about 2.8 miles east of Bloomfield. This pool is threatened by the development of a quarry.
- Western pond turtle was observed in 2004 at Roberts Lake, on the east side of Highway 101, approximately 4.6 miles northeast of the site. This is further away than the nearest occurrence cited in the RDEIR at one mile southwest of the site.

A reconnaissance-level site survey was completed by a qualified wildlife biologist on December 9, 2014. No special-status wildlife species were observed on or in the vicinity of the project site. No small mammals or their burrows, which could provide refugia for CTS, were observed during the reconnaissance survey. No terrestrial species were observed within 500 feet of the man-made detention pond.

4.2 Evaluation of Project Revisions

Each biological resource impact identified in the RDEIR was reviewed to determine if the proposed revisions to the Central Site Alternative would change the analysis in the RDEIR. This review is briefly described by numbered impact below.

- Impact 25.1 regarding direct and indirect impacts to special-status species: The Central Site Alternative project footprint has not changed. The likelihood of the six special-status species discussed in the RDEIR to occur onsite has not increased; due to the increased activity and disturbance at the landfill subsequent to its reopening in 2012, the likelihood may have decreased. No new special-status species or habitats that could be affected by the Central Site Alternative were identified.

In addition, the County landfill operator will be performing the initial excavation activities and completing most of the excavation volume as part of landfill operations under separate permits and authorizations. Once this excavation activity is done, the project site will consist of bare dirt and the potential for special-status species to occur is minimal.

Cultural Resources

Potential cultural resources impacts from the Central Site Alternative are discussed in Chapter 26 of the RDEIR. The proposed revisions to the Central Site Alternative that have been identified as potentially affecting the analysis of cultural resources impacts as described in the RDEIR are:

- An approximately 4 percent increase in the total amount of soil to be handled during excavation and backfilling

The revised Central Site Alternative would occupy the same footprint as evaluated in the RDEIR.

No new significant cultural resource impacts, no substantial increase in the severity of any cultural resource impact, and no new cultural resource mitigation measures were identified.

5.1 Methodology

The RDEIR existing environmental setting and impact analysis for cultural resources contained in the Draft EIR and RDEIR were reviewed and compared to the proposed revisions to the Central Site Alternative.

5.2 Evaluation of Project Revisions

Each cultural resources impact identified in the RDEIR was reviewed to determine if the proposed revisions to the Central Site Alternative would change the analysis in the RDEIR. This review is briefly described by numbered impact below.

- Impact 26.1 regarding inadvertent discovery archaeological resources: The minor increase in quantity of soil to be handled could result in an increased excavation depth. As discussed in the RDEIR, the Central Site is mapped as Franciscan complex, a geological formation that does not have the potential to contain deeply buried archaeological resources, so greater depth of excavation would not change the likelihood of encountering archaeological resources. As noted in the RDEIR impact discussion, it does not appear that the Central Site contains archaeological resources, but this possibility cannot be entirely discounted. Mitigation Measure 26.1 as described in the RDEIR would still be implemented for the revised Central Site Alternative.
- Impact 26.2 regarding inadvertent discovery human remains: The RDEIR notes that archival review and the field survey did not indicate that the Central Site contains any human remains. The minor increase in soil handling would not substantially change the likelihood of encountering human remains under these conditions. However, the RDEIR notes that the possibility cannot be entirely discounted; Mitigation Measure 26.2 as described in the RDEIR would still be implemented for the revised Central Site Alternative.
- Impact 26.3 regarding inadvertent discovery paleontological resources: As described in the RDEIR, the Franciscan Complex is not generally fossil-yielding. The minor increase in soil handling would not substantially change the likelihood of encountering paleontological resources. The RDEIR notes that here is still a slight possibility that fossils could be uncovered during project construction. Mitigation Measure 26.3 in the RDEIR would be implemented for the revised Central Site Alternative.

In addition, the County landfill operator will be performing the initial excavation activities and completing most of the excavation volume as part of landfill operations under separate permits and authorizations. Any potential for inadvertent discovery of archaeological resources, human remains, or paleontological resources would occur primarily during the landfill operator excavation. Once this excavation activity is done, the potential for encountering these resources is even lower.

Hydrology and Water Quality

Potential hydrology and water quality impacts from the Central Site Alternative are discussed in Chapter 27 of the Recirculated Draft EIR. The proposed revisions to the Central Site Alternative that have been identified as potentially affecting the analysis of hydrology and water quality impacts as described in the RDEIR are:

- An approximately 4 percent increase in the total amount of soil to be handled during excavation and backfilling
- The roofing over the aerated static piles (ASPs)
- The enclosure of the pre-processing facilities

The hydrology and water quality analysis in the RDEIR was reviewed to determine if the proposed revisions to the Central Site Alternative would change the analysis in the RDEIR. This methodology for evaluating potential hydrology and water quality impacts from the revised Central Site Alternative and the review of individual impacts in the RDEIR are described below.

No new significant hydrology or water quality impacts, no substantial increase in the severity of any hydrology or water quality impact, and no new hydrology or water quality mitigation measures were identified.

6.1 Methodology

The DEIR and RDEIR impact analyses were reviewed and compared to the proposed revisions to the Central Site Alternative. In addition, the *Compost Wastewater Zero Discharge Plan* (Sonoma County Waste Management Agency, July 2014) was reviewed. This plan was submitted to the North Coast Regional Water Quality Control Board by SCWMA pursuant to Waste Discharge Requirements (WDRs) Order No. R-1-2013-0003.

6.2 Evaluation of Project Revisions

Each hydrology and water quality impact identified in the RDEIR was reviewed to determine if the proposed revisions to the Central Site Alternative would change the analysis in the RDEIR. This review is briefly described by numbered impact below.

- Impact 27.1 regarding water quality: As part of new WDRs, Adopted Order No. R1-2013-0003, the compost facility is required to eliminate discharges of wastewater from the composting area to receiving waters. The revised Central Site Alternative includes roofing over the ASPs and enclosures of the pre-processing facilities; these structures will eliminate compost contact stormwater and reduce pollutants in stormwater compared to the pollutant releases described in the RDEIR. All onsite stormwater drainage, including drainage from the roofing and pre-processing buildings, would be directed into the proposed onsite retention pond as included in the RDEIR. The retention pond would be act as a detention structure to regulate flows into the storm water conveyance system. Water from the retention pond may be used for irrigation or in compost operations. Under the revised Central Site Alternative, the pond would drain via one of the two existing landfill discharge points, though not through drainage site SW-1 as stated in the RDEIR.

For the revised Central Site Alternative, compost leachate from composting operations would be collected at the individual ASPs and then reused onsite, as described in the RDEIR. In the event there are insufficient onsite reuse options, the leachate will be stored in a tank and taken offsite for disposal. Operation of the revised Central Site Alternative would present fewer water quality issues associated with stormwater runoff as described in the RDEIR.

The type and nature of construction equipment and activities for the revised Central Site Alternative are consistent with the previous analysis in the RDEIR, other than a minor increase in the total quantity of soil to be excavated or backfilled (see also Sections 3 Air Quality and 8 Noise of this report). As a result, the construction-related water quality impacts as described in the RDEIR would not be expected to substantially change based on the revisions to the Central Site Alternative. Mitigation Measures 27.1a and 27.1b as described in the RDEIR would still be implemented for the revised Central Site Alternative.

- Impact 27.2 regarding groundwater supplies: The proposed revisions to the Central Site Alternative do not include any changes to operations of the ASPs, including use of water. In addition, the proposed revisions do not change the size of the impervious footprint associated with compost activities. Therefore, impacts to groundwater as described in the RDEIR would not be expected to change based on the revisions to the Central Site Alternative. Mitigation Measure 27.2 as described in the RDEIR would still be implemented for the revised Central Site Alternative.
- Impact 27.3 regarding alteration of drainage patterns: Construction of the revised Central Site Alternative would result in substantial earth movement and grading activities that would change the drainage patterns of the site, as described in the RDEIR. The footprint of the revised Central Site Alternative facilities is generally the same in terms of size and grade as described in the RDEIR. Therefore, impacts from alteration of drainage patterns as described in the RDEIR would not be expected to substantially change based on the revisions to the Central Site Alternative. Mitigation Measures 27.3 as described in the RDEIR would still be implemented for the revised Central Site Alternative.
- Impact 27.4 regarding stormwater runoff: The revised Central Site Alternative is in the same location, would include a stormwater retention pond with the same capacity, and has a similar amount of impervious surfaces as described in the RDEIR. Therefore, impacts from volumes of stormwater runoff as described in the RDEIR would not be expected to substantially change based on the revisions to the Central Site Alternative. As described above, the revised Central Site Alternative includes roofing over the ASPs and enclosures of the pre-processing facilities; these structures will eliminate compost contact stormwater and reduce impacts pollutants in receiving waters compared to the pollutant releases described in the RDEIR. RDEIR Mitigation Measures 27.4a and 27.4b would still be implemented as appropriate for the revised Central Site Alternative.

Land Use and Agriculture

Potential land use and agricultural impacts from the Central Site Alternative are discussed in Chapter 28 of the RDEIR. The revised Central Site Alternative will occupy the same footprint as described in the RDEIR.

No new significant land use or agricultural impacts, no substantial increase in the severity of any land use or agricultural impact, and no new land use or agricultural mitigation measures were identified.

7.1 Methodology

The RDEIR existing environmental setting and impact analysis and results contained in the Draft EIR and RDEIR were reviewed and compared to the proposed revisions to the Central Site Alternative.

7.2 Evaluation of Project Revisions

Each land use and agricultural impact identified in the RDEIR was reviewed to determine if the proposed revisions to the Central Site Alternative would change the analysis in the RDEIR. This review is briefly described by numbered impact below.

- Impact 28.1 regarding potential to divide a community: The RDEIR notes that the Central Site has a history of and currently supports similar uses to the compost facility and does not create a physical barrier between residential areas or otherwise divide an established community. The revised Central Site Alternative is on the same footprint as described in the RDEIR and does not change the planned land use or neighboring land uses.
- Impact 28.2 regarding conflict with the Sonoma County General Plan or Zoning Ordinance: The RDEIR states that the Central Site has a General Plan Land Use Designation and Zoning that allow for the existing County compost operations and would allow for future similar uses. The revised Central Site Alternative does not change the location or footprint as described in the RDEIR.
- Impact 28.3 regarding conversion of agricultural land: As described in the RDEIR, the Central Site is not currently used for grazing or agriculture and would not result in any temporary or permanent conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance as they are not located on the site. The revised Central Site Alternative does not change the location or footprint as described in the RDEIR.
- Impact 28.4 regarding the Williamson Act: As noted in the RDEIR, the Central Site Alternative does not contain land under a Williamson Act contract. The revised Central Site Alternative does not change the location or footprint as described in the RDEIR.

Noise

Potential noise impacts from the Central Site Alternative are discussed in Chapter 29 of the RDEIR. The proposed revisions to the Central Site Alternative that have been identified as potentially affecting the analysis of noise impacts as described in the RDEIR are:

- The addition of metal buildings to house previously unenclosed pre-processing equipment; each structure will have a heating, ventilation, air conditioning (HVAC) system
- An approximately 4 percent increase in the total amount of soil to be handled during excavation and backfilling
- Construction equipment to erect the pre-processing buildings and the roofing over the compost piles

As noted in the RDEIR, the closest residence to the Central Site Alternative composting area is approximately 500 feet northeast. The revised Central Site Alternative occupies the same general footprint so this distance is unchanged.

No new significant noise impacts, no substantial increase in the severity of any noise impact, and no new noise mitigation measures were identified.

8.1 Methodology

The RDEIR existing environmental setting and impact analysis, as well as the detailed noise modeling assumptions and results contained in the appendices to the Draft EIR and RDEIR, were reviewed and compared to the proposed revisions to the Central Site Alternative.

8.2 Evaluation of Project Revisions

Each noise impact identified in the RDEIR was reviewed to determine if the proposed revisions to the Central Site Alternative would change the analysis in the RDEIR. This review is briefly described by numbered impact below.

- Impact 29.1 regarding construction noise: The revised Central Site Alternative would not create new or substantially more adverse noise impacts during construction than those disclosed in the RDEIR for the Central Site Alternative. The type and nature of construction equipment and activities for the revised Project are consistent with the previous analysis. Mitigation Measure 29.1 would be implemented as described in the RDEIR, limiting construction activities to daytime hours.

The RDEIR identifies typical construction noise levels from various pieces of construction equipment or activities. The construction equipment and range in sound levels in the RDEIR are consistent with what is expected from the erection of the additional structures

- Impact 29.2 regarding operational noise: The revised Project does not include changes to the ASP processing, including its size and scale of operations, and therefore would not increase the noise generated by the ASP blowers as described in the RDEIR.

Some noise sources that were previously unenclosed will be located inside buildings. In particular, grinders were noted in Table 29-4 to be the greatest source of operational noise; this equipment will be located inside the new pre-processing buildings and potentially lower the grinder noise level at the nearest receptor below that which was described in the RDEIR. Per Mitigation Measure 29.2c, the pre-processing buildings and/or HVAC systems will incorporate acoustical minimization measures if needed to meet the 50 dBA (A-weighted decibels) L50 standard at the closest noise sensitive receptor. As is typical at this stage of the project, the precise measures necessary have not been identified but a range

of options are available to be evaluated as final design progresses. Other mitigation measures listed in the RDEIR would be implemented as described for the revised Central Site Alternative.

- Impact 29.3 regarding traffic noise: The revised Central Site Alternative includes the same quantity of feedstock handled by the facility and the number of new vehicle trips associated with operations as described in the RDEIR. No changes in traffic speed, volumes, or routing as described in the RDEIR are expected from the proposed revisions to the Central Site Alternative. Therefore, the revisions to the Central Site Alternative would not change the noise analysis or impacts as described in the RDEIR.
- Impact 29.4 regarding blasting noise: Although the revisions to the Central Site Alternative would result in a minor increase in total soil volume to be handled compared to what is described in the RDEIR, no substantial changes to the anticipated blasting activities have been identified. Mitigation Measures 29.4a through 29.4i, as included in the RDEIR, require a site-specific blasting plan and steps be taken to notify residents and agencies prior to blasting in addition to analyze and limit blasting activities. These measures would be implemented as described with the revisions to the Central Site Alternative.
- Impact 29.5 regarding cumulative noise: As noted in the discussion of Impact 29.2, enclosing the pre-processing equipment may reduce some operational noise. As noted in the discussion of Impact 29.3, the proposed revisions to the Central Site Alternative are not expected to alter the level of project-related traffic noise as described in the RDEIR. In addition, mitigation measures listed in the RDEIR would be implemented with the revised Central Site Alternative. The revisions to the Central Site Alternative would not change the cumulative noise analysis described in the RDEIR.

Public Services and Utilities

Potential impacts to public services and utilities from the Central Site Alternative are discussed in Chapter 30 of the RDEIR. The proposed revisions to the Central Site Alternative that have been identified as potentially affecting the analysis of public services and utilities impacts as described in the RDEIR are:

- The addition of heating, ventilation, air conditioning (HVAC) system for the pre-processing buildings that would use electricity
- An approximately 4 percent increase in the total amount of soil to be handled during excavation and backfilling
- The addition of metal buildings to house previously unenclosed pre-processing equipment and roofing over the composting

As noted in the RDEIR, the closest residence to the Central Site Alternative composting area is approximately 500 feet northeast. The revised Central Site Alternative occupies the same general footprint so this distance is unchanged.

No new significant public services and utilities impacts, no substantial increase in the severity of any public services and utilities impact, and no new public services and utilities mitigation measures were identified.

9.1 Methodology

The existing environmental setting and impact analysis and results regarding public services and utilities contained in Draft EIR and RDEIR were reviewed and compared to the proposed revisions to the Central Site Alternative.

9.2 Evaluation of Project Revisions

Each impact public services and utilities identified in the RDEIR was reviewed to determine if the proposed revisions to the Central Site Alternative would change the analysis in the RDEIR. This review is briefly described by numbered impact below.

- Impact 30.1 regarding increased solid waste disposal: The revised Central Site Alternative may increase the quantity of excavated soils that are not used on the compost site. However, this additional soil will be stockpiled on the adjacent landfill facility and used by the landfill operator. The revised Central Site Alternative would not change composting operations as described in the RDEIR, and so would not change operational solid waste as evaluated in the RDEIR.
- Impact 30.2 regarding increased energy demands: The RDEIR estimated energy use of 1,016 MWh/year by 2030. This energy use would be incorporated in the application to PG&E. The revised Central Site Alternative would include a new energy use compared to the RDEIR for operating the HVAC and lighting in the processing buildings. However, this increased energy use would be a small fraction of total anticipated use described in the RDEIR; this use would be incorporated into the application to PG&E.
- Impact 30.3 regarding law enforcement services from the Sonoma County Sheriff's Office: The revised Central Site Alternative would not change the scale or type of operations as described in the RDEIR or change the location of the facility. No change in the use of law enforcement services as described in the RDEIR would be expected.
- Impact 30.4 regarding fire protection and emergency medical services: The RDEIR states that the fire protection services and emergency medical services would be provided by the Rancho Adobe FPD and response to the Central Site would be primarily associated with potential structural or compost fires, medical emergencies, on-or off-site vehicular accidents, and off-site wild land fires. The revised Central

Site Alternative facilities are being designed to provide the required space for fire lanes between structures and allow fire and emergency equipment access to all operation areas. The revised Central Site Alternative would not change composting operations as described in the RDEIR so would not introduce new fire risks as evaluated in the RDEIR.

- Impact 30.5 regarding stormwater drainage: The revised Central Site Alternative includes a stormwater detention pond of the same size as described in the RDEIR. The revised Central Site Alternative footprint as well as the amount of impervious surfaces is the same as described in the RDEIR, so no change in quantity of stormwater runoff as described in the RDEIR would be expected. As discussed in Section 6 Hydrology and Water Quality in this document, the revised Central Site Alternative includes roofing over the compost piles and buildings enclosing the pre-processing activities to eliminate compost contact stormwater. This will improve the quality of stormwater runoff from the site. Mitigation Measure 30.5 as described in the RDEIR would still be implemented as described in the RDEIR.
- Impact 30.6 regarding construction of new wastewater treatment facilities: The revised Central Site Alternative includes the same leachate collection and management system as described in the RDEIR. The proposed revisions to the Central Site Alternative would not change the scope or type of composting operations. The roofing over the compost piles may result in a small reduction in the quantity of leachate produced and requiring treatment compared to the evaluation in the RDEIR.

Traffic and Transportation

Potential traffic and transportation impacts from the Central Site Alternative are discussed in Chapter 31 of the RDEIR. The proposed revisions to the Central Site Alternative that have been identified as potentially affecting the analysis of traffic and transportation impacts as described in the RDEIR are:

- Construction equipment to erect the pre-processing buildings and the roofing over the compost piles
- An approximately 4 percent increase in the total amount of soil to be handled during excavation and backfilling

No new significant traffic and transportation impacts, no substantial increase in the severity of any traffic and transportation impact, and no new traffic and transportation mitigation measures were identified.

10.1 Methodology

The RDEIR existing environmental setting and impact analysis and results regarding traffic and transportation contained in Draft EIR and RDEIR were reviewed and compared to the proposed revisions to the Central Site Alternative.

10.2 Evaluation of Project Revisions

Each air quality and GHG impact identified in the RDEIR was reviewed to determine if the proposed revisions to the Central Site Alternative would change the analysis in the RDEIR. This review is briefly described by numbered impact below.

The revised Central Site Alternative would not change the volume or type of feedstock processed in composting operations as described in the RDEIR, and therefore there would be no change in the expected traffic generated by compost facility operations used in the RDEIR evaluation. The revised Central Site Alternative is on the same footprint and has the same access from local roads as described in the RDEIR. The analysis of the following RDEIR impacts would not be expected to change as a result.

- Impact 31.1 regarding near-term cumulative traffic volumes
- Impact 31.2 regarding near-term traffic safety due to design features or incompatible uses
- Impact 31.3 regarding potential conflicts with adopted policies, plans, or programs supporting alternative transportation
- Impact 31.4 regarding near-term turning movements by heavy vehicles to and from Mecham Road and the potential for conflicts between Central Site Alternative traffic and through traffic
- Impact 31.5 regarding long-term cumulative traffic volumes
- Impact 31.6 regarding long-term traffic safety due to design features or incompatible uses
- Impact 31.7 regarding long-term turning movements by heavy vehicles to and from Mecham Road and the potential for conflicts between Central Site Alternative traffic and through traffic
- Impact 31.8 regarding contribution to degradation of pavement on public roads

Mitigation Measures 31.3a, 31.3b, and 31.5 as described in the RDEIR would be implemented for the revised Central Site Alternative.

- Impact 31.9 regarding construction traffic impacts: The minor increase in soils to be excavated and backfilled with the revised Central Site Alternative would require additional vehicle trips to move the soil. However, excess soils will be stockpiled and used on the landfill property and all associated vehicle

trips will occur on the landfill site, not offsite. The delivery of the roofing and pre-processing building materials and the workers to construct them could result in up to an additional 5 truck trips per day over an approximately one month period. This is a minor increase in the construction traffic evaluated in the RDEIR. Mitigation Measure 31.9 as described in the RDEIR will be implemented for the revised Central Site Alternative.

Aesthetics

Potential aesthetics impacts from the Central Site Alternative are discussed in Chapter 32 of the Recirculated Draft EIR. The proposed revisions to the Central Site Alternative that have been identified as potentially affecting the analysis of aesthetic impacts as described in the RDEIR are:

- Modified grading plan with new base elevation and different final grade on adjacent topography
- Installation of metal roofing over compost piles
- Installation of metal building enclosures around pre-processing systems

The aesthetics analysis in the RDEIR was reviewed to determine if the proposed revisions to the Central Site Alternative would change the analysis in the RDEIR. This methodology for evaluating potential visual impacts from the revised Central Site Alternative and the review of individual impacts in the RDEIR are described below.

No new significant aesthetics impacts, no substantial increase in the severity of any aesthetic impact, and no new aesthetic mitigation measures were identified.

11.1 Methodology

The aesthetics analysis in RDEIR Chapter 32 evaluated the visual impacts of the proposed Central Site Alternative project in terms of its potential effects on the views from six viewpoints located along the public roadways that border the southern, eastern, and northern edges of the large block of rural land within which the project site is located. These same six viewpoints were used for this evaluation of the potential visual effects of the current revised plan for the Central Site Alternative. Figure 11-1 is a map figure on an air photo base that depicts the proposed project site within its landscape context and the locations of the six viewpoints used for the analysis of the project's potential visual effects. Figures 11-2, 11-3, and 11-4 present photos that depict the existing views toward the project site from each of the viewpoints.

The RDEIR analysis was based on assumptions about whether or not the proposed Central Site Alternative features would be visible from a given viewpoint. To provide an empirical basis for assessment of the visibility and potential visual impacts of the revised Central Site Alternative, a set of cross-sections was prepared to establish whether and the extent to which the proposed project features would be visible given the topographic conditions in the line of sight between the viewpoint and the project features.

The first step in developing the line of sight assessments was to go to the United States Geologic Survey (USGS) National Elevation Dataset (<http://ned.usgs.gov/>) to download a high resolution (1/9 arc-second) digital elevation model (DEM) that covers the project site and surrounding area. The DEM, along with data on the locations and heights of the proposed roof structures and the locations of the six viewpoints, were loaded into ArcGIS. For each viewpoint location, a line was drawn from the viewpoint through the approximate middle of the ridgelines of the roof structures to be built over the proposed ASPs. The maximum potential height of the roof structures was assumed. Using the ArcGIS 3D Analyst toolbar, elevation profiles were generated using the drawn cross-section lines and elevation data contained in the DEM. The elevation profiles were marked up with the locations of project-related grading and structures. The locations and elevations of these features were determined using a georeferenced design drawing of the project. The viewer elevation at each viewpoint was assumed to be a point five feet above the ground surface. A "line of sight" was drawn between each viewpoint location and the top of the tallest project structure. Review of the resulting line of sight analyses provided a basis for determining whether or not the project features would have the potential to be visible from each of the viewpoints. If a "line of sight" intersected terrain before reaching the project structures, it was clear that the structures would not be visible in that view.

11.2 Evaluation of Project Revisions

Each aesthetic impact identified in the RDEIR was reviewed to determine if the proposed revisions to the Central Site Alternative would change the analysis in the RDEIR. This review is briefly described by numbered impact below.

- Impact 32.1 regarding visual character of the site: The RDEIR analysis assumed that the proposed Central Site Alternative structures would be fully visible from and would have impacts on the views from Viewpoints 1, 5, and 6. It also assumed that the project would be visible from Viewpoint 4, but that in this view, the project structures would be partially screened by eucalyptus trees located in the line of sight. In addition, the RDEIR analysis assumed that the project facilities would not be visible in the views from Viewpoints 2 and 3. The cross-sections developed to support the current analysis indicate that aesthetics impacts for the revised Central Site Alternative would be less than the impacts described in the RDEIR. The cross-sections are shown in Figures 11-5 and 11-6. Review of the cross-sections indicates that in the views from Viewpoints 2 through 6, the line of sight to the tallest roofline, passes through a portion of a hillside. This pattern makes it very clear that the topography will completely block the view toward the proposed structures. Viewpoint 1 is the only view in which there would be some potential to see the project structures. The cross-section for Viewpoint 1 indicates that the intervening topography would block most of the project features from view, but that the top portion of the roof of the southernmost of the roof structures may be visible. The extent to which a portion of this roofline would be visible is limited because most of it would be screened by existing trees (see the Viewpoint 1 photo – Figure 11-2.a). The only portion of the roof that may be visible is a small area located 1.4 miles from the viewpoint. Because of the distance, it would appear to be small in scale and would constitute a very minor element of the overall view. Thus, the visual changes from the revised Central Site Alternative would be less than described in the RDEIR.
- Impact 32.2 regarding new sources of light or glare: Development of the Central Site Alternative will require installation of lighting on the site for operations and security; the proposed revisions may include additional exterior lighting for the pre-processing buildings. Because operation of the compost facility will, for the most part, be limited to the hours of 7:00 a.m. to 4:00 p.m., the operational lighting will be used only for special activities such as temperature monitoring and for security. The potential impacts of this lighting is evaluated in terms of its potential to create glare, to create light trespass conditions that alter ambient lighting conditions in surrounding areas, and to contribute to skyglow.

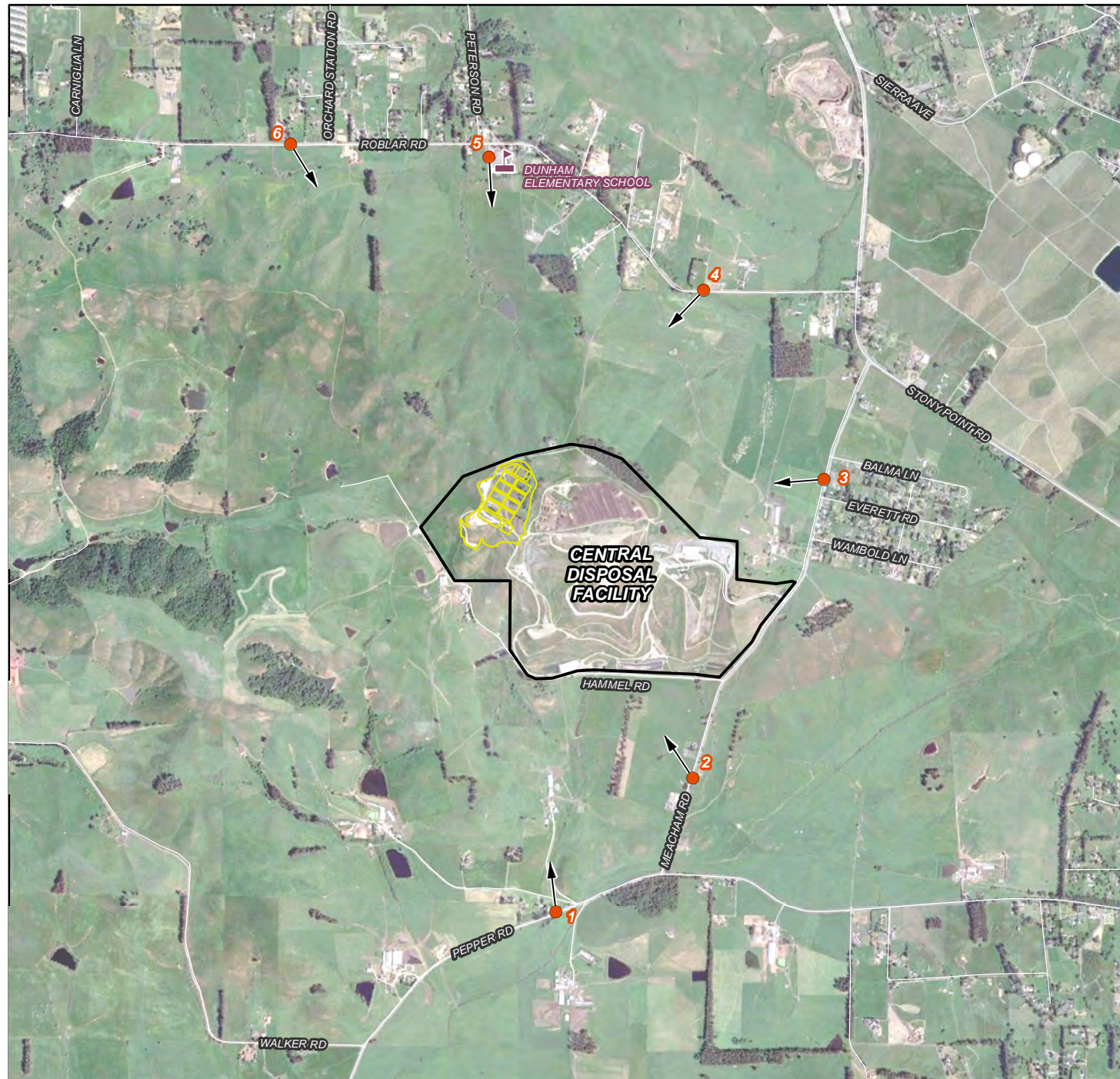
Glare is a phenomenon that exists when there is too high a degree of contrast between bright and dark areas in a field of view. For example, glare could be created if the filament of an unshielded light were visible at close range in an otherwise dark setting. The high contrast between light and dark areas can make it difficult for the human eye to adjust to differences in brightness. The Illuminating Engineering Society of North America (IESNA) Outdoor Environment Lighting Committee defines glare as “the sensation produced by luminance in the visual field that is sufficiently greater than the luminance to which the eye has adapted to cause annoyance, discomfort, or loss of visual performance and visibility” (IESNA 1999).

Light trespass or light spill can be thought of as light that extends beyond the area where it is intended to be used, illuminating areas on neighboring properties where the illumination may not be desired. The term ambient lighting refers to the overall level of lighting in a given area. The level of ambient lighting at a given spot is a product of light from the lighting fixtures at that location and the extent to which there is light spill from lighting in the surrounding area. This analysis considers the pattern of illumination that will be created by the lighting to be installed as a part of the project to determine its potential to spill off the site and to change the existing levels of ambient lighting at offsite locations.

Skyglow is the term used to refer to the glow in the night sky caused by diffused light in the atmosphere. Light from a variety of natural sources is responsible for a low level of skyglow that is always present. In

the sky above urban areas and in the regions extending many miles out from them, levels of skyglow are considerably higher than the natural levels because of all of the artificial lighting. Skyglow levels in urban areas and the large regions around them are affected by light reflected upward from illuminated surfaces, and in particular by light that escapes directly into the sky because of light fixtures that are not properly shielded. Elevated levels of skyglow are of concern because they have the effect of reducing the contrast in the night sky, which interferes with the ability to see stars and planets.

As the cross-sections indicate, views into the site from the roadways around the block of rural land on which the project site is located are almost completely obstructed by intervening topography. Because of these conditions, the lighting on the site will not be directly visible from the surrounding area and there is no potential either for glare effects or for light spill onto sensitive properties. The potential for the lights on the site to contribute to sky glow will be limited through implementation of Mitigation Measure 32.2 as included in the RDEIR, in particular by the use of hooded fixtures and the fact that much of the lighting is expected to be located under the roof structures that will shelter the ASPs. Since the project structures will be nearly completely hidden from view from the surrounding area, there will be little potential for daytime reflection of light off of project features to create adverse glare effects at the viewpoints used for analysis of the project's visual effects. Because of these conditions, the revised Central Site Alternative would not introduce new or increase the significance of impacts discussed in the RDEIR.



LEGEND

- Viewpoint Location
- Elementary School
- Proposed Composting Facility
- Central Disposal Facility

Aerial Basemap Source: Google Earth Pro
Location Map Data Source: ESRI

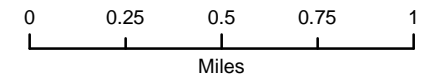


Figure 11-1
Project Landscape Context and Viewpoint Locations

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February 16, 2015



a. Viewpoint 1: View from Pepper Road, looking north (photo source: RDEIR)



b. Viewpoint 2: View from Meacham Road between Pepper and Hamel Roads, looking northwest

FIGURE 11-2
Viewpoint Photographs
*Sonoma County Waste Management Agency
Compost Facility CEQA Documentation Review*



a. Viewpoint 3: View from Meacham Road between Everett Road and Balma Lane, looking west



b. Viewpoint 4: View from Roblar Road 0.5 mile west of Stony Point Road, looking southwest

FIGURE 11-3
Viewpoint Photographs
*Sonoma County Waste Management Agency
Compost Facility CEQA Documentation Review*

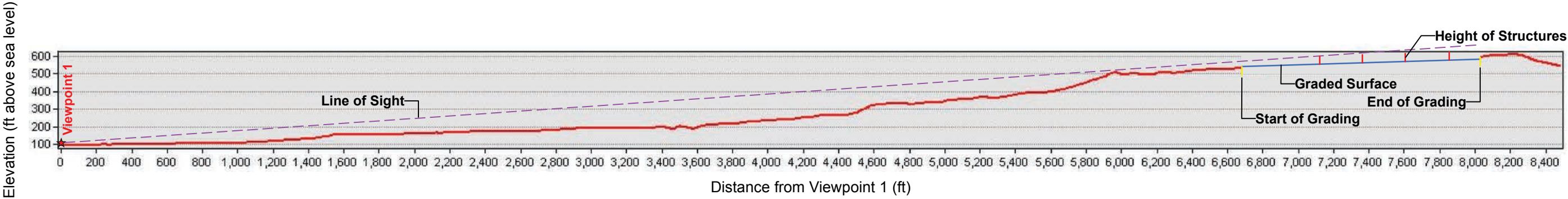


a. Viewpoint 5: View from Dunham Elementary School, looking south

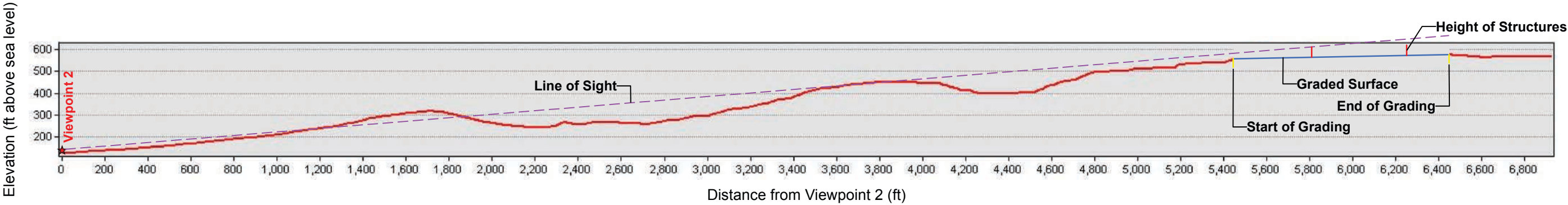


b. Viewpoint 6: View from Roblar Road 0.9 mile west of Dunham Elementary School, looking southeast

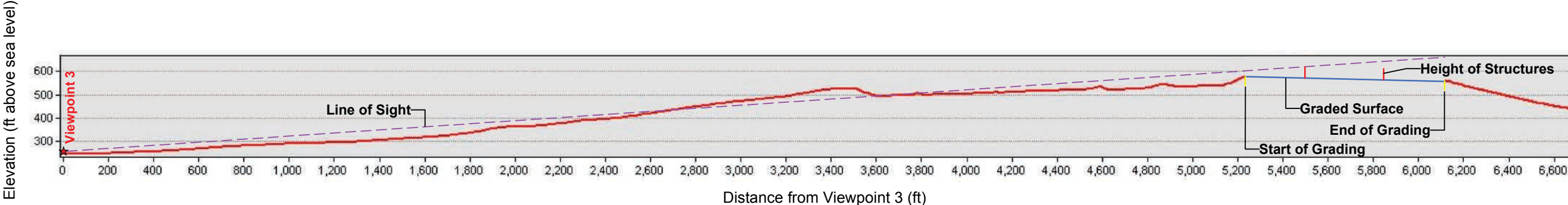
FIGURE 11-4
Viewpoint Photographs
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Viewpoint 1

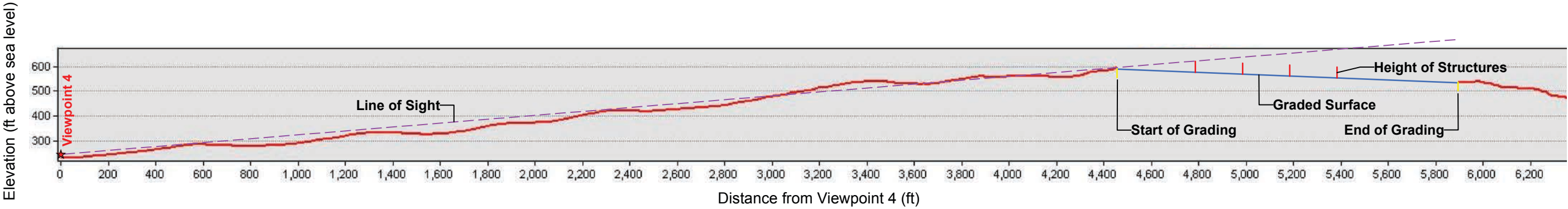


Viewpoint 2

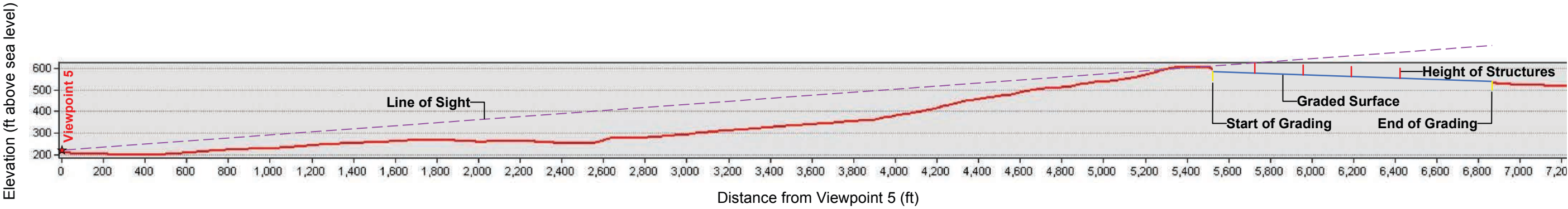


Viewpoint 3

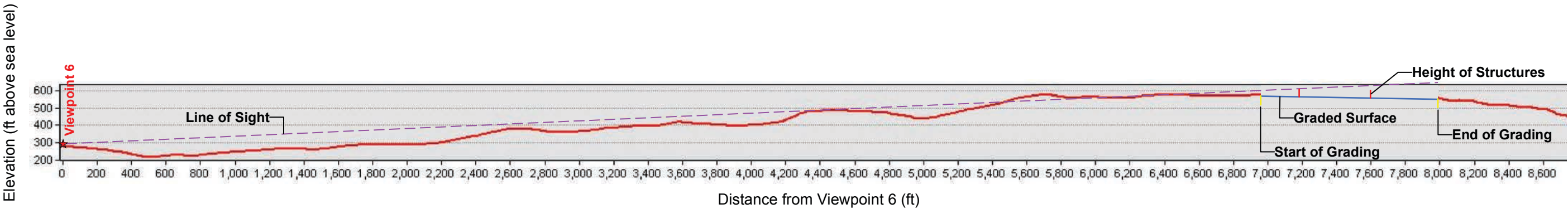
FIGURE 11-5
View Cross-Sections
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Viewpoint 4



Viewpoint 5



Viewpoint 6

FIGURE 11-6
View Cross-Sections
Sonoma County Waste Management Agency
Compost Facility CEQA Documentation Review

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