

I. NOISE

The Noise section includes a discussion of potential noise impacts as a result of the proposed project. Based on additional on-site noise analysis work, this section has been substantially revised since the Draft EIR was originally released in January 2009. This section, originally based on the Environmental Noise Assessment completed for the 2009 Draft EIR (2008 Study), has now incorporated an Acoustical Analysis prepared in May 2010 (2010 Study). This work, in part, is in response to neighborhood complaints regarding noise emanating from within the Landfill boundaries. Both reports were prepared by Brown-Buntin Associates, Inc. and are included in Appendix E.

1. Existing Conditions

a. Noise Definitions and Terminology

Noise, as used herein, is defined as unwanted sound. Noise is a complex physical phenomenon that varies with time, geographic location, proximity to the source, and duration of the noise event. The effects of noise are generally considered in two ways: 1) how a proposed project may increase existing noise levels and potentially affect surrounding land uses; and 2) how a proposed land use may be affected by noise from existing and surrounding land uses.

Noise sources and sound intensities can vary significantly from one area of a project site to another. Variables that affect how noise is perceived include vehicular and equipment volume and activities, proximity to the noise source, time of day, speed, roadway configuration, and the acoustical and topographical characteristics of a site. For example, Highway 227 traffic noise could be substantial at a given location if the noise measurement is taken during peak hour traffic at a short distance from the highway. Given the same conditions, the same noise measured at a distance of 1,000 feet away would be perceived as barely noticeable. Similarly, residences that are located in close proximity to frequently occurring or intense agricultural operations (e.g., harvest and crush season at the nearby winery) would experience higher noise levels than residences that are located farther away or better shielded from the noise-producing activity. Generally, a 1 dBA increase in the noise level is the minimum perceptible change the human ear can detect. A 3 dBA change is readily noticeable by most people, and a 10 dBA change would be perceived as twice as loud or approximately a doubling of the noise level.

Topography also can play a significant role in the reduction of noise. Road segments that are cut below grade so that there is not a direct line of sight between the noise source (e.g., engine, tires) and the receiver may produce a quieter noise environment. The same may be said of locations located substantially above the noise source. Likewise, sites that take advantage of natural topographical shielding conditions would experience lower noise levels than those that do not. Sites that have abundant vegetation and an undulating profile (soft sites) will absorb sound pressure waves much better than an area that is predominantly asphalt or concrete (hard site).

In its present state, the Landfill would be considered a soft site because of its undulating topography and the abundance of vineyards and natural vegetation. After development, the site would still be considered a soft site because much of the landform type would remain the same (minimal hard surfaces that will ultimately be covered by vegetation).

b. Existing Noise Environment

1) Transportation Noise Sources

An analysis of existing traffic noise levels on Highway 227 and the existing site entrance road was prepared using the Federal Highway Administration (FHWA) *Highway Traffic Noise Prediction Model 4*, with traffic data obtained from the California Department of Transportation (Caltrans) and the project description prepared by the applicant. Highway 227 is the only access to the Landfill. Residences are located north, south, and west of the Landfill entrance.

The FHWA Model is an analytical method used by state and local agencies, including Caltrans, for highway traffic noise prediction. The model is based upon reference energy emission levels for automobiles, medium trucks (two axles), and heavy trucks (three or more axles), with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site. The FHWA Model was developed to predict hourly Equivalent Continuous Noise Level (L_{eq}) values for free-flowing traffic conditions, and is generally considered to be accurate within +/-1.5 dB. The model assumes a clear view of traffic with no shielding at the receiver location. To predict Day-Night Average Level (L_{dn}) values, it is necessary to determine the hourly distribution of traffic for a typical day and adjust the traffic volume input data to yield an equivalent hourly traffic volume.

Traffic noise level measurements and concurrent traffic counts were performed at two sites along Highway 227 for the purpose of evaluating the accuracy of the FHWA Model in describing traffic noise exposure in the project area. The traffic noise monitoring sites are noted in Figure V.I.-1 as Sites T-1 and T-2. Site T-1 was located 50 feet from the center of the roadway at about the same elevation as the pavement. Site T-2 was located on a low hill overlooking Highway 227 at about 250 feet from the center of the roadway and 30 feet above the pavement.

Table V.I.-1 compares measured noise levels to those calculated by the FHWA Model using as model inputs the observed traffic conditions. Table V.I.-1 shows that the FHWA Model over-predicted traffic noise exposure at Site T-1 by 1.5 dB and calculated the same noise level as was measured at Site T-2. This is considered excellent agreement between measured and predicted results, and indicates that the FHWA Model may be used without adjustments to provide a realistic assessment of annual average traffic noise exposure in the project area.

Annual Average Daily Traffic (AADT) and truck mix data for Highway 227 were obtained from the Caltrans website. The day/night distribution of traffic on Highway 227 in Appendix E was estimated based upon studies conducted along similar roadways since, at the time of preparation of this section, project-specific data were not available. The estimates have since been compared to the distribution in the traffic impact report prepared for this EIR. The estimates in the Noise modeling, approximately 60 percent large vehicles trips, are comparable to those provided in the Transportation and Circulation section, Table V.J.-1. That table shows approximately 50 percent large vehicles and 16 percent medium vehicles during the a.m. peak hour.

TABLE V.I.-1
Comparison of Measured and Predicted Noise Levels
Highway 227 near Cold Canyon Landfill

Noise Source	Site T-1	Site T-2
L _{eq} , dBA (Measured)	63.2	54.4
L _{eq} , dBA (Predicted)	64.7	54.4
Difference between Measured and Predicted L _{eq} , dBA	+1.5	0

2) Existing Stationary Noise Sources

The Landfill currently includes an 88-acre disposal area, ~~the Compost Operation (CO)~~, the Resource Recovery Park (RRP), and the Materials Recovery Facility (MRF) (refer to Figure III-5). Noise-producing activities associated with the Landfill include the movement of trucks between the Landfill entrance and the working face of the disposal area and heavy equipment used to spread, compact, and cover the waste material. Heavy equipment used in the Landfill operation includes a Caterpillar D7R bulldozer, Aljon 525 compactor, and ~~Caterpillar 627F earthmover~~ John Deere 350 D articulated dump truck. Landfill activities shift within the permitted Landfill but are focused in a single area at any given time. Landfill operations currently occur between the hours of 7:00 a.m. and 4:30 p.m.

The former CO ~~is~~ was located near the center of the Landfill (refer to Figure III-8). Noise-producing activities related to the CO included the transport of raw materials to the site and processed materials from the site, truck loading activities, compost processing activities, and water truck movements for dust control. Heavy equipment used in the former compost operation ~~includes~~ included a tub grinder powered by a Caterpillar 3412 engine, 18-foot Scarab compost row turner, Trommel screen, front loaders (Caterpillar IT28), and diesel-powered water truck. Noise-producing activities within the former CO ~~presently~~ occurred between the hours of 7:30 a.m. and 4:30 p.m.

The RRP is presently located near the existing entrance to the Landfill near Highway 227. Noise-producing activities include the movement of vehicles within the RRP as materials are being delivered to the Landfill, and heavy equipment used to sort, transfer, and store materials within the site. Heavy equipment used within the RRP includes front loaders (Caterpillar IT18B and IT14G) and a Caterpillar 312C excavator. Recovered paper, cardboard, and plastic is transported to the MRF, located near the southeast corner of the expansion area for processing and baling. The RRP is currently open between 7:30 a.m. and 4:30 p.m.

The MRF is located within a large building near the southeast corner of the project site. The facility processes recyclable materials from curbside residential pickup and commercial or industrial sources. It also processes materials from the on-site RRP as noted above. Noise-producing activities associated with the MRF include truck movements to and from the facility, glass cleaning equipment located outside the east side of the building, forklift movements, and other activities, including the conveyor belts and sorting machinery within the building, and

ventilation fans on the south end of the building. Current hours of operation for the MRF are 7:30 a.m. to 4:30 p.m.

(a) 2008 Study

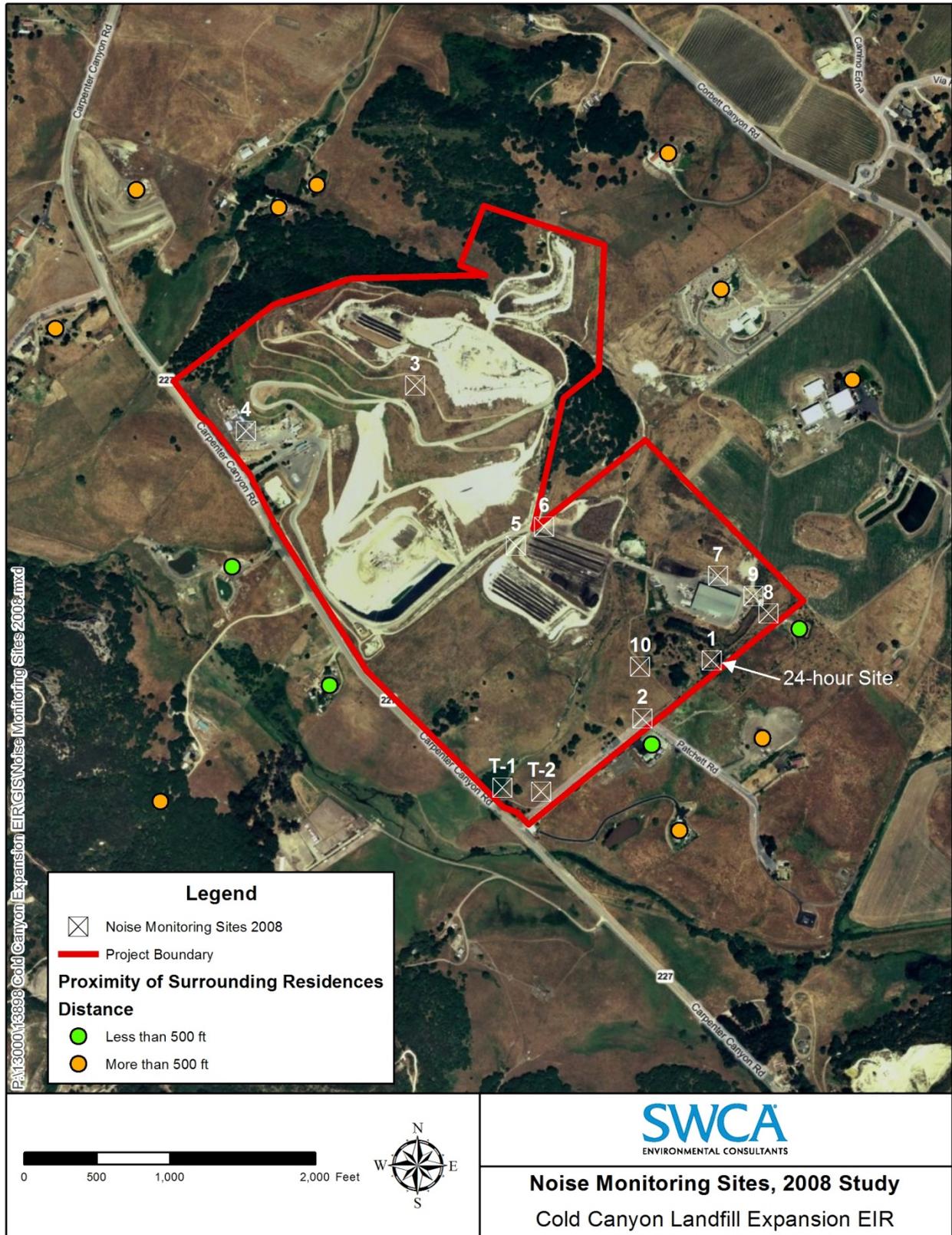
Noise levels from the above-described activities and associated equipment were documented by conducting reference noise level measurements at various locations within or near the project site on March 27 and 28, 2008. Measured noise levels are reported in terms of the L_{eq} and range (minimum-maximum) during the sample period.

During the 2008 survey the tub grinder used at the former CO was not on-site; instead noise measurements were conducted on April 16, 2008, at another compost operation in Visalia, California, where similar equipment is used. Noise monitoring equipment was the same as described above for conducting ambient noise level measurements at Site T-1. The reference noise measurement locations for the March 2008 survey are noted in Figure V.I.-1, and Table V.I.-2 summarizes the results of reference noise level measurements.

**TABLE V.I.-2
Summary of Reference Noise Level Measurements**

Site	Dominant Noise Source	Distance, Ft.	Noise Level, dBA L_{eq} (Range)
1	MRF (glass cleaner, fans)	300	46.1 (44.0-48.6)
2	Compost Operation (trucks, loaders)	1,100	44.5 (44.0-45.0)
3	Landfill (dozer, compactor, earthmover, trucks)	200-300	70.1 (62.3-77.2)
	Landfill (compactor)	200-300	67.5 (64.6-70.1)
	Landfill (earthmover)	200	72.1 (67.7-80.1)
4	RRP (loaders, alarms, dumping materials)	100-200	68.7 (59.6-75.1)
5/6	Compost Operation (18 ft. Scarab row turner)	100	84.2 (83.4-85.1)
7	MRF (glass cleaner – unobstructed view)	50	77.3 (75.1-79.9)
8	MRF (fans – top of berm)	150	63.4 (62.5-63.9)
9	MRF (fans plus glass cleaner)	100	66.3 (65.4-67.4)
10	Compost Operation (loaders, trucks, alarms)	900	48.7 (39.2-59.5)
	Landfill (dozer, compactor, alarms)	2,500	----- (42-48)
*	Diamond Z 1260 Grinder (CAT 3412)	100	81.0 (80.2-82.4)

**Measurements conducted 4/16/08 at Wood Industries Company in Visalia, California.*



Noise Monitoring Sites, 2008 Study
FIGURE V.I.-1

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(b) 2010 Study

The 2010 Study included noise measurements conducted over a two-week period from January 29 to February 10, 2010. All significant noise-producing equipment associated with the landfill operated for at least part of the time during the noise monitoring period. Noise measurements were conducted at five long-term sites (refer to Figure V.I.-2) that were at or near existing residential uses, and at a series of short-term sites (refer to Figure V.I.-3, Sites 1-8) at various locations to document noise levels from specific landfill activities. The short-term site measurements from the 2010 Study were intended to confirm or refute the results of the 2008 Study.

Two of the long-term sites, B and D are considered generally representative of Landfill noise in the project area as they are farthest from the Highway 227 noise and closest to the landfill activities (Site D is also on a property line). However it was noted in the survey that all long-term measurements were likely skewed upward due to noise from traffic and aircraft fly-overs. Therefore estimates of noise produced by the Landfill activities are based on measured results and field observations of Landfill activities performed by Brown-Buntin Associates. The estimates are summarized in Table V.I.-3.

**TABLE V.I.-3
2010 Noise Study Results**

Site	Dominant Noise Source	Noise Level, dBA L_{eq}	Noise Level, dBA L_{max}	Distance, Ft.	Comments
A	Disposal area and RRP	42-46	55-60	2,500	n/a
B	Tub grinder	73	n/a	2,200	Property line measurement
	Composting/Soil movement	42-60	47-51		L_{max} associated with bird whistles
C	Landfill – all activities	40-48	42-43	5,300 (1 mile)	L_{max} associated with bird whistles
D	Composting; MRF	45-55	53-62	1,200	Site adjacent to southeastern property line. L_{max} associated with bird whistles
E	Disposal area; RRP	45-50	66-73	1,500-2,000	L_{max} associated with bird whistles

Noise monitoring at Sites 1-8 was performed in the 2010 Study to provide additional information concerning noise levels generated by Landfill equipment and/or operations. Noise monitoring conducted for this study occurred over a longer period of time than for the 2008 Study, and noise levels generated by equipment not in use during the 2008 Study were documented in 2010. A complete description of the noise measurements taken at Sites 1-8 during the 2010 Study can be reviewed in Appendix E. The results indicate that the 2008 Study may have underestimated noise produced by the RRP and the tub grinder used in the former CO. It also notes that the 2008 Study did not consider back-up warning devices and bird whistles. Back-up warning

devices, which are heard intermittently, during the 2010 Study produced L_{\max} of up to 53 dBA. Bird whistles were used intermittently at the time the 2010 Study was conducted. Measurements were highly variable, but the whistles produced an L_{\max} of 73 dBA at Location E, southwest of the disposal area.

2. Regulatory Setting

Noise is regulated at the federal, state, and local levels through regulations, policies, and/or local ordinances. Local policies are commonly adaptations of federal and state guidelines, based on prevailing local conditions or special requirements. These local policies, contained in the County's *Noise Element* are described below.

a. County of San Luis Obispo Noise Element

The *County of San Luis Obispo Noise Element* provides a policy framework within which potential noise impacts may be addressed during project review and long range planning. The *Noise Element* is divided into two separate documents and contains policies, performance goals, and procedures for addressing identified noise impacts. The *County Noise Element Policy Document and Acoustic Design Manual* sets noise exposure standards for noise-sensitive land uses, and performance standards for new commercial and industrial uses. A companion document, the *Technical Reference Document*, contains background information on the methods used to develop noise exposure information and guidelines for those involved in land use choices and in project design and review. Together these documents comprise the *Noise Element*, and provide methods for reducing noise exposure.

The applicable policies of the *Noise Element* include the following:

New Development and Stationary Noise Sources

New development of noise-sensitive land uses may be permitted only where location or design allow the development to meet the standards for existing stationary noise sources.

New or Modified Stationary Noise Sources

Noise created by new stationary sources, or by existing stationary sources which undergo modifications that may increase noise levels, shall be mitigated to not exceed the noise level standards for lands designated for noise-sensitive uses.

The Noise Element also directs stationary source development to consider applying one or more measures, from a list of noise reduction measures (Noise Element, Section 4.14), unless they are shown to be infeasible or ineffective. The following is a list of measures to consider from Section 4.14:

- 4.14 One or more of the following mitigation measures shall be considered where existing noise levels significantly impact existing noise-sensitive land uses or where cumulative increases in noise levels resulting from new development significantly impact noise-sensitive land uses:

- a. Rerouting traffic onto streets that have low traffic volumes or onto streets that do not adjoin noise-sensitive land uses.
- b. Rerouting trucks onto streets that do not adjoin noise-sensitive land uses.
- c. Construction of noise barriers.
- d. Lowering speed limits.
- e. Acoustical treatment of buildings.
- f. Programs to pay for noise mitigation such as low cost loans to owners of noise-impacted property or establishment of developer fees.

The County's *Land Use Ordinance* Section 22.10.120.A.4 Exceptions to Noise Standards states the following with respect to exempt noise sources:

Noise sources associated with construction provided such activities do not take place before 7 a.m. or after 9 p.m. on any day except Saturday or Sunday, or before 8 a.m. or after 5 p.m. on Saturday or Sunday.

3. Thresholds of Significance

a. CEQA Guidelines

Appendix G of the CEQA Guidelines and the County's environmental checklist indicate that significant noise impacts occur when the project:

- Exposes people to noise levels in excess of standards established in local noise ordinances or general plan noise elements;
- Causes a substantial permanent or temporary increase in existing noise levels; or,
- Results in the exposure of persons to or generation of excessive ground-borne vibration or ground-borne noise levels.

Noise impacts of any project are considered significant if noise resulting from construction or operation occurs beyond the specified level and/or time frame set by the County of San Luis Obispo.

The threshold of significance for noise related impacts is the exceedance of a standard as established in the County's *Noise Element* by any proposed development project. Where the established standard is already exceeded, a significant increase in a noise level is taken as one decibel (1 dB).

b. Transportation Noise Sources

The County *Noise Element* states that new development of noise-sensitive land uses shall not be permitted in areas exposed to existing or projected future levels of noise from transportation noise sources which exceed 60 dB L_{dn} or Community Noise Equivalent Level (CNEL) unless the project design includes effective mitigation measures to reduce noise in outdoor activity areas to below 60 dB, and interior spaces to below 45 dB.

c. Stationary Noise Sources

The County *Noise Element* states that noise created by new proposed stationary noise sources or existing stationary noise sources which undergo modifications that may increase noise levels shall be mitigated and implementation of mitigation shall be the responsibility of the developer of the stationary noise source. ~~new development of noise sensitive land uses shall not be permitted where the noise level due to existing stationary noise sources will exceed noise level standards unless effective noise mitigation measures have been incorporated into the design of the development to reduce noise exposure.~~ Noise levels shall be reduced to or below the allowable threshold (refer to Table V.I.-4). These noise thresholds are applied at the property line.

**TABLE V.I.-4
County of San Luis Obispo Stationary Noise Standards**

Level	Daytime (7 a.m.-10 p.m.)	Nighttime (10 p.m.-7 a.m.)
Hourly average level (L_{eq}) dB	50	45
Maximum level (Max) dB	70	65
Maximum level, dB-Impulsive Noise	65	60

Source: Noise Element, San Luis Obispo County General Plan 1992

d. Existing and Cumulative Noise Impacts

Pursuant to the *Noise Element*, the County shall consider implementing mitigation measures where existing noise levels produce significant noise impacts to noise-sensitive land uses or where new development may result in cumulative increases of noise upon noise-sensitive land uses.

e. Construction Noise

Construction activities include demolition of the existing and construction of the new RRP, ~~CO,~~ and MRF, relocation of the scalehouse and entrance road, and excavation of modules, ~~and stockpiling.~~ Generally, other than limiting exceptionally noisy activities to certain times of the day and days of the week, the County currently has no noise threshold for temporary construction-related impacts. When considering noise impacts, the County of San Luis Obispo defines temporary as less than one year.

For many projects, stockpiling would be considered a temporary construction activity, as it generally would last less than one year. However for the proposed project the use of stockpiles during module development and disposal activities would occur almost daily and over the long-term. Stockpiles would be created during module construction, and “removed” as the soil is needed as short- and/or long-term cover for the modules; therefore potential impacts associated with stockpiles have been evaluated using the stationary noise source thresholds.



Long-Term Noise Monitoring Sites, 2010 Study
FIGURE V.I.-2

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Short-Term Noise Monitoring Sites, 2010 Study
FIGURE V.I.-3

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4. Impact Assessment and Methodology

The FHWA Model was used to calculate project-related changes in traffic noise exposure at the closest residential setbacks along Highway 227 near the project site. Noise modeling assumptions are summarized in Appendix E.

The analysis of impacts from stationary noise sources was completed assuming that noise levels generated by the proposed project would be similar to the existing conditions; however, the impact determination considers the effect of the proposed new locations of the operations in relation to the property line. The 2008 and 2010 Studies provide the basis for the identification of potential impacts.

5. Project-specific Impacts and Mitigation Measures

a. Transportation Noise Assessment

Since release of the original Draft EIR in January 2009 and subsequent to conducting the updated May 2010 Noise Study, the proposed project has been modified. The compost operation has been permanently eliminated from consideration as part of the Proposed Project; ~~would not be as large as previously proposed (300 tpd versus previously proposed 450 tpd); therefore, the following analysis (which is based on 2,350 tons per day and a compost operation) somewhat overestimates potential daily trips and associated transportation noise due to reduction in the maximum daily tonnage to 2,050 and elimination of compost processing activities.~~

The proposed project would increase the number of daily trips to and from the Landfill. Currently, there is an weekday average of 330 one way (660 two-way trip ends) daily trips at the Landfill; this is expected to increase to an weekday average of 414 one way (828 two-way trip ends) daily trips. This number is based on the Landfill's records showing an average weekday receipt of 56% of their daily tonnage permit limit (now proposed to be 2,050 tpd as a result of elimination of the CO from the proposed project) and a ton per trip/vehicle rate of 2.77. All vehicles would access the Landfill from Highway 227. The Average Daily Traffic (ADT) volume on Highway 227 in the vicinity of the project site would be expected to increase from 5,500 to 7,700 in 2028, not including the proposed project.

Accounting for project-related traffic, the future ADT on Highway 227 near the project site would be up to 7,900. Assuming that 80 percent of project-related traffic would be trucks, the overall truck percentage on Highway 227 would increase from approximately five percent to approximately eight percent with the proposed project.

The FHWA model predicted that at a setback of 150 feet from the center of the roadway, future annual average traffic noise exposure without the project would be 61.2 dB L_{dn}. This exceeds the County's 60 dB L_{dn} noise compatibility standard. Including project-related traffic, the future traffic noise exposure would increase by 0.8 dB to 62 dB L_{dn}. There are two residences located approximately 150 feet southwest from the centerline of the roadway (refer to Figure V.I-1). However, these residences, and the likely outdoor activity areas are located approximately 15 feet below the grade of Highway 227. Based on Table 2-1 in the County's *Noise Element*, this elevation difference would reduce the dB level by approximately five, resulting in a noise

exposure of approximately 57 dB. This resulting noise exposure is below the 60 dBA threshold and is considered *less than significant (Class III)*. No mitigation is required.

b. **Stationary Noise Assessment**

1) **Landfill Disposal Activities**

The proposed project would increase the disposal area of the Landfill by approximately 46 acres. This expansion would potentially move noise-producing activities closer to the southern and eastern property lines, but would not change the nature of noise-producing activities or equipment. The disposal area would be expanded in phases with activities moving around the expansion area over the life of the project.

Based upon noise measurement data summarized in Table V.I.-2, typical disposal activities (i.e., disposal trucks, dozer, earthmover, compactor) produce a L_{eq} of approximately 70 dBA at 200-300 feet from simultaneous activities. This equipment is generally at ground level, and can be slightly elevated above the working face. In some cases the working face would be within an excavated module and therefore topographic shielding may occur. In other cases, the working face would be substantially elevated above the elevation of the nearest property line.

The proposed project would move these disposal activities to as close as 350 feet from the southeastern property lines (refer to Figure III-9). Modules 14-16 in particular would be constructed in close proximity to either the southeastern or southwestern property lines. There is neither significant topographic shielding nor distance between proposed Modules 10, 11, 12 and 14 and the nearest property lines. Disposal activities at these locations, and at Modules 15 and 16, would be expected to exceed the County's daytime hourly L_{eq} standard of 50 dBA by more than 10 dB. Noise levels from Landfill activities would exceed the County's daytime hourly L_{max} standard of 70 dBA as well. It should be noted that at the nearest sensitive receptors (residences), noise levels would likely be similar to those measured at Sites D and E, which are between 45-55 dBA.

NS Impact 1 **Noise levels from disposal activities would intermittently exceed the County's daytime hourly L_{eq} standard of 50 dBA and the L_{max} standard of 70 dBA at the southeastern and southwestern property lines.**

NS/mm-1 **Noise Mitigation Plan - Preparation. Prior to issuance of the Notice to Proceed**, the applicant shall submit for review and approval, a Noise Mitigation Plan addressing identified potential noise impacts on the southeastern property line through construction of earthen berm (or garbage-filled berms within the disposal area if they can be shown to be as effective as earthen berms) and use of back-up warning devices on all applicable onsite heavy equipment that use ambient noise technology and/or are set to the lowest possible levels while still ensuring public and worker safety. The plan shall be prepared by a qualified acoustical consultant.

The berms shall be located either at the property line and/or near the active working face, based on recommendations from a qualified noise consultant in consultation with the County, to effectively reduce impacts. Any berms located at the property line shall be landscaped in accordance with the proposed landscape plan and Aesthetic Resources mitigation measures.

The Plan shall include a schedule of when these measures would be installed prior to commencement of any related expansion improvements. In addition, the plan shall specify that noise monitoring shall be required after installation by a County-approved expert on noise measurement (and periodically monitored throughout life of project) to determine the effectiveness of the installed measure(s) and if additional measures need to be installed to meet the County's threshold. Any additional measures identified will be installed by the Applicant as quickly as feasible (with a goal of ~~in 30-60~~ days) from when they are determined necessary.

NS/mm-2

Noise Mitigation Plan – Implementation. Prior to initiation of proposed activities, including the relocation of the entrance, module excavation, etc., the applicant shall have completely implemented applicable components of the Noise Mitigation Plan.

NS/mm-3

Noise Barrier Contingency Plan. Prior to issuance of the Notice to Proceed, a Residential Noise Barrier Contingency Plan shall be prepared by the Applicant and reviewed and approved by the County. The intent of this plan would be to provide relief to surrounding residences (within 1,800 feet from the landfill operation's outer property perimeter) that can demonstrate noise levels of 50 decibels L_{eq} or more from ongoing landfill operation activities. The point of measurement would be from the edge of the 'outdoor activity area.' An 'outdoor activity area' is considered an active and maintained area (e.g., backyard with maintained vegetation) existing at the time of approval of a proposed project. Once identified, the Applicant would complete one of the following options within 90 days of identification: 1) install approved on-site measure that is intended to substantially reduce noise at the residence to acceptable levels, and then re-measure after installation to verify adequate reduction, or 2) install well-constructed noise barrier (as designed by qualified noise expert) at edge of active outdoor area of affected residence (and verifying noise measurement taken after installation for effectiveness), or 3) if such a noise barrier would be ineffective or undesirable for the property owner, make a one-time payment to property owner of affected residence for estimated cost of the noise barrier identified in option 2 above. This payment would be required to be used by the property owner for noise reduction purposes only. If either option 2 or 3 are selected and successfully executed, the Applicant has no further financial obligation or noise mitigation maintenance obligation to that property or subsequent owners of that property relating to noise and this mitigation measure.

Residual Impact Modules 10, 11, 12, and 14 are within 200 feet of the southwestern property line, adjacent to Highway 227. Due to the proposed height of the modules above existing grade and neighboring properties, an acoustical berm along the southwestern property line would not effectively mitigate noise. A working face berm would potentially be more effective. Nevertheless, because the noise levels generated by activities at Modules 10, 11, 12, and 14 at the property line may be greater than 70 dBA, the berm would need to reduce noise levels by more than 20 dB.

The *Noise Element* indicates that properly designed earthen berms can reduce noise exposure from 5 dB to as much as 15 dB, which would potentially reduce noise levels at the southeastern property line to close to, but not below, the 50 dBA threshold. Because there is no other feasible mitigation that could further reduce noise levels at these locations, the impact would remain *significant and unavoidable (Class I)*.

Secondary Impact Implementation of NS/mm-1 may result in removal of at least two additional oak trees and an additional population of Obispo Indian paintbrush, not identified in the original Biological Resources analysis. Implementation of mitigation measures BR/mm-1, 11, and 12 would reduce this secondary impact to less than significant.

Secondary Impact Implementation of NS/mm-3 may result in visual impacts, although existing mitigation measures requiring visual screening would reduce impacts. Both alternate locations for the stockpiled material shall avoid biological and cultural resources. Implementation of mitigation measures AES/mm-8 and 9 would reduce this secondary impact to less than significant.

2) Stockpiles

The proposed project would require use of existing stockpiles and the development of a new stockpile. Stockpiles would be created during module excavation (which would occur over approximately 6-month periods approximately every five years) and “removed” as soil is needed for short- and/or long-term cover. The proposed stockpile locations are nearly adjacent to property lines. Two of the proposed stockpiles which would be used by the proposed project already exist (refer to Figure III-5, Stockpiles 1 and 3). Stockpile 1 is located at the top deck, close to the northernmost property line. Stockpile 3 is adjacent to the northeastern property line. Use of the stockpiles would potentially vary on a daily basis depending on rate that each module requires cover, and the rate of module development. There may also be periods where one stockpile is dormant for months at a time, while a different stockpile is in daily use.

The new stockpile (refer to Figure III-9) would be created near the center of the southern boundary of the expansion area as shown in Figure III-89. The stockpile would acoustically shield a portion of the southeastern property line; however, any noise level reductions provided by the stockpile would be offset by the ongoing activities associated with use of the stockpile. Given that the stockpile locations are nearly adjacent to the nearest property line(s), noise resulting from activity at the stockpiles would exceed the stationary noise threshold. Relocating

the existing stockpiles is considered infeasible, as there is limited space available on the project site.

The 2008 Study notes that earthmovers, compactors, and dozers all result in noise levels of 70 dBA or slightly higher at a distance of 200-300 feet. Portions of all of the existing and proposed stockpiles are within 300 feet of the nearest applicable property line. Stockpile 1 is located on the top deck and, therefore, Aesthetic Resources mitigation, which requires construction of an earthen berm, would reduce potential noise impacts from use of that stockpile. An earthen berm is not a feasible option at Stockpile 3 because the stockpile is at a higher elevation than the property line, and there is no space available (refer to Figure III-5).

NS Impact 2 **Noise from the use of the existing and proposed new stockpile** would intermittently exceed the County's daytime hourly L_{eq} standard of 50 dBA at adjacent property lines.

Implement AES/mm-4 and 5, **Earthen Berm**.

NS/mm-4 **Noise – Stockpile Management. Prior to issuance of the Notice to Proceed**, in order to reduce stockpile activity adjacent to property lines, the applicant shall revise the proposed grading plans and re-allocate the material from the proposed stockpile (i.e., southeastern property line) to existing Stockpiles 1 and 3, to the extent feasible. If these stockpiles cannot accommodate all of the material, the remaining material shall be located in a new location as far away from the property line(s) as feasible, potentially adjacent to existing Module 8 and proposed Module 11.

Residual Impact These measures require the relocation of the proposed stockpile (located adjacent the southeastern property line) and would reduce heavy equipment activity in the vicinity of the southeastern property line. AES/mm-4 and -5 require construction of an earthen berm, which would reduce the dBA from Stockpile 1 by as much as 15 dB. Given this reduction and that the stockpile is generally farther than 300 feet from the nearest property line, these measures would reduce noise impacts from the use of Stockpile 1 to a *less than significant level (Class II)*.

There is not any feasible mitigation which could be applied to Stockpile 3 and the proposed southeastern property line stockpile given their ~~its~~ proximity to the property lines and topography. It is likely that noise levels would intermittently be above the 50 dBA threshold at the northern and southern property line(s) due to use of Stockpile 3 the proposed stockpile. Impacts would be considered *significant and unavoidable. (Class I)*.

3) ~~Compost Operations (CO)~~ Green and Wood Waste Processing

As stated above, the CO has been eliminated by the applicant from future consideration as part of this EIR. However, green waste would still be accepted for use as ADC as part of the Landfill expansion and wood waste would still be accepted for transfer off-site to a cogeneration facility.

Green and wood waste, once accepted by the Landfill, is stored and processed in various locations on the project site. Currently, the processing of green waste is occurring on the top deck of the Landfill and the applicant has requested as part of the project to be allowed to continue to process green waste at this and other locations on the project site in the future. Wood waste is currently being processed just north of the MRF access road.

The criteria for selection of an on-site location for storage and processing of these materials includes finding a flat, two to three-acre footprint in close proximity to the end use (e.g., as close to the working face as possible in the case of green waste. For wood waste the criteria is to find a location allowing for the best loading into transfer vehicles that would then take the material to a cogeneration facility). The applicant states that over the course of the life of the Landfill there are four general potential locations for storing and processing green and wood waste. These would include: 1) the top deck; 2) the active deck within the Landfill footprint if the area is large enough; 3) a future module location that is undeveloped; and, 4) an area adjacent to the Landfill footprint such as the location of the proposed RRP footprint prior to completion.

Additionally, the applicant has requested they be allowed to stage equipment and materials on the top deck as the Landfill modules progress. Therefore, the discussion applicable to the noise generated by the tub grinder and other equipment, covered in the following section has been retained as impacts and mitigation would still be applicable (i.e., only as they relate to green and wood waste processing for ADC and cogeneration - not for composting). Green and wood waste processing requires a chipper, loader, and roll-away dumpsters.

~~The CO would be expanded and relocated over time to the top deck (refer to Figure III-8). This would result in moving associated noise sources further from the southern property lines and closer to the northern ones.~~

Based upon noise measurement data summarized in Table V.I.-2, the former CO produces a L_{eq} of approximately 85 dBA and an L_{max} of 90 dBA at 100 feet when ~~either~~ the tub grinder ~~and/or~~ ~~searab~~ is in use. The 2010 Study notes that at the nearest property line (Site B), the L_{eq} is approximately 73 dBA. At Site D, located at the southeastern property line and approximately 900 feet from the former CO, the L_{eq} is as high as 55 dBA. Once moved to the top deck, the distance to the nearest property line (to the north) would also be approximately 900 feet; therefore it can be concluded that the L_{eq} at the nearest property line would also be ~~55-60~~ dBA. This exceeds the 50 dBA threshold.

The L_{max} associated with the former CO (including bird whistles) was estimated to be 53-63 dBA – below the 70 dBA threshold. Since release of the 2009 Draft EIR the applicant has for the time being stopped using whistles and is relying more heavily on a falcon and hawk program on-site to control birds. As a result there may already be some reduction in the L_{max} on-site. However, use of these devices may be necessary in the future.

NS Impact 3

Noise levels from green and wood waste processing using the tub grinder ~~the proposed compost operation~~ would exceed the County's L_{eq} standard of 50 dBA at the nearest property line where the tub grinder would be located.

Implement AES/mm-4 and AES/mm-5, **Earthen Berm.**

NS/mm-5 **Noise Attenuation – Tub Grinder. Prior to issuance of the Notice to Proceed**, to reduce noise from the tub grinder, the applicant shall design and construct an effective noise barrier around the grinder (acoustic material used could be earth, concrete, straw bales, or some other acoustically dense material). The barrier design and location shall be approved by a qualified acoustical consultant and reviewed by the County. This measure shall be re-applied whenever the tub grinder is moved from ~~one~~ a pre-approved location to another, ~~including when the CO is placed on the top deck~~. Exterior color and/or material shall blend with the existing backdrop.

NS/mm-6 **Noise Monitoring** ~~–Restart of compost operation. Thirty days after restarting the CO and implementation of NS/mm-54~~, the applicant shall have a qualified acoustical monitor identify noise levels at the property line resulting from the ~~CO processing of green and wood waste (including tub grinder and searab)~~. If the L_{eq} is still above 50 dBA, within six months from the confirmation of noise levels the applicant shall implement ~~one or both of the following measures, as necessary:~~

1. Enclose the tub grinder ~~and/or the CO~~ based on the results of the monitoring efforts and recommendations. The enclosure design shall be reviewed by a qualified acoustic consultant. The applicant shall provide verification that the proposed enclosure would reduce noise levels ~~from the CO~~ such that the 50 dBA threshold can be achieved.
2. ~~Transition to an Aerated Static Pile (ASP) or Anaerobic Digestion (AD) process for the CO. The transition shall be complete within an additional six months (i.e., or one year from when excessive noise level confirmed), or and as quickly as any necessary permitting allows). The applicant shall provide verification that the proposed process (ASP or AD) would reduce noise levels from the CO such that the 50 dBA threshold can be achieved.~~

NS/mm-7 **Noise Monitoring – During ~~compost operation~~ Green and Wood Waste Processing**. Within 30 days after implementation of NS/mm-6, the applicant shall provide verification that the noise levels produced by ~~the CO green and wood waste processing~~ are less than the 50 dBA at the property lines. If acceptable noise levels are not achieved additional measures shall be developed to reduce noise to acceptable levels.

Residual Impact The 2010 Study indicates that a properly designed noise barrier for the tub grinder could reduce noise by 5-10 dB. AES/mm-4 and 5 require an earthen berm be constructed around the “top deck” of the Landfill to mitigate visual impacts associated with the engineered look of the Landfill. The berm would range in height from ten to 25 feet, and

effectively act as a noise attenuation berm for green waste processing the relocated CO. Neither ASP nor AD requires intensive turning of compost, and therefore the scarab would not be necessary. Implementation of these measures would reduce impacts to *less than significant levels (Class II)*.

Secondary Impact — NS/mm 6 would potentially require the applicant to significantly alter the CO process. If implemented, the ASP would preclude the need for regular turning. Given the distance of the CO from public roads, the ASP process would not result in a new aesthetic resources impact. Aeration of the piles may be passive or active. Active aeration would require the use of blowers, which would produce noise as well. Because the specific ASP technology which may be implemented has not been determined, noise impacts are unknown. Subsequent evaluation would be required.

AD would require the construction of new structures or vessels in which the composting could occur. It is assumed that the structure(s) would be located in proximity to, but smaller than the MRF. Aesthetic Resources mitigation recommended in Section V.A. for the MRF and other structures would be applicable to AD structures as well. These measures would likely reduce any secondary visual resources impacts to a less than significant level; however, depending on the design eventually proposed, subsequent environmental review may be required to verify this conclusion.

If it were necessary for the applicant to completely enclose the CO, the structure would need to be considerable in size. As with the AD, it may be the existing aesthetic resources mitigation could reduce impacts to a less than significant level; however, additional environmental review of specific design may be required to verify this conclusion.

Implementation of NS/mm 6 may result in benefits such as reducing water use (AD), and reducing odors, because the composted material would either be turned less frequently (ASP) or enclosed (AD).

4) Expansion and Relocation of the Resource Recovery Park (RRP)

The RRP would be expanded from two to four acres and relocated to the southeastern corner of the Landfill (refer to Figure III-8), northeast of the MRF, and approximately 50 feet from the northeastern property line. The proposed RRP location would be recessed into a hillside at the location just northeast of the MRF. The top of the crest above the cutslope would be approximately 40 feet above the working area. The proposed expansion of the RRP would include a sort line that is elevated approximately 15 feet above the ground. There is an existing earthen berm approximately 25 feet high between the MRF and the southeastern property line, constructed as noise mitigation for the previous Landfill expansion (refer to March 2008 Study Figure 1, Appendix E). The southeastern property line is approximately 300 feet away.

Based upon noise measurement data summarized in Table V.I.-2, the existing RRP operation produces an L_{eq} of about 69 dBA and an L_{max} of approximately 75 dBA at 100 to 200 feet from

loaders engaged in the movement and sorting of materials. These are typical ongoing, operational activities at the RRP. Maximum noise levels are generally caused by back-up alarms and/or materials being dumped into sorting bins. Noise levels produced by the proposed elevated sort line would be comparable to glass cleaning equipment currently located on the east side of the MRF building, which is a L_{eq} of approximately 77 dBA at 50 feet.

Given the proximity of the northeast property line to the RRP, if there was no topographic shielding the RRP would produce a L_{eq} of approximately 77 dBA. However, the proposed cutslope adjacent to the RRP would reach a height of 40 feet above the work area (25 feet above the top of the sort line), and act as a noise berm, reducing the noise by as much as 15 dBA, to approximately 62 dBA at the northeastern property line. This level still exceeds the threshold by 12 dBA.

Noise generated by the RRP at the southeastern property line, which would be as close as 275 feet from the RRP would be reduced due to the location of the MRF and the existing noise berm. It is estimated that the berm and MRF together would provide a 15 dBA reduction in noise levels, to approximately 62 dBA. This level still exceeds the threshold by 12 dBA.

NS Impact 4 Noise produced by the relocated RRP would exceed the County's 50 dBA noise threshold at the northeastern and southeastern property lines.

Implement NS/mm-1, **Noise Mitigation Plan.**

NS/mm-8 **Noise Monitoring – RRP Redesign & Verification. Prior to relocation of the RRP,** to reduce noise levels at the property lines resulting from the RRP, the applicant shall re-design the facility so that it is covered and enclosed on all sides, with the exception of the southwestern side. Walls and ceilings shall be acoustically treated, as necessary, and metal roll-off bins will be lined to the extent feasible to achieve acceptable noise levels at property boundaries. The acoustical treatment may also need to be applied to any nearby permanent reflecting surfaces, such as the MRF building. The southwestern side may be left open to facilitate delivery and sorting of materials. Once installed and in full operation, a qualified noise expert shall take measurements to verify compliance. As needed if compliance is not met, additional noise attenuation measures shall be installed to meet the County's stationary noise thresholds.

Residual Impact NS/mm-1 requires an earthen berm be constructed along the southeastern property line. This berm would reduce impacts from the RRP as well. Partially enclosing the RRP facility would also reduce noise levels generated by the facility. The specific reduction in noise levels would not be known until after the structure is built and the RRP is operating. However, based on experiences with the MRF, enclosed buildings substantially reduce noise levels. The measures recommended along with the existing topographic shielding would potentially reduce noise levels to below the 50 dBA threshold along the entire southeastern property line.

However, according to the 2008 Study, noise levels from the MRF fans alone are at least 63 dBA at 150 feet, despite the enclosure. The RRP would be in some cases closer than 150 feet from the northeastern property line. Noise levels at the northeastern property line, due to its proximity to the relocated RRP, would remain above thresholds and be considered *significant and unavoidable (Class I)*.

5) Expansion of the Materials Recovery Facility (MRF)

The MRF capacity would be increased by adding upgraded equipment and increasing hours of operation. The upgraded equipment would be located inside an expanded building. The building would be expanded to the north and east. The extended hours of operation would not occur during the night-time hours of 10:00 p.m. to 7:00 a.m., and so only daytime significance thresholds would apply.

Based on noise measurement data summarized in Table V.I.-2, MRF operations produce a L_{eq} of approximately 66 dB at approximately 100 feet from the southeastern side of the MRF building and 46 dB at a distance of 300 feet. This includes noise from ventilation fans, sorting operations inside the building, and the glass cleaner located outside and on the east (opposite) side of the building. While the project is also getting closer to the northeastern property line, it is further away than the southeastern property line and noise levels will be slightly less than what is described for the southeastern property line.

The closest property line is located directly southeast of the MRF at a distance of approximately 250 feet. The location of this corner of the MRF would not change as a result of the proposed project. There is an existing noise berm located approximately 150 feet from the MRF and 100 feet from the nearest property line. The berm was constructed to reduce noise levels from the MRF on neighboring residences during a previous expansion. Based on review by Brown-Buntin Associates, the noise berm would reduce the project's ongoing operational dBA by as much as 15 dBA at the property line given its height and location (the *County Noise Element* confirms that engineered noise berms may result in dBA reductions of as much as 15 dBA). This would result in the noise levels being reduced below the 50 dBA threshold at the closest property line. Due to the existing berm that would remain in place, impacts associated with the MRF expansion would be *less than significant (Class III)*. No mitigation is required.

6) Relocation of Scalehouse and Entrance

The proposed entrance to the Landfill from Highway 227 would be re-located approximately 2,800 feet to the south of the existing entrance. This would result in moving traffic entering the facility to as close as 200 feet from the southeastern property line. The FHWA Model was used to calculate hourly L_{eq} values for on-site traffic along the main entrance road during a peak hour. The analysis showed that the peak hour L_{eq} at 350 feet (approximate distance to closest residence) would be 52.6 dBA for 2031 traffic conditions. Therefore, the operational noise would exceed the County's 50 dBA daytime L_{eq} standard, as measured at the property line (as this is closer to the noise source than the measured residence).

NS Impact 5 Noise levels from the entrance relocation would exceed the County's L_{eq} standard of 50 dBA at the nearest property line.

Implement NS/mm-1 and 2, Noise Mitigation Plan.

Residual Impact The noise attenuation berm, required to be designed and implemented by mitigation measures NS/mm-1 and 2, would also effectively mitigate noise levels associated with the relocation of the scalehouse and entrance. According to the County *Noise Element*, an earthen sound berm can reduce noise levels from 5 to 15 dBA, although reductions at the higher levels may be difficult to achieve. Assuming the minimum reduction could be achieved, 5 dBA, noise levels would be reduced below the 50 dBA threshold, resulting in an impact that is *less than significant after mitigation (Class II)*.

7) Application of Noise Element Stationary Noise Reduction Measures

As stated above under the Regulatory Setting (Noise Element, Section 4.14), for projects that may generate potentially significant stationary noise, the project must consider using one or more mitigation measures from a list found in this section of the Noise Element, and then applied to the project unless it is determined infeasible. The following re-lists these measures with a subsequent discussion of feasibility.

a. Re-routing traffic onto streets that have low traffic volumes or onto streets that do not adjoin noise-sensitive land uses.

County response: There are no other access roads in the area above what is proposed.

b. Re-routing trucks onto streets that do not adjoin noise-sensitive land uses.

County response: As identified above under 'a' there are no other access roads in the area above what is proposed.

c. Construction of noise barriers.

County response: On-site operational vehicles will be traversing over transient piles and operate on a changing work face that will eventually reach 210 feet above the existing grade; as identified below some additional noise barriers are proposed, primarily for noise sources that are more stationary (e.g., tub grinder, etc.).

d. Lowering speed limits.

County response: Speed limits are already required to be 15 mph for dust control purposes; additional signage would improve awareness of this requirement. In addition, a County Environmental Monitor will be required to verify compliance with measures such as this.

e. Acoustical treatment of buildings.

County response: The noise study has shown that the noise generated within the proposed buildings will not exceed the County's thresholds, and therefore no additional mitigation is necessary. Also, noise measurements will be required upon completion of any new buildings or building expansions to confirm acceptable noise levels will be achieved. If noise levels are exceeded, additional measures will be required at that time to reduce these impacts to acceptable levels.

f. Programs to pay for noise mitigation such as low cost loans to owners of noise-impacted property or establishment of developer fees.

County response: Based on the studies completed, and the noise that is projected to occur from the proposed expansion, residences within ~~1,000~~1,800 feet of the property line (refer to Table V.I.-3) could experience noise levels greater than 50 decibels. One intent of the Noise Element is to insure that useable outdoor residential areas for each home are available. Therefore, homes that can demonstrate a direct line-of-site to the landfill's noisy operations that are within ~~1,000~~1,800 feet of the property boundary, and can also demonstrate that an actively managed exterior area near the residence is also subject to a direct line-of-sight to the Landfill, the applicant could work with the ~~applicant~~property owner to construct a noise barrier (up to eight feet high) at the edge of the existing active exterior area around residences to reduce noise to below the 50 decibel threshold (per NS/mm-3). If such a wall or fence was not feasible, the Applicant could instead make a one-time payment of the cost of such a wall or fence (per NS/mm-3). If it is shown that interior noise levels cannot achieve acceptable levels, the Applicant would either install any necessary additional measures to achieve the County's interior thresholds, or if such improvements are infeasible or undesirable by the property owner, make a one-time payment of the cost of such improvements to the property owner.

c. Back-Up Warning Devices

The 2010 Study indicates that ~~both~~ back-up warning devices on trucks were distinctly audible at various noise measuring sites. Because the back-up warning devices are used intermittently, the L_{max} threshold of 70 dBA is applied. Measurements taken at Site D (southeastern property line, approximately 1,200 feet from MRF and former CO) indicate that noise levels from the back-up warning devices range from 52-53 dBA. L_{max} generated by back-up alarms at a distance of 100-200 feet from the existing RRP (Site 1, 2010 Study) reached 75 dBA. This second measurement includes some other noises from the RRP, but because it was taken in closer proximity to the noise source, it is considered a more reliable measurement. Based on these results, back-up warning devices would likely exceed the L_{max} threshold when used within 200 feet of a property line.

NS Impact 6 Noise from back-up warning devices could exceed the 70 dBA L_{max} threshold when used within 200 feet of a property line.

Implement NS/mm-1 and NS/mm-2, **Noise Mitigation Plan**; NS/mm-3, **Noise Barrier Contingency Plan**; NS/mm-4, **Noise – Stockpile Management**; NS/mm-5, **Noise Attenuation– Tub Grinder**; NS/mm-6, **Noise Monitoring Tub Grinder** ~~Restart of compost operation~~; ~~and~~, ~~NS/mm-7~~ and NS/mm-8, **Noise Monitoring**.

Residual Impact These measures would include construction of berm(s) along the southeastern property line and/or the disposal area working faces, a noise barrier at the tub grinder, and relocate a large stockpile away from property lines. These measures would potentially act as noise barriers for back-up warning devices used on trucks working on modules, ~~at the CO~~, or stockpiling material. These measures would reduce the L_{max} below 70 dBA in many cases, even when back-up warning devices are used within

200 feet of the property line. However, given the range of activities, variable topography, irregular property lines, and limited area for any setbacks, the impact would remain *significant and unavoidable (Class I)*.

d. Bird Whistles

Bird whistles were not in use during the 2008 Study. During the 2010 Study, the noise from bird whistles was measured at levels that exceeded the County's L_{max} threshold of 70 dBA at Site E, approximately 1,500 feet from the nearest property line. However, since release of the original 2009 Draft EIR, due to neighborhood complaints about the noise of the whistles and the apparent success of the hawk/falcon program, the applicant has ended the bird whistle program and is placing a greater emphasis instead on the falcon and hawk program. The County has however ~~recently~~ received correspondence from the public stating that the falcon/hawk program may not be as effective as it once was.

NS Impact 7 Bird deterrence measures such as whistles and pyrotechnics could exceed L_{max} thresholds at property lines.

Implement HAZ/mm-3, **Additional Bird Deterrent Program.**

NS/mm-9 **Noise – Bird Deterrents.** Bird whistles and/or pyrotechnic bird deterrence activity shall be limited to those times when other, non-noise-producing bird deterrence activities have proven unsuccessful.

Residual Impact HAZ/mm-3 recommends that the applicant employ multiple strategies as necessary to control the bird population at the landfill. NS/mm-9 would limit the use of noise-producing bird deterrence. If employed however, whistles and pyrotechnics would potentially exceed L_{max} thresholds especially when employed at Modules 10, 11, 12, and 14, closest to Highway 227. If bird whistles are used, this impact would be significant *and unavoidable (Class I)*.

e. Construction Noise

Noise from construction activities will be generated at various locations within the Landfill for limited time periods throughout the project's life. Noise-producing construction activities would include: a) construction of the entrance, scalehouse, RRP, ~~CO~~, and MRF; b) grading activities, such as for the module excavation, and the noise ~~and aesthetic~~ mitigation berms; and, c) demolition activities (e.g., existing entrance area, shop, RRP, etc.). Generally these individual activities would occur over a period of weeks or months, but in less than a year's time. Some would occur simultaneously, and others would require conclusion of one activity before another begins (i.e., construction of the new entrance before demolition of the existing one).

Generally, significant sources of man-made vibration are sonic booms, blasting, pile driving, pavement breaking, demolition, diesel locomotives, and rail-car coupling. With the exception of the demolition and pavement breaking activities related to the removal of the existing scalehouse RRP, and other structures at the Landfill entrance, these activities are not proposed. The primary vibration source during the construction and operation of the project would be from the large

engines running heavy equipment and loaded trucks. Table V.I.-5 identifies the expected noise from equipment performing construction-related activities.

**TABLE V.I.-5
Typical Construction Equipment Noise Levels**

Type of Equipment	Maximum Noise Level, dBA @ 50 Ft.
Backhoe	78
Concrete Saw	90
Crane	81
Excavator	81
Front End Loader	79
Jackhammer	89
Paver	77
Pneumatic Tools	85
Dozer	82

Source: FHWA

During construction periods, sensitive receptors would be subject to construction noise throughout the day. Construction noise is not usually considered a significant impact if construction occurring near noise-sensitive land uses is limited to the daytime hours, extraordinary noise-producing activities (e.g., pile driving) are not anticipated, and construction equipment is adequately maintained and muffled. The proposed project would not include extraordinary noise-producing construction activities such as pile driving or blasting, although asphalt and concrete removal would be necessary and would produce the loudest construction-related noises.

Construction noise occurring closest to sensitive receptors (i.e., the demolition of the existing entrance area, relocated entrance roads, and the noise berm) would last less than one year, and, therefore, would be considered short-term.

NS Impact 8 Heavy machinery used for construction activities could produce excessive noise, if the equipment is not adequately muffled.

NS/mm-10 **Construction Noise – Heavy Equipment.** The applicant shall ensure that all heavy equipment items have the manufacturer's recommended noise abatement measures, such as mufflers, engine covers, and engine vibration isolators intact and operational. Internal combustion engines used for any purpose on or related to the job shall be equipped with a muffler or baffle of a type recommended by the manufacturer.

Residual Impact Construction-related noise would be temporary and vary considerably depending on the specific activity. Implementation of this measure would reduce potential construction-related noise impacts from the use of heavy machinery. This measure would reduce potential impacts to a *less than significant level (Class II)*. No additional mitigation measures are required.

6. Cumulative Impacts

a. Project Components

The proposed project includes a number of significant noise-producing activities, such as the disposal activities, ~~CO~~-RRP, and the MRF. Cumulative noise impacts due to the combined effect of all of these activities would be difficult to quantify due to the fact that the active disposal area would move throughout the life of the project, and therefore change in relation to the other project components and property lines. The 2010 Study results from the long-term monitoring at Sites A-E indicate that, of the noise-producing activities listed above, it is generally one activity that is the dominant noise source even when multiple activities occur simultaneously.

However, given the proposed proximity of some of these components to each other (the MRF and proposed RRP for example) and their proximity to the property lines, it is reasonable to conclude that the proposed project components, when considered together would result in cumulatively considerable impacts. This is particularly true at the southeastern and southwestern property lines, where the MRF, RRP, entrance, and disposal area expansion and construction activities are clustered.

NS Impact 9 The proposed project components, when combined, would result in cumulatively considerable noise impacts at property lines.

Implement NS/mm-1 and NS/mm-2, **Noise Mitigation Plan**; NS/mm-3, **Noise Barrier Contingency Plan**; NS/mm-4, **Noise – Stockpile Management**; NS/mm-5, **Noise Attenuation– Tub Grinder**; NS/mm-6, **Noise Monitoring – Tub Grinder**~~Restart of Compost Operation~~; ~~NS/mm-7~~ and NS/mm-8, **Noise Monitoring**; NS/mm-9, **Noise – Bird Deterrents**; and NS/mm-10, **Construction Noise – Heavy Equipment**.

Residual Impact Implementation of measures NS/mm-1 through 10 would reduce noise impacts resulting from various project components through the use of berms, noise attenuation devices, and enclosures, and ~~alternative composting technologies~~, as necessary. However, the proposed project would still result in noise levels which exceed thresholds due to the cumulative effects of the project components and the proximity of the project components to adjacent property lines. Impacts would be *significant and unavoidable (Class I)*.

b. Cumulative Development Scenario

During development of the Cumulative Development Scenario in Section IV, Environmental Setting, the County Department of Planning and Building did not identify any existing or proposed specific projects in the vicinity of the Landfill which would generate significant noise. Existing stationary noise-producing activities in the area are generally limited to residential and vineyard development, although there is an active surface mine located approximately 3,000 feet south of the Landfill, and the Price Canyon Oilfield is located approximately one mile west of the Landfill. Noise from these stationary sources would have been measured during the 2008 and 2010 Noise Studies, and, therefore, has already been considered during development of this section.