Attachment K

Noise Report

Noise Technical Report

Solomon Hills Specific Plan

JULY 2025

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Table of Contents

SECTION **PAGE NO.**

Acronyms and Abbreviations iv

1 Introduction 1
- 1.1 Site Location and Surrounding Area 1
- 1.2 Project Description 2
- 1.3 Noise Background and Terminology 3
  - 1.3.1 Fundamentals of Environmental Noise 3
  - 1.3.2 Fundamentals of Vibration 6
  - 1.3.3 Health Effects of Noise 7
- 1.4 Noise Regulation and Management 7
  - 1.4.1 Federal 7
  - 1.4.2 State 7
  - 1.4.3 Local 8
- 1.5 Significance Criteria 10

2 Environmental Setting 12
- 2.1 Sensitive Receptors 12
- 2.2 Ambient Noise Survey 13
- 2.3 Existing Traffic Noise Levels 15

3 Impacts and Mitigations 16
- 3.1 Methodology 16
  - 3.1.1 Construction Noise 16
  - 3.1.2 Project-Related Traffic Noise 17
  - 3.1.3 Operational Noise Level Quantification 17
  - 3.1.4 Methodology – Vibration Assessment 18
- 3.2 Impacts Analysis 20
  - 3.2.1 Project Impacts – Increases in Ambient Noise Levels 20
  - 3.2.2 Project Impacts – Vibration Generation 27

4 Policy Compliance (Non-CEQA) 29
- 4.1 On-Site Transportation Noise Exposure 29

5 References Cited 37

TABLES

Table 1. Typical Noise Levels Associated with Common Activities 4
Table 2. Outside-to-Inside Noise Attenuation (dBA) 6
Table 3. Measured Short-Term Ambient Outdoor Noise Levels 14
Table 4. Measured Long-Term Ambient Outdoor Noise Levels 14
Table 5. Short-Term Ambient Noise Levels Versus Modeled Traffic Noise 15
Table 6. Selected Powered Equipment Noise Emission Levels from RCNM 16
Table 7. Breakdown of HVAC Unit Types Per Project Building 18
Table 8. Vibration Velocities for Typical Construction Equipment 19
Table 9. Distance from Construction Equipment to Vibration Level of 0.2 in/sec PPV 19
Table 10. Phase 1 Construction Noise Levels at Nearest Receptors by Sub-Phase 20
Table 11. Phase 2 Construction Noise Levels at Nearest Receptors by Sub-Phase 21
Table 12. Phase 3 Construction Noise Levels at Nearest Receptors by Sub-Phase 21
Table 13. Phase 4 Construction Noise Levels at Nearest Receptors by Sub-Phase 21
Table 14. Construction Noise Levels at Occupied Proejct Residences by Sub-Phase 23
Table 15. Roadway ADT Data for Traffic Noise Analysis 24
Table 16. Modeling Results for Project-Related Traffic Noise Increases 25
Table 17. Project Operational Noise Levels Compared to Ambient 25
Table 18. Project Operational Noise Levels Compared to General Plan Limits 26
Table 19. Land Use Zones Within the 65 dBA CNEL Noise Contour for US 101 29
Table 20. Data Used for Internal Roadways Traffic Noise Modeling 31
Table 21. Traffic Noise Exposure Along Principal Project Roadways 32
Table 22. Setback Distance to Achieve Compliance with 65 dBA CNEL Exterior Noise Limit 33
Table 23. Measured Ambient Outdoor Noise Levels near Oil Field Equipment 33
Table 24. Calculated Oil Field Equipment Operations Noise Levels at Closest Project Land Use Zones 35

FIGURES

1 Project Location 1
2 Existing Conditions 2
3 Sensitive Receptors 12
4 Ambient Noise Measurement Locations 13
5 Project Operational Noise Contours (Hourly Leq) 26
6 65 dBA CNEL Noise Contour for US Highway 101 30
7 Active Oil Wells Within 2 Kilometers of the Project 34

APPENDICES

A Resume
B Ambient Noise Measurement Data
C Project Traffic Noise Level Modeling Data and Results
D Construction Noise Modeling Data and Results
E Operational Noise Level Modeling Data and Results
F Project Descriptive Information

Acronyms and Abbreviations

Acronym/Abbreviation	Meaning
ADT	average daily trips
Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CNEL	community noise equivalent level
dB	decibel
dBA	A-weighted decibel
d_{ref}	The reference distance that helps define L_{eq} (activity)
FAA	Federal Aviation Administration
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
Hz	hertz
ISO	International Organization of Standardization
L_{dn}	day-night sound level
L_{eq}	equivalent sound level
L_{max}	maximum sound level
L_{min}	minimum sound level
L_v	vibration level
L_{xx}	percentile-exceeded sound levels
L_w	sound power level
PPV	peak particle velocity
RCNM	Roadway Construction Noise Model
U.S.C.	U.S. Code

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1 Introduction

Dudek has prepared this Noise Technical Report (Report) for the Solomon Hills Specific Plan Project (Project) proposed in the northern portion of Santa Barbara County, California. The report addresses potential noise impacts from Project construction and operation, evaluates vibration impacts from Project construction, and identifies existing and future noise levels on the Project site related to major transportation facilities in the Project vicinity. The analysis in the report is based upon thresholds for noise and vibration assessment in CEQA Appendix G guidelines and the County of Santa Barbara Environmental Thresholds and Guidelines Manual.

1.1 Site Location and Existing Conditions

The Project site is located adjacent to and west of Highway 101, 0.7 miles south of the unincorporated community of Orcutt, two miles east of State Route 135 (SR 135), and approximately six miles north of the unincorporated community of Los Alamos. The Project site encompasses portions of five assessor parcels owned by Solstra Inc., including Santa Barbara County Assessor Parcel Numbers (APN's) 101-020-041, 043, 085, 086, and 087 totaling 4,195.2 acres (refer to Figure 1).

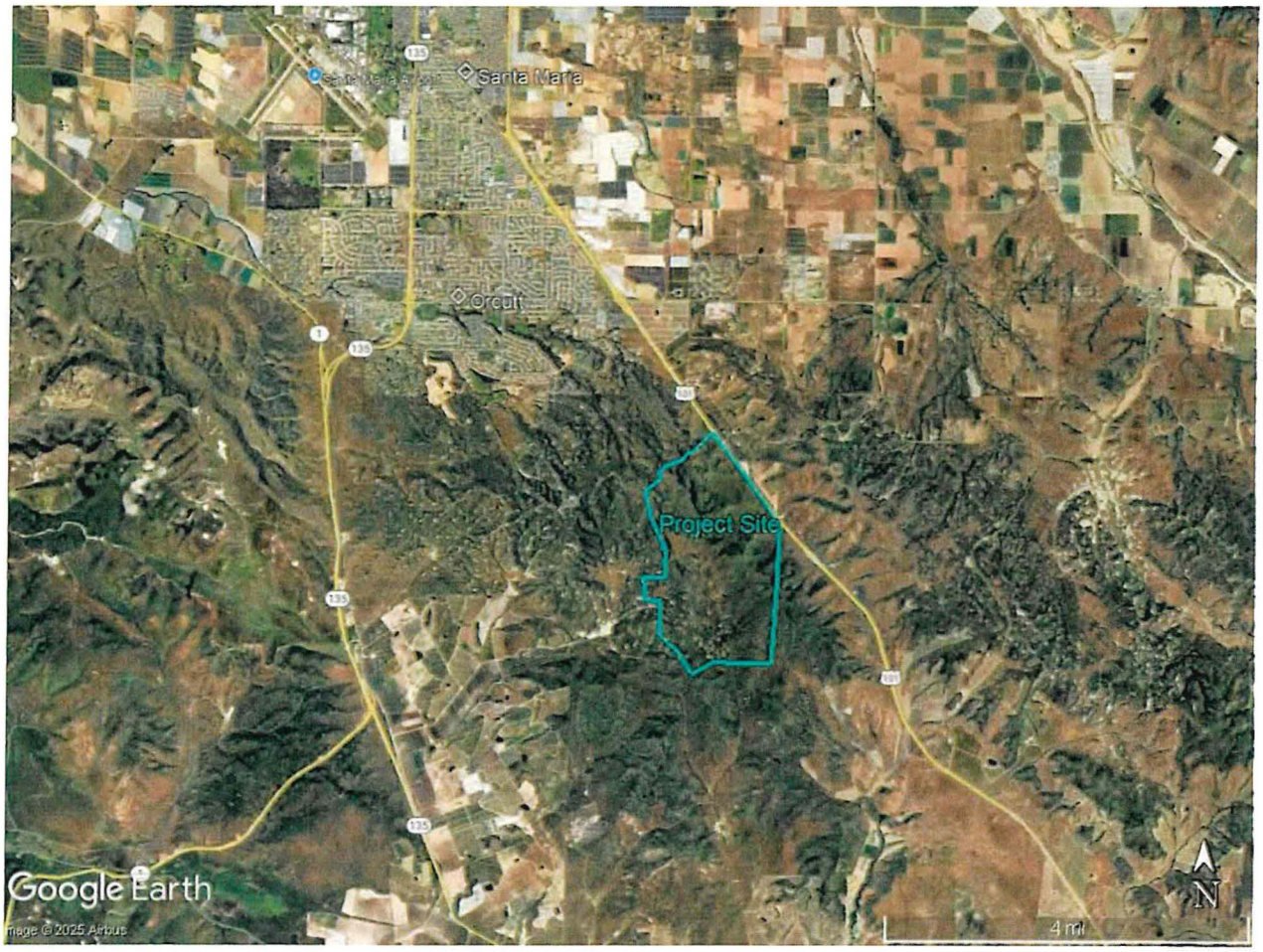


FIGURE 1 Project Location

The Project site is zoned AG-II-100 with a Comprehensive Plan Land Use Designation of Agricultural Commercial (AC). Current land uses include grazing and oil and gas production (refer to Figure 2). Approximately 80% of the Project site falls within the Orcutt Oil Field. All existing oil and gas wells located within the Project Area will be permanently abandoned while associated pipelines, equipment, and sumps will be removed.

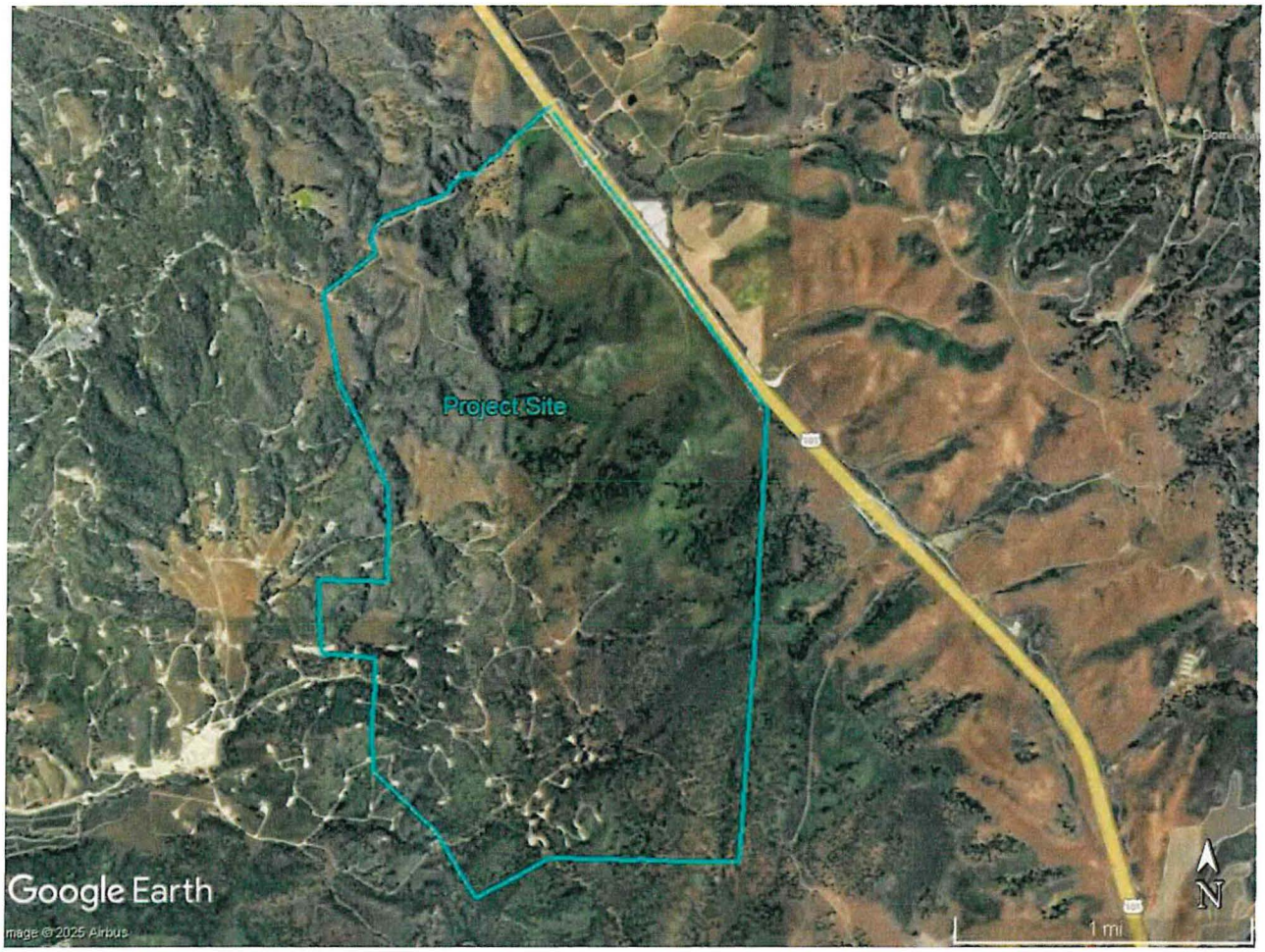


FIGURE 2 Existing Conditions

1.2 Project Description

The Project proposes to create Santa Barbara County's first new community that will result in a sustainable, resilient and healthy environment for its residents. The Project establishes a holistic framework for Smart Growth with a redevelopment of private lands historically used for grazing and oil and gas production. The proposed Specific Plan includes the design and implementation of a central village closely surrounded by several neighborhoods, office and commercial space, a TK-8 school, fire/sheriff station, parks, open space and public trails to allow walking and biking as an easy alternative to vehicle transport.

The Project's proposed Specific Plan allows for a balance of land uses primarily serving working families allowing 4,000 single and multi-family residential units, 650,000 square feet of commercial retail and office use and space, 25.5-acres of public and institutional uses and space, and 1,023 acres of recreational and open space uses. Critical infrastructure includes water supply and a water reclamation facility, interchange improvements along Hwy 101, additional secondary access along Hwy 101 and Hwy 135 and several active and passive parks and public trails. Public benefits include developer sponsored Affordable housing near commercial and transportation access points, utility and access improvements that minimize traffic impacts to neighboring properties, new public trail access into the Orcutt Hills, recreational improvements and public access to the Newlove Picnic Grounds, the preservation of open space ridgelines and valleys for habitat protection and the abandonment and remediation of all oilfield features and operations. The Project is designed to be built in four (4) buildout phases over a fourteen-year period for the orderly delivery of the Project. Phased grading, access, utility, horizontal and public improvements are scheduled ahead of and to align with the same buildout phases. See Appendix F for details.

Major construction activities to implement the Specific Plan development include the following:

- Abandonment/re-abandonment of 65 existing oil & gas wells, removal of oilfield infrastructure, and remediation of impacted soil;
- Site grading;
- Building construction;
- On-site roads (including a double-lane roundabout on the access road near the US-101 Ramps); and
- Off-site road improvements for:
    - Bicknell Road Paved to Highway 135;
    - Highway 135 At Grade Interchange Underpass Improvements;
    - Frontage Road to Existing Solomon Summit Interchange Highway 101;
    - Solomon Summit Lane Improvements Highway 101; and
    - New Interchange Highway 101.

1.3 Noise Background and Terminology

1.3.1 Fundamentals of Environmental Noise

Vibrations, traveling as waves through air from a source, exert a force perceived by the human ear as sound. Sound pressure level (referred to as sound level) is measured on a logarithmic scale in decibel (dB) that represents the fluctuation of air pressure above and below atmospheric pressure. Frequency, or pitch, is a physical characteristic of sound and is expressed in units of cycles per second or hertz. The normal frequency range of hearing for most people extends from about 20 to 20,000 hertz. The human ear is more sensitive to middle and high frequencies, especially when the noise levels are quieter. As noise levels get louder, the human ear starts to hear the frequency spectrum more evenly. To accommodate for this phenomenon, a weighting system to evaluate how loud a noise level is to a human was developed. The frequency weighting, called "A" weighting, is typically used for quieter noise levels, which de-emphasizes the low-frequency components of the sound in a manner similar to the response of a human ear. This A-weighted sound level is called the "noise level" and is referenced in units of A-weighted decibel (dBA). Table 1 presents typical noise levels for common outdoor and indoor activities.

Table 1. Typical Noise Levels Associated with Common Activities

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	110	Rock Band
Jet Flyover at 1,000 feet	105	
	100	
Gas Lawn Mower at three feet	95	
	90	
Diesel Truck at 50 feet, 50 miles per hour	85	Food Blender at 3 feet
	80	Garbage Disposal at 3 feet
Noisy Urban Area, Daytime	75	
	70	Vacuum Cleaner at 10 feet
Commercial Area	65	Normal speech at 3 feet
Heavy Traffic at 300 feet	60	
	55	Large Business Office
Quiet Urban Daytime	50	Dishwasher (in next room)
	45	
Quiet Urban Nighttime	40	Theater, Conference Room (background)
Quiet Suburban Nighttime	35	
	30	Library
Quiet Rural Nighttime	25	Bedroom at Night, Concert Hall (background)
	20	
	15	Broadcast/Recording Studio
	10	
	5	
Lowest Threshold of Human Hearing (Healthy)	0	Lowest Threshold of Human Hearing (Healthy)

Source: Caltrans 2020a. **Notes:** dBA = A-weighted decibel.

Since sound is measured on a logarithmic scale, a doubling of sound energy results in a 3-dBA increase in the noise level. Changes in a community noise level of less than 3 dBA are not typically noticed by the human ear (Caltrans 2020a). Changes from 3 to 5 dBA may be noticed by some individuals who are extremely sensitive to changes in noise. A 5-dBA increase is readily noticeable (USEPA 1974). The human ear perceives a 10-dBA increase in sound level as a doubling of the loudness (i.e., 65 dBA sounds twice as loud as 55 dBA to a human ear).

An individual's noise exposure occurs over time; however, noise level is a measure of noise at a given instant in time. Community noise sources vary continuously, being the product of many noise sources at various distances, all of which constitute a relatively stable background or ambient noise environment. The background, or ambient, noise level gradually changes throughout a typical day, corresponding to distant noise sources such as traffic volume and changes in atmospheric conditions. The time-varying character of environmental noise is often described with use of statistical or percentile noise descriptors including L_{10}, L_{50}, and L_{90}. These are the noise levels equaled or exceeded during 10, 50, and 90 percent of the measured time interval. Sound levels associated with L_{10} typically describe transient or short-term events, such as the noise from distinct passing cars and trucks. L_{50} represents the median sound level during the measurement. Levels will be above and below this value exactly one-half of the accumulated measurement time. L_{90} is the sound level exceeded 90 percent of the time, and often is used to describe background noise conditions or sources that are continuous or "steady-state" in character.

Noise levels are generally higher during the daytime and early evening when traffic (including airplanes), commercial, and industrial activity is the greatest. However, noise sources experienced during nighttime hours when

background levels are generally lower can be potentially more conspicuous and irritating to the receiver. To evaluate noise in a way that considers periodic fluctuations experienced throughout the day and night, a concept termed "community noise equivalent level" (CNEL) was developed, wherein noise measurements are weighted, added, and averaged over a 24-hour period to reflect magnitude, duration, frequency, and time of occurrence.

Different types of measurements are used to characterize the time-varying nature of sound. These measurements include the equivalent sound level (L_{eq}), the minimum and maximum sound levels (L_{min} and L_{max}, respectively), percentile-exceeded sound level (L_{xx}), the day-night sound level (L_{dn}), and the CNEL. The following list provides brief definitions of noise terminology used in this report.

- **Decibel** (dB) is a unitless measure of sound on a logarithmic scale, which indicates the squared ratio of sound pressure amplitude to a reference sound pressure amplitude. The reference pressure is 20 micropascals, which is considered to be the pressure associated with the human threshold of hearing for a person without any hearing loss.
- **A-weighted decibel** (dBA) is an overall frequency-weighted sound level in decibels that approximates the frequency response of the human ear at moderate sound levels.
- **Equivalent sound level** (L_{eq}) is the constant level that, over a given time period, transmits the same amount of acoustic energy as the actual time-varying sound. Equivalent sound levels are the basis for both the L_{dn} and CNEL scales.
- **Maximum sound level** (L_{max}) is the maximum sound level measured during the measurement period.
- **Minimum sound level** (L_{min}) is the minimum sound level measured during the measurement period.
- **Percentile-exceeded sound level** (L_{xx}) is the sound level exceeded X% of a specific time period. L_{10} is the sound level exceeded 10% of the time.
- **Day-Night Average Sound Level** (L_{dn}) is a 24-hour average A-weighted sound level with a 10 dB penalty added to each of the hourly average noise levels occurring in the nighttime hours from 10:00 p.m. to 7:00 a.m. The 10 dB penalty is applied to account for increased noise sensitivity during the nighttime hours.
- **Community Noise Equivalent Level** (CNEL) is the average equivalent A-weighted sound level during a 24-hour day. CNEL accounts for the increased noise sensitivity during the evening hours (7:00 p.m. to 10:00 p.m.) and nighttime hours (10:00 p.m. to 7:00 a.m.) by adding 5 dB to the recorded hourly average sound levels in the evening and 10 dB to the hourly average sound levels at night.

1.3.1.1 Exterior Noise Distance Attenuation

Noise sources are classified in two forms: (1) point sources, such as stationary equipment or a group of construction vehicles and equipment working within a spatially limited area at a given time; and (2) line sources, such as a roadway with a large number of pass-by sources (motor vehicles). Sound generated by a point source typically diminishes (attenuates) at a rate of 6.0 dBA for each doubling of distance from the source to the receptor at acoustically "hard" sites and at a rate of 7.5 dBA for each doubling of distance from source to receptor at acoustically "soft" sites (Caltrans 2020a). Sound generated by a line source (i.e., a roadway) typically attenuates at a rate of 3 dBA and 4.5 dBA per doubling distance, for hard and soft sites, respectively (Caltrans 2020a). Sound levels can also be attenuated by human-made or natural barriers. For the purpose of a sound attenuation discussion, a hard or reflective site does not provide any excess ground-effect attenuation and is characteristic of asphalt or concrete ground surfaces, as well as very hard-packed soils. An acoustically soft or absorptive site is characteristic of unpaved loose soil or vegetated ground.

With respect to examples of this distance-attenuation relationship for exterior noise, a 60-dBA noise level measured at 50 feet from a tractor installing fenceposts within a packed earth feedlot site would diminish to 54 dBA at 100 feet from the source, and to 48 dBA at 200 feet from the source. This scenario is addressed by the point source attenuation for a hard site (6 dBA with each doubling of the distance). For the scenario where soft-site conditions exist between the point source and receptor, represented by natural vegetation, planted row crop, or plowed furrows adjacent to the work area, an attenuation rate of 7.5 dBA per doubling of distance would apply; the tractor noise measured as 60 dBA at 50 feet would diminish to 52.5 dBA at 100 feet from the source and to 45 dBA at 200 feet from the source, where soft ground exists between the sound source and the receptor location.

1.3.1.2 Structural Noise Attenuation

Sound levels can also be attenuated by human-made or natural barriers. Solid walls, berms, or elevation differences typically reduce noise levels in the range of approximately 5 to 15 dBA (Caltrans 2020a). Structures can also provide noise reduction by insulating interior spaces from outdoor noise. The outside-to-inside noise attenuation provided by typical structures in California ranges between 17 to 30 dBA with open and closed windows, respectively, as shown in Table 2.

Table 2. Outside-to-Inside Noise Attenuation (dBA)

Building Type	Open Windows	Closed Windows
Residences	17	25
Schools	17	25
Churches	20	30
Hospitals/offices/hotels	17	25
Theaters	17	25

Source: Transportation Research Board, National Research Council 1971.
Notes: dBA = A-weighted decibel.
As shown, structures with closed windows can attenuate exterior noise by a minimum of 25 to 30 dBA

1.3.2 Fundamentals of Vibration

Vibration is an oscillatory motion that can be described in terms of displacement, velocity, or acceleration. Heavy equipment operation, including stationary equipment that produces substantial oscillation or construction equipment that causes percussive action against the ground surface, may be experienced by building occupants as perceptible vibration. It is also common for ground-borne vibration to cause windows, pictures on walls, or items on shelves to rattle. Although the perceived vibration from such equipment operation can be intrusive to building occupants, the vibration is seldom of sufficient magnitude to cause even minor cosmetic damage to buildings.

Peak particle velocity (PPV) that describes particle movement over time (in terms of physical displacement of mass, expressed as inches/second or in/sec) is generally employed for the discussion of vibration impacts on people and structures. Ground-borne vibration generated by construction projects is usually highest during pile driving, rock blasting, soil compacting, jack hammering, and demolition-related activities. Next to pile driving and soil compacting, grading activity has the greatest potential for vibration impacts when earthwork involves large bulldozers, large trucks, or other heavy equipment.

1.3.3 Health Effects of Noise

Excessively noisy conditions can affect an individual's quality of life, health, and well-being. The effects of noise can be organized into six broad categories: sleep disturbance, permanent hearing loss, human performance and behavior, social interaction or communication, extra-auditory health effects, and general annoyance. An individual's reaction to noise and its level of disturbance depends on many factors such as the source of the noise, its loudness relative to the background noise level, time of day, whether the noise is temporary or permanent, and subjective sensitivity.

1.4 Noise Regulation and Management

1.4.1 Federal

1.4.1.1 Noise Control Act

The Noise Control Act of 1972 and its subsequent amendments in the Quiet Communities Act of 1978 (42 United States Code [U.S.C.] 4901 et seq.) delegate authority to the states to regulate environmental noise and directs government agencies to ensure compliance with local community noise statutes and regulations.

1.4.1.2 Federal Transit Administration (FTA)

In its Transit Noise and Vibration Impact Assessment Manual, the FTA recommends a daytime construction noise level threshold of 80 dBA L_{eq} over an eight-hour period when detailed construction noise assessments are performed to evaluate potential impacts to community residences surrounding a project (FTA 2018). Although this FTA guidance is not a regulation, it can serve as a quantified standard in the absence of such limits at the state and local jurisdictional levels.

1.4.2 State

1.4.2.1 California Department of Transportation Vibration Standards

The California Department of Transportation (Caltrans) conducted extensive research on human annoyance and damage to structures caused by vibration from short-term construction activities and from long-term highway operations and has published criteria for vibration management (Transportation and Construction Vibration Guidance Manual 2020b). These criteria established by Caltrans are commonly used to assess vibration impacts from all types of projects and activities. Caltrans uses a threshold of 0.2 in/sec PPV for annoyance to persons, where a continuous vibration source is involved; for transient sources (represented by construction activities), Caltrans uses a threshold of 0.24 in/sec PPV (which equates to a distinctly perceptible level). For commercial buildings constructed of concrete and steel, Caltrans identifies a damage threshold of 0.5 in/sec PPV. For residential structures employing concrete foundation and wood frame construction, Caltrans identifies a conservative damage threshold vibration level standard of 0.3 in/sec PPV (Caltrans 2020b).

1.4.2.2 California Noise Control Act of 1973

Sections 46000 through 46080 of the California Health and Safety Code, known as the California Noise Control Act of 1973, declares that excessive noise is a serious hazard to the public health and welfare and that exposure to certain levels of noise can result in physiological, psychological, and economic damage. It also identifies a

continuous and increasing bombardment of noise in the urban, suburban, and rural areas. The California Noise Control Act declares that the State of California has a responsibility to protect the health and welfare of its citizens by the control, prevention, and abatement of noise. It is the policy of the state to provide an environment for all Californians free from noise that jeopardizes their health or welfare.

1.4.2.3 California Noise Insulation Standards (CCR Title 24)

In 1974, the California Commission on Housing and Community Development adopted noise insulation standards for hotels, motels, dormitories, and multifamily residential buildings (CCR Title 24, Part 2). Title 24 establishes standards for interior room noise (attributable to outside noise sources). The regulations also specify that acoustical studies must be prepared whenever a multifamily residential building or structure is proposed to be located in an area with CNEL (or L_{dn}) of 60 dBA or greater. Such acoustical analysis must demonstrate that the residence has been designed to limit intruding noise to an interior CNEL (or L_{dn}) of at least 45 dBA (California's Title 24 Noise Standards, Chap. 2-35).

1.4.3 Santa Barbara County

1.4.3.1 Comprehensive Plan Noise Element (2009)

The Santa Barbara County Comprehensive Plan Noise Element establishes a maximum allowable exterior noise exposure level of 65 dBA L_{dn} / CNEL for noise-sensitive land uses, as outlined in the policies below.

1) In the planning of land use, 65 dB Day-Night Average Sound Level should be regarded as the maximum exterior noise exposure compatible with noise-sensitive uses unless noise mitigation features are included in project designs.
2) Noise-sensitive land uses should be considered to include:
    a) Residential, including single and multifamily dwellings, mobile home parks, dormitories, and similar uses.
    b) Transient lodging, including hotels, motels, and similar uses.
    c) Hospitals, nursing homes, convalescent hospitals, and other facilities for long-term medical care.
    d) Public or private educational facilities, libraries, churches, and places of public assembly.
3) For protection of sensitive activities, as well as the airports, noise-sensitive land uses, other than hotels and motels insulated to the level prescribed in the State Noise Insulation Standards, should not be permitted within the 65 dB CNEL contour of any airport as projected in the County Airport Land Use Plan. In no case shall institutional land uses, such as schools, hospitals, convalescent homes, and other in-patient health care facilities, be permitted within the boundaries of such 65 dB CNEL contour.
4) Residential use should be avoided within the 65 dB CNEL contour of any airport and under airport traffic patterns.
5) Noise-sensitive uses proposed in areas where the Day-Night Average Sound Level is 65 dB or more should be designed so that interior noise levels attributable to exterior sources do not exceed 45 dB LDN when doors and windows are closed. An analysis of the noise insulation effectiveness of proposed construction should be required, showing that the building design and construction specifications are adequate to meet the prescribed interior noise standard.

6) Residential uses proposed in areas where the Day-Night Average Sound Level is 65 dB or more should be designed so that noise levels in exterior living spaces will be less than 65 dB LDN. An analysis of proposed projects should be required, indicating the feasibility of noise barriers, site design, building orientation, etc., to meet the prescribed exterior noise standard.

1.4.3.2 Environmental Thresholds and Guidelines Manual (2021)

The Santa Barbara County Environmental Thresholds and Guidelines Manual contains significance thresholds for use in the assessment of noise effects of a proposed development; those applicable to the Project operation and construction are presented below.

Noise thresholds. The following are thresholds of significance for assisting in the determination of significant noise impacts.

a. If existing exterior noise levels, including at outdoor living areas, experienced by sensitive receptors is below 65 dB(A) CNEL, and if the proposed project will generate noise that will cause the existing noise levels experienced by the sensitive receptors to exceed 65 dB(A) CNEL – either individually or cumulatively when combined with other noise-generating sources – then the proposed project is presumed to have a significant impact.

b. If existing exterior noise levels, including at outdoor living areas, experienced by sensitive receptors exceeds 65 dB(A) CNEL, and if the proposed project will generate noise that will cause the existing noise levels experienced by the sensitive receptors to increase by 3 dB(A) CNEL – either individually or cumulatively when combined with other noise-generating sources – then the proposed project is presumed to have a significant impact.

e. Noise from grading and construction activity proposed within 1,600 feet of sensitive receptors, including schools, residential development, commercial lodging facilities, hospitals or care facilities, would generally result in a potentially significant impact. According to EPA guidelines (see Figure 2) average construction noise is 95 dB(A) at a 50' distance from the source. A 6 dB drop occurs with a doubling of the distance from the source. Therefore, locations within 1,600 feet of the construction site would be affected by noise levels over 65 dB(A). To mitigate this impact, construction within 1,600 feet of sensitive receptors shall be limited to weekdays between the hours of 8 AM to 5 PM only. Noise attenuation barriers and muffling of grading equipment may also be required. Construction equipment generating noise levels above 95 dB(A) may require additional mitigation.

1.4.3.3 Local Vibration Standards

Santa Barbara County has not adopted standards regulating vibration levels from construction activities. As such, guidance from Caltrans is used for the assessment of project-related vibration impacts. Caltrans uses a threshold of 0.2 in/sec PPV for annoyance to persons, where a continuous vibration source is involved; for transient sources (represented by construction activities), Caltrans uses a threshold of 0.24 in/sec PPV (which equates to a distinctly perceptible level). For residential structures employing concrete foundation and wood frame construction, Caltrans identifies a conservative damage threshold vibration level standard of 0.3 in/sec PPV (Caltrans 2020b).

1.5 CEQA Significance Criteria

Consistent with Appendix G of the California Environmental Quality Act (CEQA) Guidelines, a significant noise or vibration impact would occur if development of the Project would involve any of the following:

- Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- Generate excessive ground-borne vibration or ground-borne noise levels; and
- For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, expose people residing or working in the project area to excessive noise levels.

1.5.1 Significance Criteria Applicable to the Project

1.5.1.1 Noise Significance Thresholds

Based on the County's Comprehensive Plan Noise Element (2009) and Environmental Thresholds and Guidelines Manual (ETGM 2021), as well as standards adopted by other agencies that are customarily applied to the assessment of noise generation, the proposed Project would have a significant impact on noise if it would result in:

- **Construction** (existing community receptors), between the hours of 5:00 p,m, and 8:00 a.m. Monday through Friday, or at any time on Saturday, Sunday, or Federal Holidays, within 1,600 feet of an existing residence located outside the Project site boundaries. During weekdays between the hours of 8 AM to 5 PM only, construction noise levels greater than 65 dBA L_{eq} at any existing residence located outside the Project site boundaries (ETGM 2021).
- **Construction** (Project residents), between the hours of 7:00 p,m, and 7:00 a.m. Monday through Friday, or at any time on Saturday, Sunday, or Federal Holidays. During weekdays between the hours of 7 AM to 7 PM only, construction noise levels greater than 80 dBA L_{eq} averaged over an 8-hour period at any occupied residence within the Project site boundaries (FTA 2018).
- **Operation** (on-site sources) generation of noise in excess of 65 dBA Ldn at the property line for any existing residential properties in the Project vicinity (ETGM 2021).
- **Project Traffic** an increase of 3 dBA CNEL or more in existing roadway traffic noise levels, as a result of the addition of Proposed Project generated traffic on vicinity roadways (Caltrans 2020a).

1.5.1.2 Vibration Significance Thresholds

- **Construction** the exposure of existing residential structures in the Project vicinity to vibration levels exceeding 0.3 in/sec PPV (structural damage threshold), or exposure of residents to vibration levels of 0.24 in/sec in residences where people normally sleep (annoyance threshold level).

1.5.2 Significance Criteria not Applicable to the Project

Due to the location and characteristics of the Project, certain significance criteria are not applicable and therefore, are not considered in the assessment of potential impacts. These criteria are addressed briefly below and are not discussed further in this document.

Airports/Airport Land Use Plan

The Project site is not located within two miles of an airport, the closest airport is Santa Maria airport approximately 4.5 miles northwest of the Project site. The 60 dBA CNEL noise contour for Santa Maria airport extends no closer to the Project site than Union Valley Parkway in Santa Maria (SBCAG 2023). Therefore, future residents would not be exposed to elevated noise levels from aircraft operation and airport noise issues (last significance threshold listed above) are not addressed further in the analysis.

2 Environmental Setting

2.1 Sensitive Receptors

Noise- and vibration-sensitive land uses are locations where people reside or where the presence of unwanted sound or vibration could adversely affect the use of the land. Residences, hospitals, nursing care or assisted living facilities, guest lodging, and churches would be considered noise- and vibration-sensitive. Noise- and vibration-sensitive receptors in the Project vicinity are represented by residences. Figure 3 illustrates the locations of residences closest to each side of the Project site. The off-site sensitive receptors closest to the Project site are a group of residences in a rural neighborhood accessed by Telephone Road, approximately 2,350 feet north of the Project site boundary (represented by R1 in Figure 3). A small rural residential neighborhood at the southern end of Orcutt, accessed by Stillwell Road, is the next closest group of sensitive receptors, at a distance of approximately 5,250 feet to the northwest of the Project site boundary (represented by R2 in Figure 3). Residences to the west, south, and southeast of the Project site (represented by R3 - R7 in Figure 3) are on agricultural parcels, with large separation distances from the Project site and from one another.

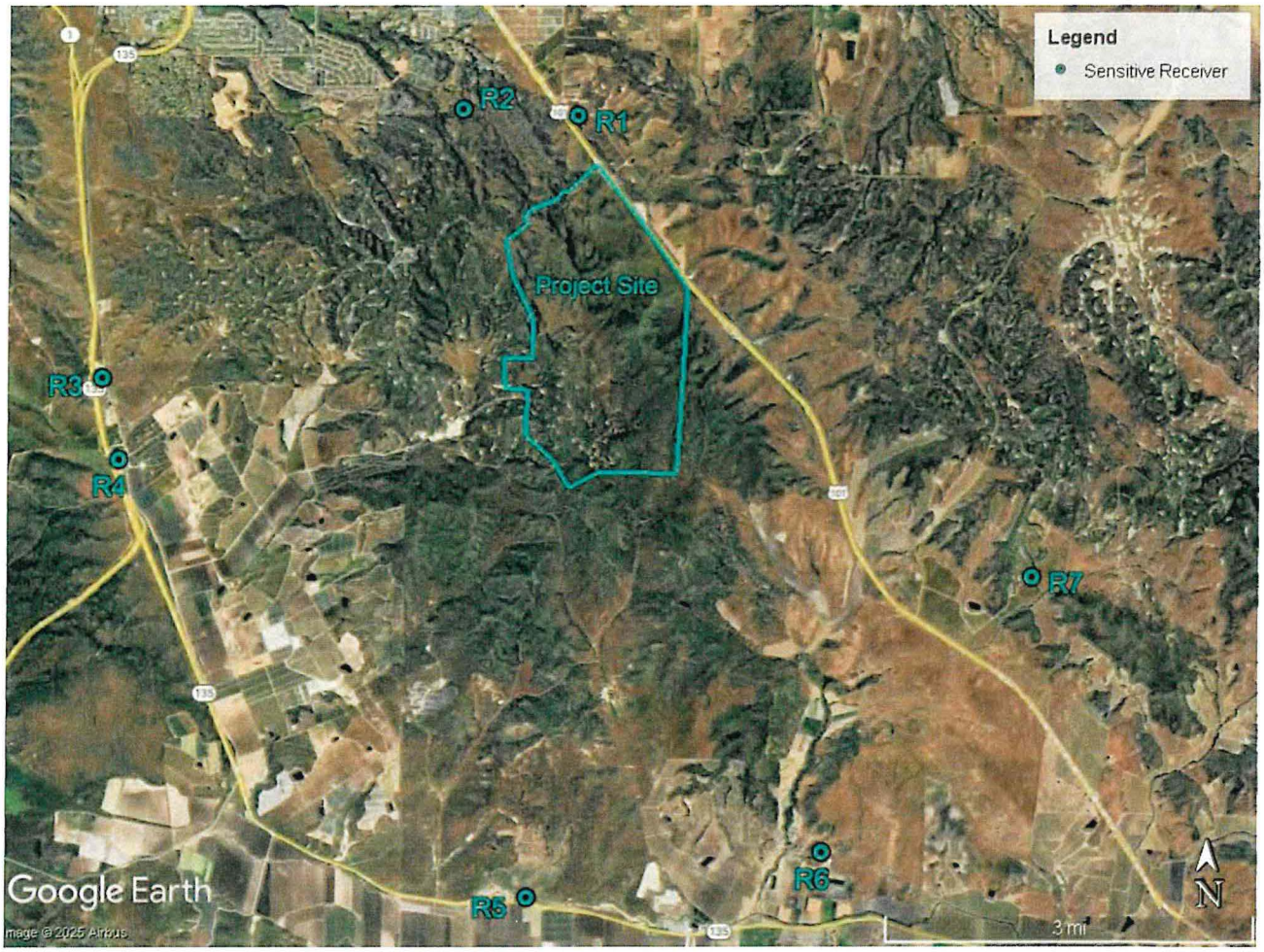


FIGURE 3 Sensitive Receptors

2.2 Ambient Noise Survey

Sound-pressure level measurements of short duration (often referred to as short-term [ST] with length of less than an hour apiece) and long duration (often referred to as long term [LT] with length of 24 hours) were conducted in the vicinity of the Project site on July 2-3, 2025 to quantify and characterize the existing outdoor noise levels within and adjacent to the Project site. Figure 4 illustrates the ambient noise monitoring locations relative to the Project site. As depicted on Figure 4, ST1 was placed near future Project residences, adjacent to US Highway 101; ST2 and ST3 were placed adjacent to future Project residences, at increasing separation distances from US Highway 101; ST4 and ST5 were placed adjacent to active oil wells, that will continue to operate in the future, outside of the Project boundary; ST6 was located adjacent to the the oil trucking terminal (oil delivered from pipelines in the oil field is consolidated and loaded into tanker trucks for export) that will continue to operate in the future, outside of the Project boundary; and ST7 was placed near a concentration of future on-site residential neighborhoods, with a location well removed from US Highway 101 traffic noise. To better characterize on-site noise levels from the oil trucking terminal, a long-term measurement (LT1) was also conducted at site ST6. A long-term measurement (LT2) was also conducted at site ST7 to characterize ambient noise levels in the vicinity of future residential neighborhoods in the southwestern portion of the Project site.

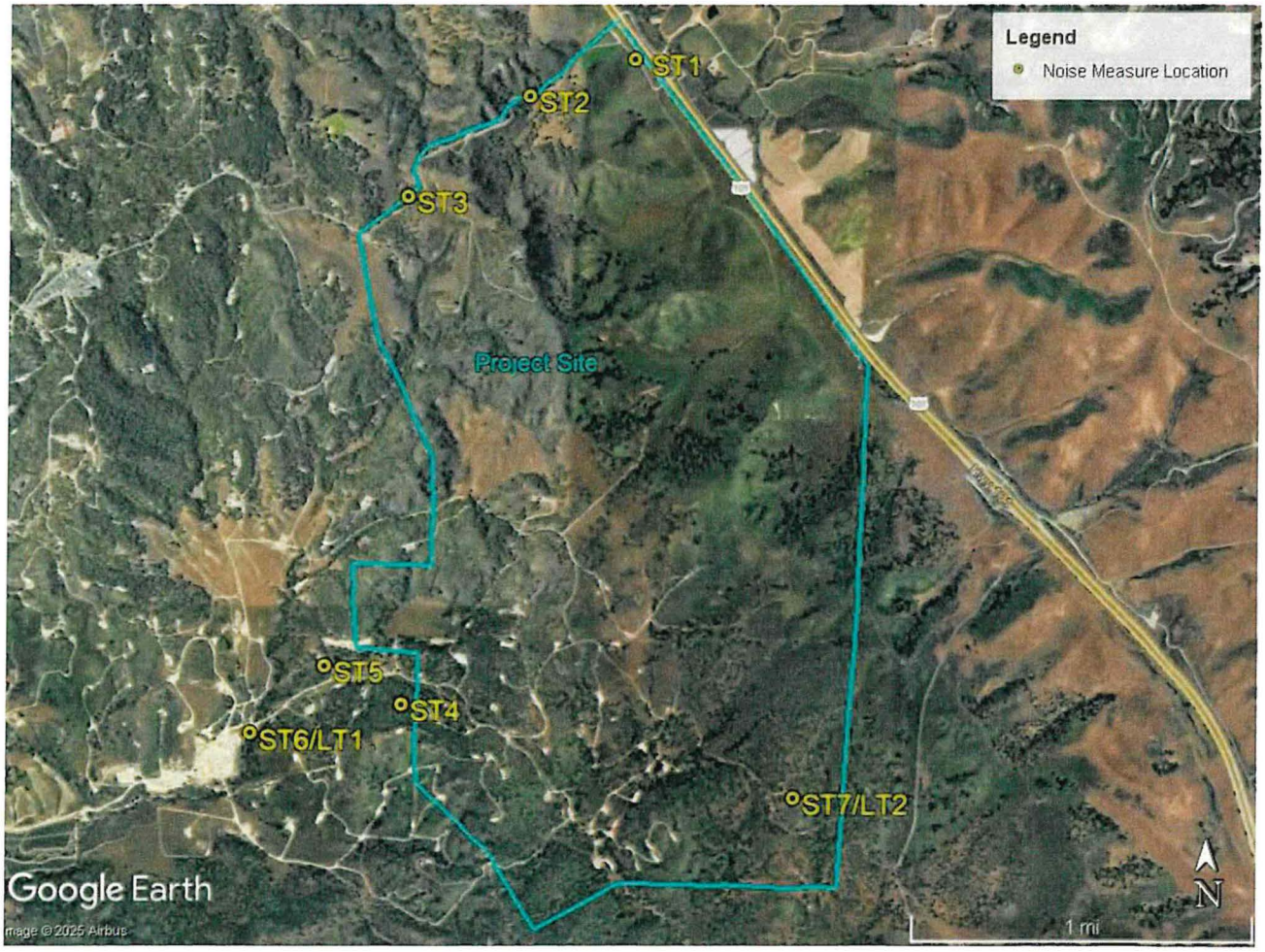


FIGURE 4 Ambient Noise Measurement Locations

Table 3 provides the measurement location ID, date, and time at which each of the short-term baseline noise level measurements were taken, as well as the measured L_{eq}, L_{max} and L_{min} values for each short-term measurement (detailed data is included in Appendix B). The short-term sound-pressure level measurements were performed by an attending Dudek field investigator using a SoftdB Piccolo model sound level meter equipped with a 0.5-inch, pre-polarized condenser microphone with pre-amplifier. The sound level meter meets the current American National Standards Institute standard for a Type 2 (general purpose) sound level meter. The accuracy of the sound level meter was verified using a field calibrator before and after the measurements, and the measurements were conducted with the microphone positioned approximately five feet above the ground.

Table 3. Measured Short-Term Ambient Outdoor Noise Levels

ID	Date	Time	L_{eq} (dBA)	L_{max} (dBA)	L_{min} (dBA)
ST1	7/02/25	10:06 AM to 10:27 AM	67	78	43
ST2	7/02/25	10:41 AM to 11:02 AM	43	67	32
ST3	7/02/25	11:09 AM to 11:30 AM	44	62	34
ST4	7/02/25	12:14 PM to 12:35 PM	46	59	43
ST5	7/02/25	1:09 PM to 1:30 PM	48	58	44
ST6	7/02/25	12:42 PM to 1:03 PM	48	66	41
ST7	7/03/25	2:49 PM to 3:10 PM	42	57	32

Source: Appendix B
Notes: L_{eq} = equivalent continuous sound level; L_{max} = maximum sound level during the measurement interval; L_{min} = minimum sound level during the measurement interval; dBA = A-weighted decibels; ST = short-term noise measurement locations.

Table 4 provides the location and date at which the long-term baseline noise level measurements were taken. The unattended long-term sound-pressure level measurements were performed by a Dudek field investigator, also using a SoftdB Piccolo model sound level meter equipped with a 0.5-inch, pre-polarized condenser microphone with pre-amplifier (ANSI Type 2). The accuracy of the sound level meter was verified using a field calibrator before and after the measurements.

The L_{eq} range over daytime, evening, and nighttime periods, as well as the calculated L_{dn} for the 24-hour measurements are provided in Table 4. As mentioned previously, the primary noise source affecting the LT1 measurements was the operation of the oil trucking depot facility to the west of the Project site. LT2 was located in the interior of the Project site, very removed from traffic and oil filed noise sources. As shown in Table 4, the measured existing ambient sound level at LT1 ranged from 42 to 46 dBA $L_{eq\ hr}$ during the both day and nighttime periods; at LT2 measured noise levels ranged from 38 to 41 dBA $L_{eq\ hr}$ during day and from 37 to 42 dBA $L_{eq\ hr}$ overnight. Noise measurement data summarized in Table 4 is also included in Appendix B.

Table 4. Measured Long-Term Ambient Outdoor Noise Levels

Receptor	Location/Address	Date	Daytime $L_{eq\ hr}$ Range (dBA)	Nighttime $L_{eq\ hr}$ Range (dBA)	L_{dn} (dBA)
LT1	Near the oil trucking depot off-site	7/2/2025 to 7/3/2025	42 - 46	42 - 46	50
LT2	Within future residential areas at the southern end of the Project site		38 - 41	37 - 42	45

Source: Appendix B
Notes: L_{eq} = equivalent continuous sound level (time-averaged sound level); dBA = A-weighted decibels; LT = long-term noise measurement location. L_{dn} = Day Night Average Level.

2.3 Project Site Existing Traffic Noise Level Exposure

Short-term ambient noise level measurement ST1 was located along the western boundary of the Project site with direct exposure to the adjacent US Highway 101 corridor. ST1 was situated approximately 150 feet from the centerline of the US Highway 101 corridor. Based upon traffic volume data from the 2023 Annual Traffic Counts on California Highways (Caltrans 2023), Dudek used the FHWA 2.5 TNM model to predict current traffic noise exposure along the Project site frontage adjacent to the US Highway 101 corridor. The difference between the measured and predicted sound levels is approximately 2 dBA which is well within the accuracy of the noise monitoring instruments and noise prediction modeling programs. Refer to Appendix C for traffic noise modeling data.

Table 5. Short-Term Measured Ambient Noise Levels Versus Modeled Traffic Noise

ID	Location	Date	Measured L_{eq} (dBA)	Modeled L_{eq} (dBA)
ST1	US Highway 101 Frontage	7/2/25	67	69

Source: Dudek (Appendix c
Notes: L_{eq} = equivalent continuous sound level (time-averaged sound level); dBA = A-weighted decibels; MPH = miles per hour.

3 Impacts and Mitigations

3.1 Methodology

3.1.1 Construction Noise

One of the most extensive and widely used databases for sound levels from motorized or powered equipment is in the FHWA Roadway Construction Noise Model (RCNM). While the focus of data compilation was for equipment that would typically be employed for the construction of transportation facilities, the list is comprehensive enough to be useful in assessing sound levels for nearly every activity for which powered equipment is used. Table 7 provides an excerpt from RCNM of the sound levels generated by various powered equipment that could be associated with construction of the Project. Note that the equipment noise levels presented in Table 6 are maximum noise levels. Usually, construction equipment operates in alternating cycles of full power and low power, producing average noise levels over time that are less than the maximum noise level. The average sound level of construction activity also depends on the amount of time that the equipment operates and the intensity of construction activities during that time.

Table 6. Selected Powered Equipment Noise Emission Levels from RCNM

Equipment	Maximum Sound Level (dBA L_{max}) – 50 feet from Source
Air Compressor	81
Backhoe	80
Compactor	82
Concrete Mixer	85
Crane, Mobile	83
Dozer	85
Generator	81
Grader	85
Loader	85
Paver	89
Pneumatic Tool	85
Pump	76
Roller	74
Saw	76
Scraper	89
Truck	88

Source: FHWA 2006a, 2006b.
Notes: dBA = decibel (A-weighted).

Noise emissions from the construction phase of the Project were estimated based upon construction scenario information provided by the Project applicant, including phasing, equipment inventory, and vehicle trips, with CalEEMod default values used when Project specifics were not known. The construction equipment inventory used for estimating the Project-generated construction noise emissions are included in Appendix C.

A Microsoft Excel–based noise prediction model emulating and using reference data from the FHWA RCNM was used to estimate average construction noise levels at the nearest noise-sensitive land uses to the Project site (i.e., residence, apartments, motel, and office). Aggregate noise emission from Project construction activities, broken down by sequential phase of construction activity, was predicted for distributed construction activities at distances between the closest construction boundaries of each Project phase and the off-site noise-sensitive receptors. Dudek compared predicted construction noise levels at the closest off-site residences against the Santa Barbara County Environmental Thresholds Manual daytime limit of 65 dBA L_{eq}. For the evaluation of construction noise exposure for Project residents in occupied phases of the development, Dudek compared predicted construction noise exposure against the recommended FTA residential construction noise exposure standard of 80 dBA L_{eq} averaged over an 8-hour period.

3.1.2 Project-Related Traffic Noise

Kimley-Horn identified the existing average daily trips (ADT) on roadway segments in the region to which the Project would contribute a substantial number of vehicle trips (Kimley-Horn 2024), which were used to model existing traffic noise exposure levels for noise-sensitive land uses adjacent to these roadway segments. Project-related traffic noise levels were examined along these same roadway segments using the results of the Project-related ADT analysis performed by Kimley-Horn (2024). Acoustical calculations using standard noise modeling equations adapted from the FHWA noise prediction model were performed for the following scenarios: Existing, Existing Plus Project, General Plan Build-out Year (2035), General Plan Build-out Year Plus Project.

The modeling calculations consider the posted vehicle speed, average daily traffic volumes for each scenario, and the estimated vehicle mix (i.e., automobiles, medium and heavy trucks). The model assumed hard-site propagation conditions, for a conservative analysis. The distance from the roadway centerline to the closest existing noise-sensitive receiver (i.e., residence or motel) was used for the traffic noise analysis, traffic noise levels at existing homes further from the roadway centerline would be lower due to attenuation provided by increased distance from the noise source. Generally, noise from heavily traveled roadways would experience a decrease of approximately 3 dBA for every doubling of distance from the roadway. The noise model does not consider the sound-attenuating effect of intervening structures, barriers, vegetation, or topography. Therefore, the noise levels predicted by the model are conservative with respect to traffic noise exposure levels along these roadways.

3.1.3 Operational Noise Level Quantification

Stationary Source Reference Sound Levels

The principal noise sources of concern for operational noise in a specific plan setting are major commercial and institutional structures or land uses with substantial mechanical equipment for heating ventilation and air conditioning (HVAC). This equipment is typically located outdoors and may run continuously or almost continuously in order to provide comfortable temperature conditions for indoor spaces. Long-term operational Project noise was assessed based upon the Project conceptual site plan indicating locations for each of the proposed commercial and institutional land use zones and the development statistics for the quantity of floor area provided in structures dedicated to these land uses (refer to Appendix F for breakdown of floor area for non-residential land uses). Based upon the structural floor area to be dedicated to commercial and institutional uses, and industry standard guidance for the capacity of an HVAC system to provide climate control for various commercial/institutional space (expressed as HVAC tons of capacity per square feet of floor area), Dudek estimated the total conceptual tonnage of HVAC capacity for the anticipated commercial and institutional land use zones. Table 7 provides this breakdown.

Table 7. Breakdown of HVAC Unit Types Per Project Building

Land Use Zone	Floor Area of Structures (sq, ft.)	HVAC Factor (square feet/ton)	Total Capacity (in tons HVAC)	Number of HVAC 25-ton Units
SHC1	95,000	275	345	14
SHC2	30,000	275	109	4
SHO1	294,000	360	817	33
SHO2	231,000	360	642	26
School	200,000	240	833	33
Fire/Sheriff	100,000	360	278	11
Water Reclamation	350,000	275	1273	51

The manufacturer sound power rating for the Carrier Weathermaker package unit (25-ton capacity) is 86 dBA L_W.. This sound power rating was entered into the noise model to quantify the operational noise levels for the Project. Refer to Appendix E for manufacturer sound power rating data for this HVAC equipment.

Stationary Source Operational Sound Level Modeling

The above-referenced HVAC unit quantities for each land use zone along with their sound power ratings were entered into the Dudek NoisePro sound prediction model. NoisePro is a proprietary Dudek software program for the calculation, presentation, assessment, and prediction of environmental noise based on algorithms and reference data per International Organization of Standardization (ISO) Standard 9613-2, "Attenuation of Sound During Propagation Outdoors, Part 2: General Method of Calculation" (ISO 2024). The NoisePro computer software allows one to position sources of sound emission in a simulated three-dimensional (3-D) space having heights and footprints consistent with project architectural plans and elevations. In addition to the above-mentioned sound source inputs and building-block structures that define the three-dimensional sound propagation model space, the following assumptions and parameters are included in this NoisePro stationary noise source assessment:

- A ground effect acoustical absorption coefficient equal to 0.5, which intends to represent an average or blending of ground covers (i.e., hard and soft) that are characterized largely by hard reflective pavements and existing building surfaces across the project site and the surroundings;
- Reflection order of 1, which allows for a single reflection of sound paths on encountered structural surfaces such as the modeled building masses;
- The massing for off-site topography or buildings have not been rendered in the model.

3.1.4 Methodology - Vibration Assessment

California Department of Transportation (Caltrans) has been assembling data for vibration levels generated by heavy construction equipment operation during the building of transportation projects for many years. The vibration levels from use of such equipment are representative for other types of construction efforts, not just transportation projects, and are therefore widely employed to assess vibration levels from heavy equipment use for any effort. According to Caltrans (2020b) the most important equipment relative to generation of vibration, and the vibration levels produced by such equipment, is illustrated in Table 8.

Table 8. Vibration Velocities for Typical Construction Equipment

Equipment	PPV at 25 Feet (Inches Per Second)
Vibratory Roller	0.210
Large Bulldozer	0.089
Loaded Trucks	0.076
Drill Rig / Auger	0.089
Jackhammer	0.035
Small Bulldozer	0.003

Source: Caltrans 2020b.

Caltrans uses a human annoyance threshold of 0.2 in/sec PPV and a residential structure damage threshold of 0.3 in/sec PPV. Using the vibration level value for each of the equipment listed in Table 8, the distance to the more stringent vibration level of 0.2 in/sec PPV was determined, using the following formula:

Peak particle velocity at distance (d) = peak particle velocity(d_{ref}) * $(d_{ref}/d)^{1.5}$

In the above equation, "d" is the distance between the receiver and a vibration source, "d_{ref}" is the reference distance that applies for the indicated vibration magnitude. The calculated distance to a vibration level of 0.2 in/sec PPV conservatively represents the radius from each equipment type within which potentially significant human annoyance or structural damage vibration impacts from Project construction could occur (0.2 in/sec PPV is the human annoyance threshold, which is conservative when used instead of the 0.3 in/sec PPV threshold for structural damage to residences). Table 9 presents the results of applying the above equation to the equipment in Table 9.

As illustrated in Table 9, ground-borne vibration levels for most construction equipment would attenuate to less than 0.2 in/sec PPV within approximately 26 feet from the equipment.

Table 9. Distance from Construction Equipment to Vibration Level of 0.2 in/sec PPV

Equipment	Distance From Equipment Where Vibration Level is Reduced to 0.2 in/sec PPV (Feet)
Vibratory Roller	26
Large Bulldozer	15
Loaded Trucks	13
Drill Rig / Auger	15
Jackhammer	8
Small Bulldozer	2

Source: Caltrans 2020b

3.2 Impacts Analysis

3.2.1 Project Impacts – Increases in Ambient Noise Levels

Significance Criteria 1: Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

3.2.1.1 Project Construction Noise Levels at Existing Offsite Receptors

As described under Section 3.1.1 (Construction Noise Methodology), construction noise modeling was performed to predict construction noise levels occurring across all construction phases at the closest noise-sensitive receptors to the Project site boundaries. Seven receptors were were selected for the construction noise modeling, R1 through R7 which are depicted on Figure 3 (Sensitive Receptors).

The Project would be developed in 4 phases, with each development phase broken into as many as 10 construction sub-phases. Tables 10 – 13 provide a summary of the predicted construction noise exposure at each of the 7 sensitive off-site receptors (detailed information is provided in Appendix C).

The distance from the sub-phase construction zone to the receptor in each instance is from the closest boundary of the construction sub-phase to the given receptor, which represents a worst-case analysis where all equipment is operating along the construction zone boundary. This situation would be expected only approximately 10% of any construction sub-phase, for the remainder of the time construction equipment and activity would generally be distributed across the entire area encompassed by the the development phase and would involve greater separation distances between construction activities and the modeled receptors (with lower resulting construction noise exposure levels at the receptor).

Table 10. Phase 1 Construction Noise Levels at Offsite Receptors by Sub-Phase

Sub-Phase	Construction Noise Level $L_{eq\ 8\text{-}hr\ /\ 1\ hr}$ (dBA)						
	R1	R2	R3	R4	R5	R6	R7
(1) Linear Grub, Clearing	44	34	12	12	10	9	9
(2) Linear Grading	55	46	23	24	22	20	21
(3) Linear Drainage, Utils	55	45	23	23	21	20	20
(4) Linear Paving	50	40	18	18	16	15	15
(5) Demolition	45	35	13	13	11	10	10
(6) Site Prep	46	36	14	14	12	11	11
(7) Grading	52	42	20	20	18	17	17
(8) Building Construct	43	33	11	11	9	8	8
(9) Paving	48	39	16	16	15	13	14
(10) Architectural Coating	25	15	0	0	0	0	0

Source: Dudek (Appendix C)

Table 11. Phase 2 Construction Noise Levels at Offsite Receptors by Sub-Phase

Sub-Phase	Construction Noise Level $L_{eq\ 8\text{-}hr\ /\ 1\ hr}$ (dBA)						
	R1	R2	R3	R4	R5	R6	R7
(1) Linear Grub, Clearing	35	33	10	10	3	2	2
(2) Linear Grading	47	45	21	21	14	14	14
(3) Linear Drainage, Utils	46	44	21	20	14	13	13
(4) Linear Paving	41	39	15	15	9	8	8
(5) Demolition	36	34	11	11	4	3	3
(6) Site Prep	37	35	12	12	5	4	4
(7) Grading	43	41	18	18	11	10	10
(8) Building Construct	34	32	8	8	2	1	1
(9) Paving	40	38	14	14	7	6	6
(10) Architectural Coating	17	14	0	0	0	0	0

Source: Dudek (Appendix C)

Table 12. Phase 3 Construction Noise Levels at Offsite Receptors by Sub-Phase

Sub-Phase	Construction Noise Level $L_{eq\ 8\text{-}hr\ /\ 1\ hr}$ (dBA)						
	R1	R2	R3	R4	R5	R6	R7
(1) Linear Drainage, Utils	35	33	18	18	21	22	24
(2) Linear Paving	30	27	13	13	15	17	19
(3) Demolition	30	27	13	13	15	17	19
(4) Site Prep	27	24	9	10	12	13	16
(5) Grading	32	30	15	15	18	19	21
(6) Building Construct	23	20	6	6	8	10	12
(7) Paving	29	26	11	12	14	15	18
(8) Architectural Coating	5.7	3	0	0	0	0	0

Source: Dudek (Appendix C)

Table 13. Phase 4 Construction Noise Levels at Offsite Receptors by Sub-Phase

Sub-Phase	Construction Noise Level $L_{eq\ 8\text{-}hr\ /\ 1\ hr}$ (dBA)						
	R1	R2	R3	R4	R5	R6	R7
(1) Linear Grub, Clearing	35	27	5	2	1	3	10
(2) Linear Grading	46	39	16	13	13	15	21
(3) Linear Drainage, Utils	45	38	16	13	12	14	21
(4) Linear Paving	40	33	11	8	7	9	16
(5) Demolition	36	28	6	3	2	4	11
(6) Site Prep	37	30	7	4	4	5	12
(7) Grading	42	35	13	10	10	11	18
(8) Building Construct	33	26	3	1	1	2	9
(9) Paving	39	32	9	6	6	8	14
(10) Architectural Coating	16	9	0	0	0	0	0

Source: Dudek (Appendix C)

As presented in Tables 10 – 13 the highest construction noise level exposure for an off-site receiver would be in the range of 52 – 55 dBA L_{eq} at R! during Development Phase 1. This level would remain easily below the County of Santa Barbara daytime construction threshold of 65 dBA L_{eq} at any existing residence in the Project vicinity. Other than the 52-55 dBA range at R1 during 3 sub-phases of Development Phase 1, all other construction noise levels are below 46 dBA L_{eq} at all receptors for all development phases. With daytime ambient noise levels in the Project vicinity averaging approximately 48 dBA L_{eq} construction noise levels in a few instances may exceed ambient levels by up to 7 dBA L_{eq} but would generally be at or below ambient noise levels.

Oil Well Abandonment and Infrastructure Improvements

With regard to oil well abandonment and soil remediation activities, these tasks are captured in the demolition, site preparation, and grading sub-phases for on-site Development Phases, noise generated by these activities is included in the modeling described above and would not increase the modeled noise results. The haul route for imported and exported soi materials would be via the existing site access to US Highway 101, with no substantial increase in traffic noise along US Highway 101 from such trucks (the addition of traffic trips to US Highway 101 during all phases of construction would be less than for full project operation, for which no significant traffic noise increases were identified).

The improvement of Bicknell Road to State Route 135 (SR135) and under-crossing improvements at SR135 would occur no closer than approximately 3,600 feet from the closest existing residence (at R4). This distance is somewhat greater than the 2,320 foot distance employed for the Development Phase 1 construction noise evaluation at R1. Fewer pieces of heavy construction equipment would be employed for the Bicknel Road improvements than for the Development Phase 1 construction. This would be true even if utility extensions to the site were aligned along Bicknel Road concurrent with road construction. Therefore, Bicknell Road improvements construction would not result in construction noise exposure at the closest existing residences that reaches the County of Santa Barbara daytime limit of 65 dBA L_{eq}.

The proposed new US Highway 101 interchange and frontage road improvements would also not be as close to sensitive receptor R1 than the construction zone boundary used for Development Phase 1. The distance from the closest end of the frontage road improvements to R1 is approximately 3,400 whereas a distance of 2,320 feet was used to assess the closest construction activity in Development Phase 1. With the additional separation distance, construction noise at R1 should not be greater than the level reported in Table 11, even if the interchange improvements are constructed concurrent with Development Phase 1.

Consequently, Project-related construction noise levels at all existing off-site noise sensitive receptors would be **less than significant**

3.2.1.2 Construction Noise Exposure Levels for Project Residents

For large scale development with multi-year construction duration and particularly with phased development where some of the earlier phases may be occupied by residents while later phases are under construction, it is appropriate to evaluate the construction noise exposure for early occupants. However, because the residences are part of the overall Project and due to an expectation on part of a homebuyer that construction activity will be present until all phases of the Project are complete, the typical daytime construction limits imposed by the County are not necessarily appropriate and could hamper the efficient construction of the Project. Instead, for the purpose of assessing construction noise impacts for occupied residences of the Project, the guideline adopted by the FTA is

used. The FTA guideline is a maximum of 80 dBA L_{eq} which is averaged over a typical 8-hour construction day. Given the modern construction materials and techniques for Project residences, this exterior construction noise level would be attenuated to no more than 55 dBA L_{eq} indoors for Project residents, which should not interfere with conversation or daytime household activities.

Major earthwork, drainage facilities, roadway layout, and utility installation would be completed in Development Phase 1 before residential construction is started, But there may be some early construction residences occupied while the last residences are being constructed. The construction noise of Phase 1 Development for occupied residences focuses on residential building construction, using minimum separation distance of 100 feet (as represented by road right-of-way). Any of the construction activities in Development Phase 2, 3 or 4 could be conducted with some of the on-site residences occupied. Because Phase 1 involves the major infrastructure and is the most extensive land area, an occupied residence in Phase 1 would be the closest noise-sensitive receptor for construction under the other Development Phases. The same excel-based RCNM workbook was used to assess construction noise from each development phase upon the closest anticipated occupied residence of Development Phase 1. Table 14 provides a summary of construction noise model results.

Table 14. Construction Noise Levels at Occupied Project Residences by Phase

Sub-Phase	Construction Noise Level $L_{eq\ 8\text{-}hr\ /\ 1\ hr}$ (dBA)			
	Phase 1	Phase 2	Phase 3	Phase 5
(1) Linear Grub, Clearing	n/a	64	n/a	51
(2) Linear Grading	n/a	76	n/a	62
(3) Linear Drainage, Utils	n/a	75	79	62
(4) Linear Paving	n/a	70	77	57
(5) Demolition	n/a	65	77	52
(6) Site Prep	n/a	66	73	53
(7) Grading	n/a	72	80	59
(8) Building Construct	75	63	70	50
(9) Paving	n/a	69	76	55
(10) Architectural Coating	57	45	52	32

Source: Dudek (Appendix C)

Assuming construction activity intensity is similar across the 8-hour construction day, the L_{eq} value for the FTA 8-hour averaging period would be equal to the $L_{eq\ 1hr}$ value for any given hour within the 8-hour construction window (hence the labeling of $L_{eq\ 8\text{-}hr\ /\ 1\ hr}$ in the results columns of Table 15). As reported in Table 15, construction noise levels are not predicted to exceed the FTA recommended maximum of 80 dBA $L_{eq\ 8\text{-}hr}$ at any modeled occupied residence within the Project site. Thus, construction of the project would result in a less than significant short-term noise impact for residents occupying homes in the earlier development phases.

Exterior construction noise exposure levels up to 80 dBA L_{eq} would not be considered harmful for residents, OSHA does not require hearing protection unless levels of 90 dBA L_{eq} are sustained over an 8-hour period. Compared to measured ambient noise levels in the interior portions of the site, the construction noise levels could reach up to approximately 35 dBA L_{eq} over the quietest areas of the Project site. These temporary increases in ambient noise levels associated with construction would be readily noticeable and could lead to instances of annoyance. Adherence to the Santa Barbara County construction schedule restriction of weekdays between the hours of 8 AM to 5 PM only would prevent sleep disturbance and avoid annoyance from construction noise. Hence, while

construction noise may result in annoyances when compared to existing ambient noise levels (since the maximum levels would not be harmful to outdoor receivers), would not interfere with indoor activities, and would be temporary in nature, short-term construction noise impacts for occupied residences of the Project would remain **less than significant.**

3.2.1.2 Project Traffic Noise

Kimley-Horn (2024) quantified average daily trips on segments of the local roadway network to which the Project would contribute a substantial number of vehicle trips. Dudek examined the roadway segments that Kimley-Horn included in their evaluation and identified those roadway segments along which there are existing noise-sensitive receptors present, including residences, motels, schools, and churches. Traffic noise increases attributed to Project trip contributions would only result in potentially significant traffic noise impacts where noise-sensitive receptors are located adjacent to a roadway that Project traffic noise increases would be 3 dBA CNEL or greater. Table 15 presents the ADT data provided by Kimley-Horn for roadway segments, parsed for the roadways along which noise sensitive receptors are currently located.

As described in Section 3.12 (Traffic Noise Methodology), acoustic calculations using standard noise modeling equations adapted from the FHWA noise prediction model were performed using the Table 15 ADT values from Kimley-Horn for Existing, Existing Plus Project Traffic, Year 2035, and Year 2035 Plus Project Traffic. Table 16 presents the results of the traffic noise modeling, detailed information is provided in Appendix C.

Table 15. Roadway ADT Data for Traffic Noise Analysis

Road	Segment	Existing (ADT)	Existing + Project (ADT)	Year 2035 (ADT)	2035 + Project (ADT)
Main	West of US 101	17,090	19,080	18,690	20,680
Main	East of US 101	19,840	20,340	20,770	21,350
Stowell	West of US 101	12,790	13,500	13,350	14,060
Betteravia Road	West of US 101	23,630	26,120	25,520	28,010
Santa Maria Way	West of US 101	15,860	20,850	17,210	22,690
Foster Road	East of Bradley	4,040	4,040	4,220	4,220
Foster Road	West of Bradley	9,330	9,330	9,540	9,540
Bradley Road	North of Foster	13,820	14,810	13,940	14,930
Bradley Road	Foster to UVP	13,610	14,600	13,740	14,730
Bradley Road	UVP to Clark	10,420	13,080	11,720	14,380
Bradley Road	South of Clark	10,280	11,030	11,490	12,240
Clark Ave	West of Bradley	10,330	11,570	11,120	12,360
Clark Ave	East of Bradley	12,970	17,620	13,470	18,120
UVP [1]	West of Bradley	15,420	16,170	16,630	17,380
UVP [1]	East of Bradley	17,580	20,630	21,040	24,090
Stillwell Road	North of Clark	1,640	2,140	1,810	2,310
Stillwell Road	South of Clark	2,720	2,970	3,230	3,480

Source: Kimley-Horn 2024.
Notes: [1] Union Valley Parkway (UVP); ADT = Average Daily Trips

Table 16. Modeling Results for Project-Related Traffic Noise Increases-

Road	Segment	Existing CNEL	Existing + Project CNEL	Change CNEL	Year 2035 CNEL	2035 + Project CNEL	Change CNEL
Main	West of US 101	69.3	69.8	0.5	69.7	70.2	0.4
Main	East of US 101	70.0	70.1	0.1	70.2	70.3	0.1
Stowell	West of US 101	68.1	68.3	0.2	68.3	68.5	0.2
Betteravia Road	West of US 101	70.7	71.2	0.4	71.1	71.5	0.4
Santa Maria Way	West of US 101	69.0	70.2	1.2	69.4	70.6	1.2
Foster Road	East of Bradley	63.1	63.1	0.0	63.3	63.3	0.0
Foster Road	West of Bradley	66.7	66.7	0.0	70.7	66.8	-3.9
Bradley Road	North of Foster	68.4	68.7	0.3	66.8	68.7	1.9
Bradley Road	Foster to UVP	68.3	68.6	0.3	68.4	68.7	0.3
Bradley Road	UVP to Clark	67.2	68.2	1.0	67.7	68.6	0.9
Bradley Road	South of Clark	67.1	67.4	0.3	67.6	67.9	0.3
Clark Ave	West of Bradley	67.1	67.6	0.5	67.5	67.9	0.5
Clark Ave	East of Bradley	68.1	69.5	1.3	68.3	69.6	1.3
UVP [1]	West of Bradley	68.9	69.1	0.2	69.2	69.4	0.2
UVP [1]	East of Bradley	69.5	70.1	0.7	70.2	70.8	0.6
Stillwell Road	North of Clark	59.1	60.3	1.2	59.6	60.6	1.1
Stillwell Road	South of Clark	61.3	61.7	0.4	62.1	62.4	0.3

Notes: [1] Union Valley Parkway (UVP); CNEL = community noise equivalent level.

As indicated in Table 16, operation of the Project would involve trip generation that would result in traffic noise level increases on the local network roadway segments no greater than 1.9 dBA CNEL, which would remain well below the County of Santa Barbara and Caltrans significance threshold of 3 dBA CNEL or greater. Consequently, operational traffic noise impacts would be **less than significant**.

3.2.1.3 Project Operational Noise

As described under Section 3.1.3 (Operational Noise Methodology), operational noise was modeled in the NoisePro model space, incorporating the two closest receivers used for the construction noise modeling (R1 and R2, refer to Figure 3). Table 17 and 18 present the results of the operational noise modeling at the two closest off-site sensitive receptors and compare these modeled operational noise levels to recorded ambient noise levels and to limits contained in the Santa Barbara County Comprehensive Plan Noise Element. As indicated in Table 17, the project would not result in an increase in the ambient noise level at the noise-sensitive receptors closest to the Project site. Detailed information for the operational noise modeling is provided in Appendix E.

Table 17. Project Operational Noise Levels Compared to Ambient

Receiver ID	Lowest Measured Existing Ambient (dBA L_{eq})	Predicted Operational Noise Level (dBA L_{eq})	Existing + Project (dBA L_{eq})	Increase (dBA L_{eq})
R1	42	21	42	0
R2	42	14	42	0

Source: Dudek (Appendix E).

Table 18. Project Operational Noise Levels Compared to General Plan Limits

Receiver ID	Predicted Operational Noise Level (dBA L_{eq})	Predicted Operational Noise Level (dBA LDN)	Noise Ordinance Limit (dBA CNEL)	Limit Exceeded?
R1	21	27	65	No
R2	14	20	65	No

Source: Dudek (Appendix E).

As indicated in Table 18, even if all of the HVAC equipment throughout the Project operated continuously over a 24-hour period, the predicted operational sound level at the modeled noise-sensitive receptors closest to the Project site would fall well below the Noise Element guidance of 65 dBA CNEL. Consequently, the operational noise impacts of the Project would be **less than significant.**

NoisePro calculates the noise level across the entire grid that encompasses the Project site and adjacent areas. Figure 5 graphically represents the noise model results, providing noise contours extending outward from the proposed Project to illustrate the hourly noise level from operation of the Project.

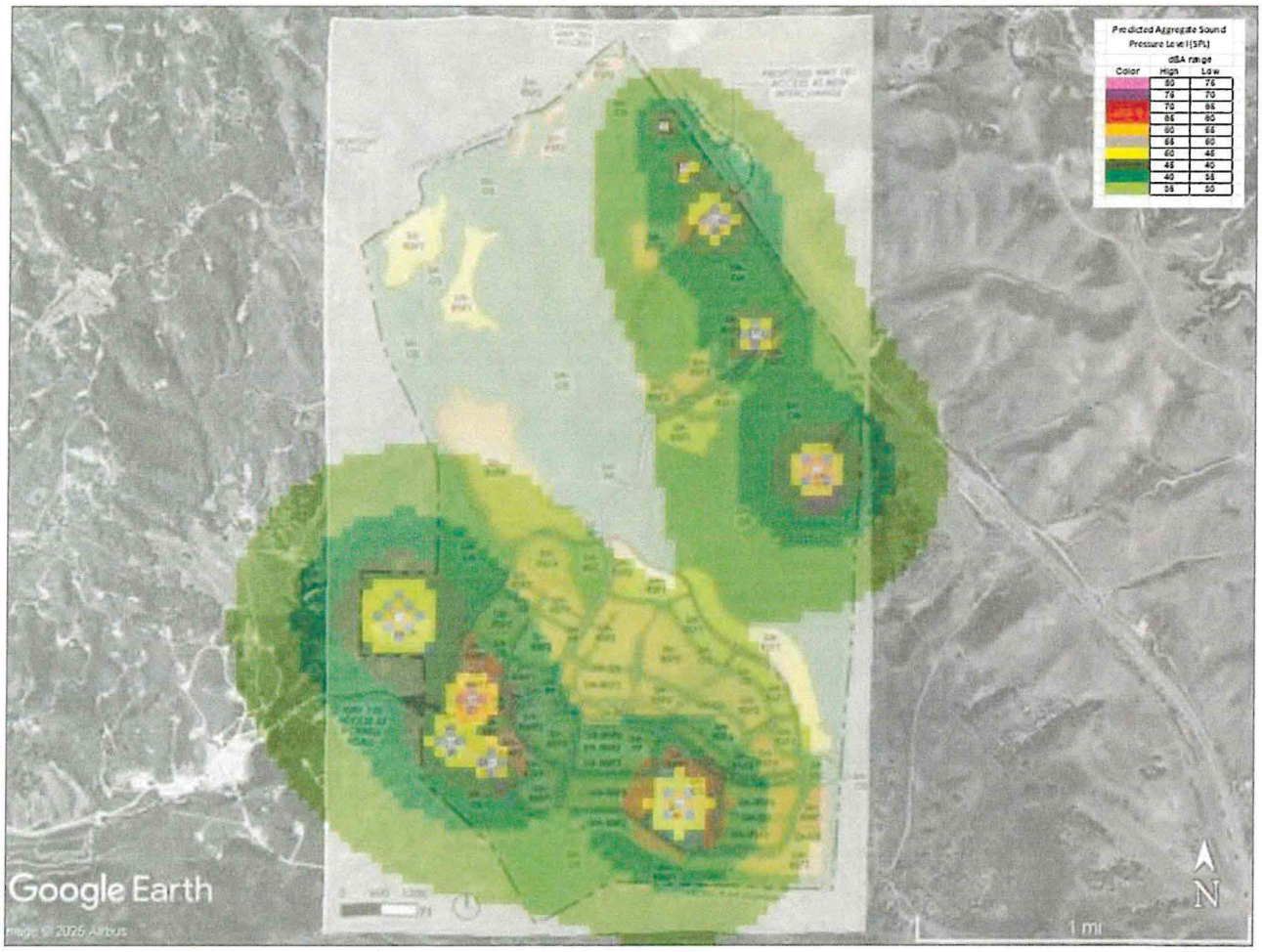


FIGURE 5 Project Operational Noise Contours (Hourly L_{eq})

As illustrated on Figure 5, the 45-50 dBA L_{eq} contour is essentially contained within the Project site, and the Project would therefore not create noise incompatibilities for nearby land uses.

3.2.1.4 Mitigation

The proposed Project would not result in a significant temporary or permanent increase in ambient noise levels; therefore, no mitigation is required.

Significance After Mitigation

Mitigation is not required, because impacts would be less than significant without mitigation.

3.2.2 Project Impacts - Vibration Generation

Significance Criteria 2: Would the project result in generation of excessive ground-borne vibration or ground-borne noise levels?

3.2.2.1 Construction Vibration

As discussed in Section 3.1.4 (Vibration Methodology) ground-borne vibration generated from construction equipment would be attenuated to 0.2 in/sec PPV at a distance of no greater than 26 feet from construction activity. Consequently, for construction activities that are no closer than 26 feet from vibration-sensitive uses, including residences, construction-related vibration levels would remain below the significance threshold. The closest existing vibration-sensitive use (a residence) is located approximately 2,320 feet from the Project construction boundary. The vibration level from a vibratory pile driver at a distance of 2,320 feet would be 0.0008 in/sec PPV. Therefore, Project construction-related vibration levels would be less than significant.

3.2.2.2 Operation Phase Vibration

Vibration impacts associated with industrial and commercial facility operations are limited to large scale equipment with rotational components or involving repeated impact or "striking" movements (e.g., industrial grade compressors, stamping machines, printing presses), or with the maneuvering of heavy trucks or similar large-scale materials-transport equipment. The ongoing operation of the proposed Project would not involve rotational equipment, or impact equipment. Large garbage collection trucks would be anticipated to serve the Project, but potentially significant vibration impacts from a loaded truck operation would be limited to a distance of 18 feet, which would not extend beyond the road right-of-way for roads used by future garbage collection trucks to access the site. Consequently, long-term operation of the Project would not be anticipated to generate perceptible vibration levels; operational vibration levels are therefore considered less than significant.

3.2.2.3 Mitigation Measures

The proposed Project would not result in a significant vibration impact; therefore, no mitigation is required.

Significance After Mitigation

Mitigation is not required, because impacts would be less than significant without mitigation.

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4 Policy Compliance (Non-CEQA)

4.1 Noise Exposure at Project Residences

CEQA no longer includes the impacts of the environment on a Project, including exposure of Project residents to elevated community noise levels from transportation and other sources. However, the following discussion is provided regarding the Project compliance with maximum exterior noise exposure limits from the Comprehensive Plan Noise Element.

4.1.1 US Highway 101 Traffic Noise

4.1.1.1 Methodology

Dudek modeled the future (ultimate) traffic noise exposure levels along the US Highway 101 frontage of the property using the FHWA Transportation Noise Model (TNM 2.5). For the TNM modeling, Dudek reviewed traffic volume data for the US Highway 101 segment adjacent to the Project site from the 2018 and 2023 Annual Traffic Counts on California Highways (Caltrans 2018 & 2023). Dudek determined the average annual growth rate in the 5-year period represented by this data to be 0.5%, which is consistent with population growth predictions in the Regional Growth Forecast 2050 Santa Barbara County (SBCAG 2019).

Dudek applied the 0.5% growth rate to the US Highway 101 traffic volumes reported in 2023 for each year through 2035 (consistent with the Santa Barbara County Comprehensive Plan horizon year) to estimate Year 2035 US Highway 101 traffic volumes without the Project. Project traffic trips were then added to the baseline US Highway 101 volumes, according to the trip distribution assignment from the Kimley-Horn traffic report (May 2024).

4.1.1.2 Results

The County Noise Element establishes a maximum exterior noise exposure limit of 65 dBA CNEL for noise sensitive uses including residences, hotels, education facilities, and churches. Using the TNM 2.5 model, Dudek determined the distance from the US Highway 101 corridor centerline to the boundary of the 65 dBA CNEL noise contour within the Project site.

Figure 6 depicts the boundary of the 65 dBA CNEL noise contour associated with Year 2035 traffic along US Highway 101 (including Project trip contributions). Table 19 provides a summary of the land use zones that would be located at least partially within the 65 dBA CNEL contour.

Table 19. Land Use Zones Within the 65 dBA CNEL Noise Contour for US 101

Map Symbol	Land Use	Noise Sensitive?
SH-RSF2	Residential Single-Family	YES
SH-C2	Commercial	NO
SH-O1	Office	NO
SH-OS	Open Space	NO

Source: Dudek Appendix E.



FIGURE 6 65 dBA CNEL Noise Contour for US Highway 101

As indicated on Figure 6 and presented in Table 19, the only future noise sensitive land use of the Project that would be partially encompassed within the 65 dBA CNEL contour for US Highway 101 would be a small area of single family homes in the SH-RFS2 zone at the northeast corner of the Project site. With the current conceptual layout, the six closest residential lots to US Highway 101 in this SH-RFS2 zone would be exposed to freeway noise greater than 65 dBA CNEL (but less than 70 dBA CNEL).

Options to Achieve Compliance with the 65 dBA CNEL exterior limit for residential lots in this SH-RFS2 zone.

- Reconfigure future residential lot layout in this area to shift lots outside of the 65 dBA CNEL contour; OR,
- For any lots within the 65 dBA CNEL contour, place exterior living areas on the opposite side of the residence from US Highway 101 or provide a noise barrier between the exterior living area and US Highway 101. A barrier 6 to 7 feet in height should be sufficient to lower exterior noise level exposure to 65 dBA CNEL.

Either of the above options would be considered to be technically feasible and could be implemented during final design for the residential neighborhood in this portion of the Project site/Specific Plan.

4.1.2 Principal on Site Roads Traffic Noise

4.1.2.1 Methodology

Dudek modeled the future (ultimate) traffic noise exposure levels along the Project's principal internal roadways using an excel spreadsheet incorporating equations from the FHWA Transportation Noise Model (TNM 2.5). For the TNM modeling of principal internal roadways, Dudek used the data in Table 20.

Table 20. Data Used for Internal Roadways Noise Modeling

Roadway	Extent		ADT	Number of Lanes	Speed
	Between...	and...			
Solomon Hills Parkway	Frontage Rd	Internal Connector	23,300	4	30
	Internal Connector	Village Loop Rd	23,460	4	30
	Village Loop Rd	Village Core Collector (Area 20)	16,020	4	30
	Village Core Collector (Area 20)	Village Core Collector (Area 6)	9,520	4	30
	Village Core Collector (Area 6)	Village Loop Rd	3,160	4	30
Frontage Rd	Solomon Hills Parkway	Internal Connector	20,010	4	30
	Internal Connector	US 101 Southbound Ramps	11,410	4	30
Village Loop Rd	Northern Loop Rd	Highway 135 Access	2,770	2	30
	Highway 135 Access	Village Core Collector (Area 14)	1,450	2	30
	Village Core Collector (Area 14)	Solomon Hills Parkway	2,020	2	30
	Solomon Hills Parkway (Area 8)	Village Core Collector (Area 1)	540	2	25
	Village Core Collector (Area 1)	Solomon Hills Parkway (Area 2)	7,130	2	25
	Solomon Hills Parkway	Northern Loop Rd	4,300	2	25
Village Core Collector	Solomon Hills Parkway (Area 20)	Village Core Collector (Area 13)	6,140	2	25
	Village Loop Rd	Village Core Collector (Area 13)	2,410	2	25
	Village Core Collector (Area 13)	Solomon Hills Parkway	3,730	2	25
	Solomon Hills Parkway (Area 7)	Village Loop Rd	5,790	2	25
Area 38 Village Core Collector	Northern Loop Rd	Northern Loop Rd	1,710	2	25
Northern Loop Rd	39-Solomon Hills Parkway	Solomon Hills Parkway	3,890	2	25
	Area 27	Frontage Rd	2,270	2	25
	Area 22	Village Loop Rd	3,550	2	25
Internal Connector	Frontage Rd	Solomon Hills Parkway	1,350	2	25

Source: Kimley-Horn Solomon Hills Traffic Study 2024

4.1.2.2 Results

Based on the methodology described in 4.1.2.1 (above) traffic noise exposure levels along principal internal roadways of the Project are presented in Table 21 (refer to Appendix D for detailed modeling data). It should be noted that traffic noise levels presented in Table 21 are based upon full build-out of the Project (maximum or ultimate traffic trips from the entire Project) as calculated by Kimley-Horn (2024).

Table 21. Traffic Noise Exposure Along Principal Project Roadways

Roadway	Extent		Distance CL to Receiver (ft)	CNEL (dBA)
	Between...	and...		
Solomon Hills Parkway	Frontage Rd	Internal Connector	60	**67.5**
	Internal Connector	Village Loop Rd	60	**67.5**
	Village Loop Rd	Village Core Collector (Area 20)	60	**65.9**
	Village Core Collector (Area 20)	Village Core Collector (Area 6)	60	63.6
	Village Core Collector (Area 6)	Village Loop Rd	60	58.8
Frontage Rd	Solomon Hills Parkway	Internal Connector	60	**66.8**
	Internal Connector	US 101 Southbound Ramps	60	64.4
Village Loop Rd	Northern Loop Rd	Highway 135 Access	30	61.3
	Highway 135 Access	Village Core Collector (Area 14)	30	58.5
	Village Core Collector (Area 14)	Solomon Hills Parkway	30	59.9
	Solomon Hills Parkway (Area 8)	Village Core Collector (Area 1)	30	52.5
	Village Core Collector (Area 1)	Solomon Hills Parkway (Area 2)	30	63.7
	Solomon Hills Parkway	Northern Loop Rd	30	61.5
Village Core Collector	Solomon Hills Parkway (Area 20)	Village Core Collector (Area 13)	30	63.1
	Village Loop Rd	Village Core Collector (Area 13)	30	59.0
	Village Core Collector (Area 13)	Solomon Hills Parkway	30	60.9
	Solomon Hills Parkway (Area 7)	Village Loop Rd	30	62.8
Area 38 Village Core Collector	Northern Loop Rd	Northern Loop Rd	30	57.5
Northern Loop Rd	39-Solomon Hills Parkway	Solomon Hills Parkway	30	61.1
	Area 27	Frontage Rd	30	58.8
	Area 22	Village Loop Rd	30	60.4
Internal Connector	Frontage Rd	Solomon Hills Parkway	30	56.5

Source: Dudek Appendix D

As presented in Table 21, traffic noise exposure levels at the closest anticipated lot lines for noise sensitive land uses of the Project would not exceed 65 dBA CNEL for all roadways except three segments of Solomon Hills Parkway and one segment of Frontage Road. Future noise sensitive and uses developed under the Project would therefore not be exposed to exterior noise levels that would exceed the Noise Element maximum exterior noise exposure limit of 65 dBA CNEL associated with traffic along the majority of internal roadways, and therefore the conceptual level siting of noise sensitive-land uses would comply with said exterior noise limits except for the four above-mentioned roadway segments.

Options to Achieve Compliance with the 65 dBA CNEL exterior limit for noise-sensitive uses uses along certain segments of Solomon Hill Parkway and Frontage Road.

- For the roadway segments in Table 22 that have modeled traffic noise exceeding 65 dBA CNEL at the closest anticipated lot lines for future residences, placing exterior living areas behind the residential structures in such cases would provide adequate attenuation of traffic noise within the exterior living areas.
- Where rear yard areas might be aligned adjacent to these roadway segments, a solid barrier of 6-feet in height (which could be constructed of wood fencing with overlapping adjacent boards) would be sufficient to attenuate traffic noise in the yard area to 65 dBA CNEL or below.
- Table 22 provides the minimum distance from the roadway centerline to the boundary of the 65 dBA CNEL noise contour, if setback distance is elected instead to reduce traffic noise exposure for future lots along the four segments with elevated traffic noise generation.

Table 22. Separation Distance to Achieve Compliance with 65 dBA CNEL Exterior Noise Limit - Selected Principal Project Roadways

Roadway	Extent		Modeled CNEL (dBA)	Setback Distance to Boundary of 65 dBA CNEL Noise Contour
	Between...	and...		
Solomon Hills Parkway	Frontage Rd	Internal Connector	67.5	105 feet
	Internal Connector	Village Loop Rd	67.5	105 feet
	Village Loop Rd	Village Core Collector (Area 20)	65.9	72 feet
Frontage Rd	Solomon Hills Parkway	Internal Connector	66.8	90 feet

Any of the above options would be considered to be technically feasible and could be implemented during final design for noise-sensitive land uses along the identified portions of Solomon Hills Parkway and Frontage Road that would have elevated traffic noise generation.

4.1.3 Orcutt Oil Field Operations

4.1.2.1 Methodology

Dudek completed one short-term measurement apiece near two different active oil wells and performed both a short-term and long-term ambient noise measurement in the vicinity of the oil consolidation/trucking facility. The results for these selected ambient measurement locations are provided in Table 23 below, along with the distances from the noise sources to the measurement locations.

Table 23. Measured Ambient Outdoor Noise Levels near Oil Field Equipment

ID	Description	Distance to Source	L_{eq} (dBA)	L_{dn} (dBA)
ST4 / w4	Active Oil Well	50 feet	**46**	n/a
ST5 / w5	Active Oil Well	50 feet	**48**	n/a
ST6	Oil Shipping Depot	900 feet [1]	**48**	n/a
LT1	Oil Shipping Depot	900 feet [1]	n/a	**50**

Source: Appendix B

Notes: [1] Distance from noise measurement location to the center of the shipping depot; L_{eq} = equivalent continuous sound level; L_{dn} = Day/Night average noise level; dBA = A-weighted decibels; ST = short-term noise measurement locations; LT = long-term noise measurement location.

The California Department of Conservation, Geologic Energy Management Division (CalGEM) is responsible for managing and tracking active oil wells in California. Figure 7 illustrates active oil wells outside of the Solomon Hills Project site and within 2 kilometers (approximately 1.25 miles) of the site, based on the CalGEM Wellstar database. Each red dot represents an active oil well; the closest oil wells along the outside of the Project site boundaries have been numbered w1 to w8 in Figure 7 for easy reference in the analysis section below.

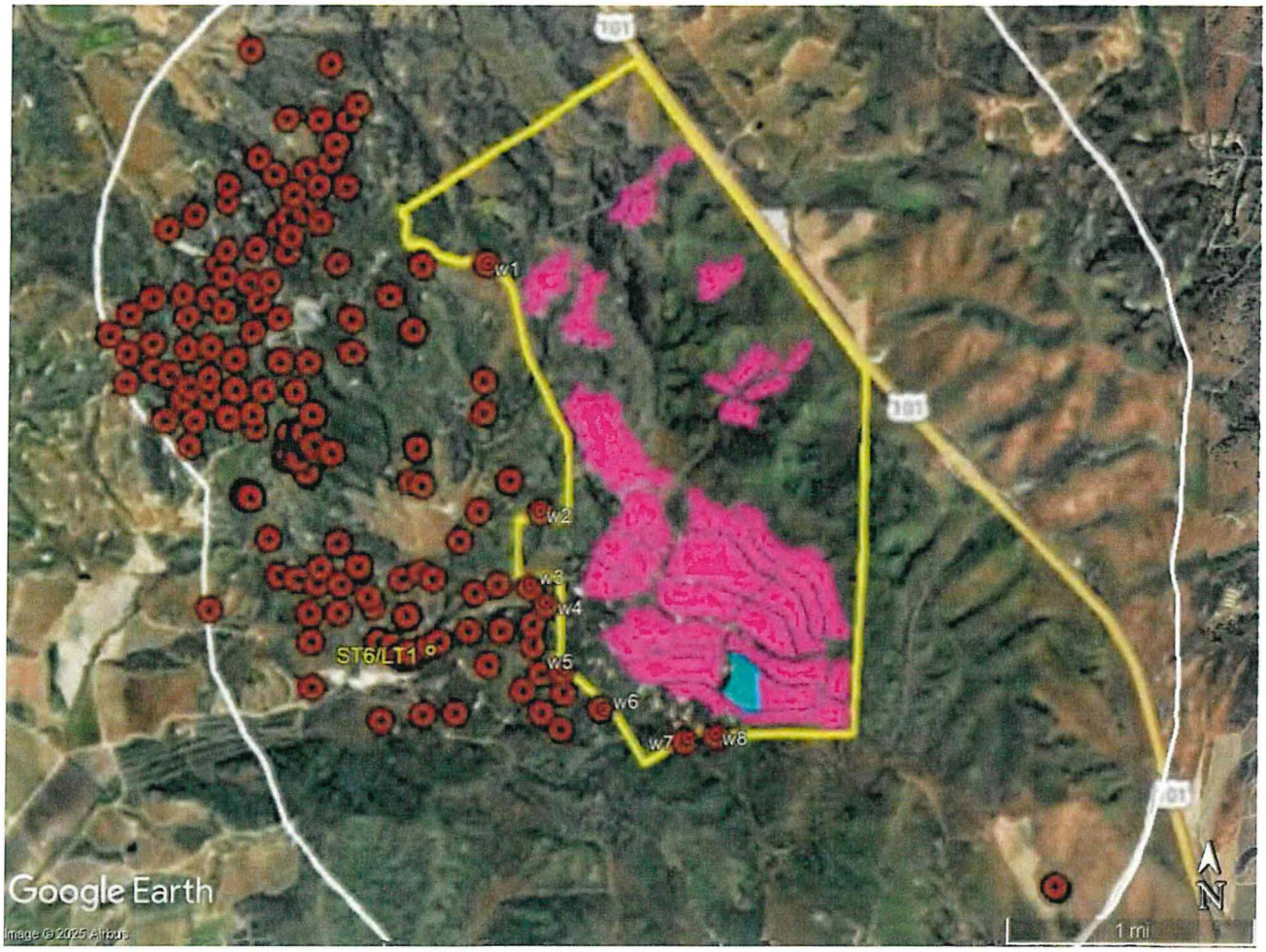


FIGURE 7 Active Oil Wells Within 2 Kilometers of the Project

Sound attenuation due to distance, for a point source surrounded by soft ground conditions (which is applicable to each oil well and the oil depot facility adjacent to the Project) is calculated with the equation:

$$SPL_1 = SPL_2 - 25\log(D_2/D_1)$$

Where:

SPL_1 is the calculated sound pressure level (in dB) at specified distance [D_2]

SPL_2 is a known (measured) sound pressure level at a known distance [D_1]

D_1 is distance from source to measured sound pressure level

D_2 is distance from source to location of calculated sound pressure level

The results of applying the above equation to the measured sound level for an active well at a known distance and the identified distance from each evaluated well to the closest future land use boundary within the Project site are summarized in Table 24. The results of applying the above equation to the operational noise level of the oil depot at the closest future land use boundary within the Project site is also summarized in Table 24.

Table 24. Calculated Outdoor Noise Levels at Closest Project Land Use Zones from Oil Field Equipment Operations / Activities

Well ID	Reference Sound Level (dBA L_{eq}) [1]	Sound Level Reference Distance (feet)	Distance From Well to Closest Specific Plan Land Use Zone	Calculated Noise Level (dBA L_{eq})	Calculated Noise Level (dBA L_{dn}) [2]
W1	48	50	825	18	24
W2	48	50	1,300	13	19
W3	48	50	825	13	19
W4	48	50	1,130	14	20
W5	48	50	1,100	14	20
W6	48	50	875	17	23
W7	48	50	780	18	24
W8	48	50	425	25	31
Oil Depot	48	900	3,400	34	40

Notes: [1] The higher measured noise level for the two oil wells is used for a conservative analysis; [2] Assumes continuous operation of the equipment over a 24-hour period; L_{eq} = equivalent continuous sound level; L_{dn} = Day/Night average noise level; dBA = A-weighted decibels; W= active oil well locations evaluated.

As presented in Table 24, noise levels from continued operation of oil well and the oil trucking depot equipment and related activities would result in exterior noise levels within the Specific Plan land use boundaries that are far below the Santa Barbara County exterior noise exposure limit of 65 dBA CNEL for noise-sensitive land uses. The oil wells are generally spaced at least 200 feet from one another; at that separation distance the combined noise level from multiple wells at any of the identified receptors in Table 24 would be no greater than reported in Table 24, Consequently, future residents of the Project would not be exposed to noise levels from continued oil field operations that exceed exterior noise exposure standards.

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APPENDIX A

JONATHAN LEECH RESUME

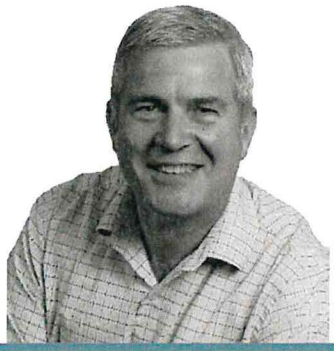
Jonathan Leech, AICP, INCE

Senior Acoustician/Environmental Specialist

Jonathan Leech is an acoustician with 35 years' environmental planning experience, including environmental research, impact assessment, field research, and land use analysis. Mr. Leech has more than 15 years of focused experience in noise assessments, including utility scale solar energy developments, as well as large-scale evaluations of noise element updates and specific plan projects, for inclusion in environmental impact reports (EIRs) or negative declarations (NDs). Mr. Leech has also performed noise evaluation of residential and commercial sources, and provided noise monitoring during construction for compliance with project conditions and noise ordinance restrictions.

Mr. Leech has experience in the following areas:

- Environmental noise assessment
- Commercial/industrial noise evaluation
- Specific plan/subdivision noise analysis
- Title 24 interior space noise isolation
- Transportation noise constraint analysis
- Noise assessment for energy production and transmission
- Athletic facility noise assessment
- California Environmental Quality Act (CEQA) procedures for public agencies
- Environmental planning and impact analysis



Jonathan Leech

Education

University of California, Santa Barbara
BA, Environmental Studies/ Geology, 1984

Pennsylvania State University Coursework in Graduate Acoustics Program, 2012

Certifications

American Institute of Certified Planners (AICP)

Professional Geologist, CA, 2011

Professional Affiliations

American Planning Association

Association of Environmental Professionals

Institute of Noise Control Engineers

Project Experience

Development

Commerce Modelo Mixed Use Project. Prepared the noise analysis to support the EIR. The project involves a 17.37 acre project site in the City of Commerce. The Project would demolish the existing Veterans Memorial Park (which is currently in an advanced state of disrepair) and an adjacent vacant parcel, and reconstruct the Project site to accommodate a mixed-use development of 850 residential units, 165,000 square feet of commercial uses, a 77,050-square-foot community center, a 5,000-square-foot museum, and approximately 4.75 acres of parks and open space.

Ocean Meadows Residences Ocean Meadows Residences. Prepared a noise technical study to support completion of a CEQA Initial Study for a multi-family residential development to be located on the west side of Storke Road, between Whittier Drive on the north and Sierra Madre Court on the south, in unincorporated Santa Barbara County in western Goleta Valley. Important issue area identified in the Initial Study included air quality, biology, cultural resources, noise, and transportation.

The Creek at Dominguez Hills, Carson, California. Prepared noise technical report to support the EIR. The proposed project includes a new sports, recreation, fitness, and wellness destination on a portion of the approximately 171-acre Victoria Golf Course, located at 340 Martin Luther King Jr. Street (formerly E. 192nd Street) in the City of Carson. The project site would be developed with approximately 532,500 square feet of buildings, including a multi-use indoor sports complex, youth learning experience facility, indoor skydiving facility, marketplace, clubhouse, recreation and dining center, restaurants (alternatively, a specialty grocery store may be developed in place of some of the restaurant uses), and a sports wellness center. The proposed project would also provide ziplining facilities, a community park, open space areas, a putting green, and a jogging path.

Grapevine Specific and Community Plan Project, Kern County, California. Prepared noise technical report to support the EIR. Project consists of an approximately 8,010-acre Specific Plan area located in the southern portion of the San Joaquin Valley and 83 acres of off-site infrastructure improvements. The Specific Plan includes six plan areas, each with a village center providing retail and office uses, schools, parks, community services, and housing linked by bicycle and pedestrian trails, and served by transit. Approximately 4,643 acres are a residential community and employment center, 632 acres are zoned for active recreation and agricultural uses, and 2,734 acres are open areas. At full buildout, the Project would include 12,000 dwelling units, 5,100,000 square feet of commercial/light industrial use, 157 acres of schools, and 96–112 acres of parks. In accordance with the Specific Plan, up to 14,000 dwelling units could be built provided commercial/light industrial uses are commensurately reduced to ensure that total Project vehicular trips do not increase.

Yokohl Ranch Master Development Plan, Tulare County, California. Prepared the noise technical report and noise EIR section for the Yokohl Ranch Maser Development Plan, an approximately 36,219-acre site about 15 miles east and southeast of Visalia in unincorporated Tulare County. The proposed project consists of suburban development and preserve areas, with approximately 7,662 acres designated for Planned Community Area, and the balance remaining under an existing Foothill Agriculture designation. The Planned Community Area consists of three sub-areas: The Valley (2,534 acres of development, capped at 5,500 dwelling units); The Meadows (2,067 acres capped at 5,500 dwelling units); and, The Oaks (1,971 acres capped at 1,000 dwelling units). Each sub-area would also contain commercial uses including retail and commercial office space, and The Valley would also include hotel, golf course, parks, school, and institutional uses.

Carol Kimmelman Sports and Academic Campus project, Carson, California. Prepared noise technical report to support the EIR. The proposed project involves the redevelopment of an existing golf facility with new recreation programs that would offer sports and academic enrichment services to the public. A Learning Center would be provided with an approximately 25,000 square-foot building, and adjacent two basketball courts. A Tennis Center would be located in the northern approximately 289 acres of the overall project site. Access to the Tennis Center would be through the approximately 23,000 square-foot Welcome Center. Within the tennis Competition Venue would be 12 hard courts and approximately 1,200 spectator viewing seats. The Soccer Center would be located on the southern approximately 58 acres of the project site, consisting of two multi-use fields which could be utilized for rugby, soccer, and other field sports, and eight full sized soccer fields.

University Villages Specific Plan, SSBT LCRE V. LLC (c/o Meadow Lane LLC), Chula Vista, California. Prepared the noise technical report and noise EIR section for the University Villages Specific Plan, an approximately 460-acre site along the west side of State Route 125. The proposed project consists of a suburban development including residential, commercial, industrial park, public facility, and open space uses. Three elementary schools and one high school are planned. A total of 150 acres of the site will be reserved for open space uses, including neighborhood parks, a greenbelt system, and natural reserve.

Los Robles Del Mar Specific Plan EIR, County of San Luis Obispo, San Luis Obispo, California. Co-authored the EIR for this project, which included a range of residential lots and structures, as well as a private school site. Key sections authored in the EIR included noise, geology, surface drainage, water quality, and air quality.

Villages of San Jacinto Specific Plan, City of San Jacinto, California. Prepared the noise technical report and noise EIR section for the Villages of San Jacinto Specific Plan, an approximately 600-acre site along the west side of Sanderson Avenue in San Jacinto. The proposed project consists of a suburban development including residential, commercial, business park, public facility, and open space uses. One elementary school and one high school are planned in the northeastern portion of the site. A total of 100.7 acres of the site will be reserved for open space uses, including four neighborhood parks, a greenbelt system, three lakes, and landscape easements.

Los Alamos Community Plan EIR, County of Santa Barbara/Office of Long-Range Planning, Los Alamos, California. The community of Los Alamos is a small unincorporated town in the north-central portion of Santa Barbara County, at the junction of U.S. Highway 101 and State Route 135. The noise study evaluated environmental noise effects upon proposed residential land use zones and project-related noise generation from proposed mixed-use zoning.

Montecito Ranch Estates Lots 2 and 3, Fremont Investment and Loan, Summerland, California. Prepared environmental noise evaluations for two separate proposed new residences in a large-lot subdivision with exposure to traffic noise from U.S. Highway 101. Evaluation addresses exterior and interior noise levels from future traffic levels, employing Traffic Noise Model (TNM) 2.5 for the analysis. Exterior noise exposure and interior noise exposure were calculated and compared to adopted CEQA significance thresholds for Santa Barbara County.

Ocean View Estates, Rick Engineering, Encinitas, California. Prepared an environmental noise evaluation addressing a four-lot residential sub-division with direct exposure to Interstate 5 freeway. Construction-related (short-term), exterior noise exposure, and interior noise exposure were calculated and compared to adopted CEQA significance thresholds for Encinitas.

Thompson Oak Court Mixed Commercial and Residential Project Environmental Noise Study, Buenaventura Homes Inc., Ventura, California. Prepared an environmental noise study addressing transportation-related noise sources upon proposed mixed-use development (ground-floor retail with three levels of residential condominiums) and short-term construction noise effects of the proposed project on the surrounding residential neighborhood.

Mixed Commercial and Residential Project, 412-414 Anacapa Street, Anabuilt Properties LLC, Santa Barbara, California. Prepared an environmental noise study addressing transportation-related noise sources upon proposed mixed-use development (ground-floor commercial office with two levels of residential condominiums) and short-term construction noise effects of the proposed project on the surrounding residential neighborhood.

Crown Castle Cellular Equipment Installations, HP Communications Inc., Santa Barbara, California. Prepared a noise study for two separate cellular antennae installations in residential land use zones in Santa Barbara. Analysis included measurement of equipment operation noise at adjacent residential property lines, calculation of the day-night average noise level (Ldn), and comparison of noise level to noise ordinance allowances.

Splash-N-Dash Carwash, Saturn of Santa Maria, Orcutt, California. Prepared noise study for carwash operations in a commercial zone bordered by residential land use zones in Orcutt (Santa Barbara County). Analysis included measurement of equipment operation noise at adjacent residential property lines, calculation of the community average noise level (CNEL), and comparison of noise level to noise policy and ordinance allowances.

The Residences at Depot Street Project, The Housing Authority of Santa Barbara, Santa Maria, California. This project consists of residential apartments located along the westerly side of the North Depot Street between approximately West Mill Street and West Chapel Street, in the City of Santa Maria. Prepared an environmental noise report evaluating the exterior noise exposure level from the adjacent Depot Street and commercial and industrial land uses. Exterior and interior noise exposure were calculated and compared to adopted CEQA significance thresholds for Santa Maria. Also conducted an analysis for conformity with Housing and Urban Development (HUD) noise standards.

1255 Coast Village Road, KIBO Group, Montecito, California. Prepared an environmental noise study addressing transportation-related noise sources upon proposed mixed-use development (1,411 square feet of restaurant space, 3,712 square feet of retail space, 3,342 square feet of office space, and two condominium residences) and short-term construction noise effects of the project on surrounding residential neighborhood.

Summerland Community Plan, County of Santa Barbara, Summerland, California. Co-managed the preparation of the community plan for the Summerland Area, which was adopted by the County of Santa Barbara. Managed and co-authored the EIR on the community plan. Issues of primary concern included traffic and circulation, noise, parking resources, water supply, wastewater treatment, biological habitat, and geology and soils.

Education

Cal Poly University, San Luis Obispo, Fermentation Sciences Center Mitigated Negative Declaration/Initial Study (MND/IS). Managed the preparation of an Initial Study and Mitigated Negative Declaration in accordance with CEQA (California Public Resources Code, Section 21000 et seq.) to address the proposed Fermentation Sciences Institute Center. The Center would provide dedicated space in a central location of campus for education and research activities in the fermentation sciences. The Center includes 42,000 gross square feet of programming space divided into three separate structures, one building of approximately 12,000 gross square feet and the other two approximately 15,000 gross square feet apiece. Primary issue areas evaluated in the MND/IS included aesthetics, biological resources, cultural resources, transportation, water supply, and wastewater.

University of California, Santa Barbara, Biological Resource Surveys in Support of LRDP Adoption. Managed the contract with the University of California, Santa Barbara (UCSB), to prepare biological resource surveys for its Long Range Development Plan Environmental Impact Report (LRDP EIR) in accordance with requirements specified by the California Coastal Commission (CCC). Dudek biologists completed general field surveys, special-status plant surveys, wetland surveys, and drainage surveys, compiling all findings in a biological survey report meeting the requirements of UCSB and the CCC. In addition, for the site proposed to accommodate the expanded Planning and Facilities Management complex, Dudek performed aesthetic, glare, and noise analyses to address a proposed increase in building height allowance, in order to evaluate potential impacts upon the adjacent Goleta Slough.

University of California, Santa Barbara, Physical Sciences Buildings Mitigated Negative Declaration/Initial Study (MND/IS). Mr. Leech worked closely with UCSB planning staff to prepare the Initial Study on the original Physical Sciences Building, a single structure to be located in the center of Campus Green, between the Chemistry and Physics buildings. As a result of preliminary environmental work, the building design was revised instead to be implemented as separate additions to the Chemistry and Physics buildings. Dudek then prepared the Mitigated Negative Declaration for each of the building additions. Primary issues evaluated included aesthetic and visual resources, cultural resources, and transportation/circulation.

San Luis Obispo County Community College District, Cuesta College and North County Campus, Mitigation Monitoring and Reporting Program (MMRP) Implementation. Managed the contract with the SLOCCD to provide cultural resource and biological resource monitoring specified in the MMRPs from associated Mitigated Negative Declarations prepared to address proposed improvements at Cuesta College (San Luis Obispo) and the North County Campus (Paso Robles). The Cuesta College proposal involved removal of several portable classrooms and replacement with a permanent structure for instructional space. The North County Campus project involved removal of several portable classrooms and replacement with a new administration building and separate instructional space building. Dudek provided pre-construction biological surveys and cultural resource monitoring during the ground-disturbance phase of construction for both projects.

Fresno State University. Managed the noise assessment and preparation of the noise section of the MND for both the Bulldog Stadium Modernization and for the New Student Union.

San Diego State University Master Plan Update EIRs. Managed the noise assessments for the West Campus Student Housing and Plaza Linda mixed use development, and contributed to the noise assessment for the 2007 Master plan Update EIR.

Solano Community College District, Vacaville Center Biotechnology and Science Building, Mitigated Negative Declaration/Initial Study (MND/IS). Dudek prepared an Initial Study and Mitigated Negative Declaration for the proposed Biotechnology and Science Building to be located on the Vacaville Campus of Solano County Community College District. Improvements included the structure, extension of utility systems, and new parking area. Issues included visual and aesthetics, transportation and circulation, air quality, noise, public services, and surface hydrology. Dudek administered the noticing, document circulation, hearing process, and response to comments for the project environmental review process in compliance with CEQA. Mr. Leech managed the acoustic assessment and preparation of the noise section of the MND for the project.

University of California, Davis, On-Call CEQA Services. Managed the noise assessment and preparation of the MND noise section for Webster Hall Replacement, Tercero Dining Commons 2, Orchard Park Demolition, CORE 2 Greenhouse, and Emerson Hall Replacement.

Westmont College Off-Campus Faculty Housing, Santa Barbara, California. Managed acoustical and cultural resources consulting services in support of site planning and design efforts for a proposed condominium housing development to be located in the City of Santa Barbara, California. Dudek assisted Peikert Group Architects, in working with Westmont College, to create a residential development proposal intended to provide homeownership opportunities for College faculty.

Santa Barbara High School, Peabody Stadium Replacement, Mitigated Negative Declaration/Initial Study (MND/IS), Santa Barbara Unified School District, Santa Barbara, California. Managed the preparation of an Initial Study and Mitigated Negative Declaration in accordance with CEQA to address the proposed replacement of the Peabody Stadium at Santa Barbara High School. The stadium seating no longer met ADA requirements, with access retrofits already encroaching into the track area (making the track unusable for competitive events); and the football field regularly flooded due to inadequate campus drainage infrastructure. Replacement of the stadium included upgrading of the primary storm drain extending from the west to east campus boundary, levelling of the playing surface, reconstruction of the slopes surrounding the stadium area, and construction of new grandstands with interior event space below. Primary issue areas evaluated in the IS/MND included aesthetics, air quality/greenhouse gasses, biological resources, cultural and historic resources, geology and hydrology, noise, and transportation.

Dos Pueblos High School Master Improvement Plan MND/IS, Santa Barbara School and High School District, Santa Barbara, California. Served as CEQA coordinator for the environmental review of the comprehensive master improvement plan for Dos Pueblos High School that included stadium completion, a new performing arts center, and the replacement of the swimming pool. Also included in the improvement project is a creek restoration effort in response to a U.S. Army Corps of Engineering (ACOE) violation notice for non-permitted fill activities. As project manager, was responsible for preparing the IS and MND documents, noticing of the project, and management of technical subconsultants.

Acquisition of Santa Barbara Armory (IS/MND), Santa Barbara Unified School District, Santa Barbara, California. Managed the preparation of an Initial Study and Mitigated Negative Declaration in accordance with CEQA to address the acquisition and short-term use of the former US Army National Guard Armory property by SBUSD. Primary issues included hazardous materials, historic resources, traffic, and land use.

Storm Water Management Plan (SWMP) Santa Barbara School and High School District, Santa Barbara, California. Collaborative preparation, with Flowers & Associates, to perform services for assisting in preparing Santa Barbara Schools' NPDES Phase II Notice of Intent Applications and Storm Water Management Plan.

Santa Barbara Community Academy Elementary School, Santa Barbara School and High School District, Santa Barbara, California. Served as CEQA coordinator for the phased expansion/completion of the Academy Elementary School. The project involved relocation of the district administration function from the site and conversion of that structure for additional classroom space. The District maintenance facility would have been relocated in Phase 4 of the project to accommodate development of an auditorium. As a result of the preliminary environmental evaluation, the District modified the proposal to relocate the Community Academy to unused space at the La Cumbre Junior High School Campus. Dudek prepared the IS/MND and administered the CEQA process to address the modified proposal. The School Board authorized the academy's relocation in 2009.

Santa Barbara Middle School, Santa Barbara, California. Prepared an environmental noise study addressing siting recommendations and noise-control techniques for a proposed new outdoor sports court. The project site has exclusive residential properties on three sides, all of which were concerned about increased noise levels from the sports activity. Sound level measurements were taken and a sound wall was prescribed to attenuate noise levels at neighboring residential properties.

Truckee High School Track and Field Improvements Project, Focused Environmental Noise Assessment, Truckee, California. The project included replacement of an existing track with all-weather surface, renovation of the related facilities for "field" competitions, a new restroom structure, replacement grandstand, and new public address system. A focused noise assessment was prepared for the Tahoe-Truckee Unified School District which addressed noise levels from construction activity and use of the proposed new public address system at vicinity residences.

Tahoe Lake Elementary School, Environmental Noise Assessment, Tahoe City, California. The project included modernization of the school, including the retention of all existing school structures, with some expansion for several structures, and reconfiguration/modernization of other structures. An outdoor instruction area was also proposed. A noise assessment was prepared for the Tahoe-Truckee Unified School District which addressed noise levels from construction activity, new mechanical equipment operation, and use of the proposed new outdoor instruction area at vicinity residences.

Energy

Rugged Solar Farm, Boulevard Community, San Diego County, California. Prepared a noise technical study for incorporation into an EIR addressing a proposed 80 MW solar generation facility on 765 acres. Analysis included assessment of facility equipment noise at adjacent residential property lines, calculation of construction noise levels at nearby sensitive receptors, and cumulative construction noise analysis.

Tierra Del Sol Solar Farm, Boulevard Community, San Diego County, California. Prepared a noise technical study for incorporation into an EIR addressing a proposed 60 MW solar generation facility on 420 acres. Analysis included assessment of facility equipment noise at adjacent residential property lines, calculation of construction noise levels at nearby sensitive receptors, and cumulative construction noise analysis.

Westside and Whitney Point Solar Farm, Westside Community, Fresno County, California. Project manager for permitting of two separate 20 MW solar generating facilities on two adjacent 160 acre project sites. As a condition of allowing a connection to electrical distribution infrastructure, Pacific Gas & Electric (PG&E) required 5 acres within the property to construct an electrical sub-station to serve the project and other solar electrical generating facilities.

Little Bear Solar Farm, Fresno County, California. Prepared a noise technical study for incorporation into an EIR addressing a proposed 180 MW solar generation facility on 1,288 acres. Analysis included assessment of facility equipment noise at adjacent residential property lines and calculation of construction noise levels at nearby sensitive receptors.

Sonrisa Solar, San Joaquin Valley, Fresno County, California. Prepared a noise technical study for incorporation into an EIR addressing a proposed 200 MW solar generation facility on 1,700 acres. Analysis included assessment of facility equipment noise at adjacent residential property lines and calculation of construction noise levels at nearby sensitive receptors.

Solar Farm, Champagne County, Illinois. Prepared a noise technical study for satisfaction of permit requirements and to demonstrate compliance with Illinois noise regulations addressing a proposed 150 MW solar generation facility on 1,275 acres. Analysis included measurements to characterize the ambient noise level from farming and transportation sources in the area, and assessment of facility equipment operational noise at nearby sensitive receptors (i.e., adjacent rural residences).

Solar Farm, Culpeper County, Virginia. Prepared a noise technical study for satisfaction of permit requirements and to demonstrate compliance with Culpeper County noise regulations addressing a proposed 80 MW solar generation facility. Analysis included assessment of facility equipment noise at adjacent residential property lines and calculation of construction noise levels at nearby sensitive receptors.

Gambit Energy Storage Facility, Angleton, Texas. Completed an operational noise level study for a proposed utility grade energy storage facility (battery based). The project site is a current cow pasture in close proximity to adjacent residences, the local jurisdiction was concerned with operational noise that could be audible to neighbors.

Healthcare

1722 State Street Surgical Center, 1772 State Street Investors, Santa Barbara, California. Prepared an environmental noise study addressing transportation-related noise sources upon proposed outpatient surgical center (approximately 10,000 square feet), and construction noise (short-term) and mechanical operation noise (long-term) of the proposed project on surrounding residential neighborhood. A subsequent interior noise report was prepared to evaluate project compliance with indoor noise criterion, including identification of window and exterior door specifications to achieve compliance.

Golden Inn Senior Housing Project, The Housing Authority of Santa Barbara, Santa Ynez, California. This project consists of a range of senior housing opportunities, including assisted living, memory care, independent living, and on-site housing for facility employees. Prepared an environmental noise report evaluating the exterior noise exposure level from the adjacent State Route 246 highway facility, employing TNM 2.5 for the analysis. Exterior and interior noise exposure were calculated and compared to adopted CEQA significance thresholds for Santa Barbara County.

Municipal

Waste Management Noise Study, Oceanside, California. Prepared noise study for proposal to convert Oceanside-based waste collection fleet to compressed natural gas (CNG). Proposal included replacement of diesel trucks with CNG trucks over a 2-year period, and installation of a compressed natural gas fueling system at the storage yard/maintenance facility. Conducted measurements of diesel and CNG trucks at another waste management facility, and calculated changes in noise levels from the project at adjoining residential property lines. Prepared noise technical report for the MND.

Chicago Grade Landfill Facility, Templeton, California. Prepared air quality and noise studies assessing air quality and noise emissions from expansion into new modules of the approved solid waste facility permit. Authored technical noise memo for the expanded operations, including off-site roadway traffic noise effects and back-up alarm effects at proximate residences.

APPENDIX B

AMBIENT NOISE MEASUREMENT DATA

MEASUREMENT LOCATION ST1

Start Date	Start Time	End Time	Duration	SPL Rate	Freq Weight	Leq	Lmax	Lmin	L10	L50	L90
7/2/2025	10:06:00 AM	10:07:00 AM	00:01:00	Slow	dBA	70.3	72.5	69	71.9	70.5	69.4
7/2/2025	10:07:00 AM	10:08:00 AM	00:01:00	Slow	dBA	64.3	70.1	48.6	68.3	63.5	53.6
7/2/2025	10:08:00 AM	10:09:00 AM	00:01:00	Slow	dBA	68.6	77.8	51.5	72.4	65.7	55.9
7/2/2025	10:09:00 AM	10:10:00 AM	00:01:00	Slow	dBA	67	76.4	43.1	68.5	64.5	47.6
7/2/2025	10:10:00 AM	10:11:00 AM	00:01:00	Slow	dBA	67.4	73.6	47.1	70.5	67.4	53.7
7/2/2025	10:11:00 AM	10:12:00 AM	00:01:00	Slow	dBA	65.6	71.4	51.3	68.5	65	58.1
7/2/2025	10:12:00 AM	10:13:00 AM	00:01:00	Slow	dBA	68.4	73.5	57.9	71.5	67.9	61.3
7/2/2025	10:13:00 AM	10:14:00 AM	00:01:00	Slow	dBA	65.8	70.2	53	69	65	59.4
7/2/2025	10:14:00 AM	10:15:00 AM	00:01:00	Slow	dBA	68.9	76.9	58.4	72.1	67	62.2
7/2/2025	10:15:00 AM	10:16:00 AM	00:01:00	Slow	dBA	66.9	73	48.7	69.9	66.4	54.2
7/2/2025	10:16:00 AM	10:17:00 AM	00:01:00	Slow	dBA	66	74.2	53	69.5	63.5	57
7/2/2025	10:17:00 AM	10:18:00 AM	00:01:00	Slow	dBA	66.4	71.7	54.2	69.7	65.5	57.9
7/2/2025	10:18:00 AM	10:19:00 AM	00:01:00	Slow	dBA	68.6	74.1	50.1	72.1	67.6	58.8
7/2/2025	10:19:00 AM	10:20:00 AM	00:01:00	Slow	dBA	67.7	72.1	52.2	71	67.5	55.6
7/2/2025	10:20:00 AM	10:21:00 AM	00:01:00	Slow	dBA	67.7	72.1	49.6	70.6	66.9	59.6
7/2/2025	10:21:00 AM	10:22:00 AM	00:01:00	Slow	dBA	65.6	70.4	56.9	68.3	65.3	60
7/2/2025	10:22:00 AM	10:23:00 AM	00:01:00	Slow	dBA	67.4	75	53.1	71.4	64.7	56.8
7/2/2025	10:23:00 AM	10:24:00 AM	00:01:00	Slow	dBA	65.4	70.9	46.5	68.6	65.1	52.2
7/2/2025	10:24:00 AM	10:25:00 AM	00:01:00	Slow	dBA	69.6	74	53.6	72.7	68.9	61.7
7/2/2025	10:25:00 AM	10:26:00 AM	00:01:00	Slow	dBA	66.5	70.6	58.5	69.1	65.9	62.3
7/2/2025	10:26:00 AM	10:27:00 AM	00:01:00	Slow	dBA	68.5	77.2	46	72.4	66	47.6

MEASUREMENT LOCATION ST1	Leq			L10	L50	L90
Values Averaged Across Measurement Period:	67.5			70.6	66.5	60.7
Lowest Value Recorded Across Period (Lmin)			43.1			
Highest Value Recorded Across Period (Lmax)		77.8				

MEASUREMENT LOCATION ST2

Start Date	Start Time	End Time	Duration	SPL Rate	Freq Weight	Leq	Lmax	Lmin	L10	L50	L90
7/2/2025	10:41:00 AM	10:42:00 AM	00:01:00	Slow	dBA	40	47	32.6	42.3	37.8	33.5
7/2/2025	10:42:00 AM	10:43:00 AM	00:01:00	Slow	dBA	35.5	45.9	32.4	39.1	33.7	32.7
7/2/2025	10:43:00 AM	10:44:00 AM	00:01:00	Slow	dBA	43.9	58.3	32.6	39.9	34.2	32.9
7/2/2025	10:44:00 AM	10:45:00 AM	00:01:00	Slow	dBA	53.5	66.7	32.5	56.4	36	33.4
7/2/2025	10:45:00 AM	10:46:00 AM	00:01:00	Slow	dBA	41.5	58.2	31.9	38.2	33	32.2
7/2/2025	10:46:00 AM	10:47:00 AM	00:01:00	Slow	dBA	33.2	35	31.6	34.1	33.1	32.4
7/2/2025	10:47:00 AM	10:48:00 AM	00:01:00	Slow	dBA	40	52	32.7	42	33.8	33
7/2/2025	10:48:00 AM	10:49:00 AM	00:01:00	Slow	dBA	35.3	47.7	32.9	36.6	34.3	33.4
7/2/2025	10:49:00 AM	10:50:00 AM	00:01:00	Slow	dBA	34.4	37	33	35.6	34	33.4
7/2/2025	10:50:00 AM	10:51:00 AM	00:01:00	Slow	dBA	34	38.1	32.4	35.3	33.6	32.7
7/2/2025	10:51:00 AM	10:52:00 AM	00:01:00	Slow	dBA	35.2	42.7	32.1	36.7	34.7	32.6
7/2/2025	10:52:00 AM	10:53:00 AM	00:01:00	Slow	dBA	44.1	57.6	32.3	48.2	34.2	32.8
7/2/2025	10:53:00 AM	10:54:00 AM	00:01:00	Slow	dBA	40.9	53	33.9	44.3	37.1	34.6
7/2/2025	10:54:00 AM	10:55:00 AM	00:01:00	Slow	dBA	35.2	40.3	33	37.2	34.6	33.8
7/2/2025	10:55:00 AM	10:56:00 AM	00:01:00	Slow	dBA	35.5	41.5	33.4	37.6	34.7	33.7
7/2/2025	10:56:00 AM	10:57:00 AM	00:01:00	Slow	dBA	35.6	41.4	32.6	37.2	35	33.7
7/2/2025	10:57:00 AM	10:58:00 AM	00:01:00	Slow	dBA	42	52.6	33.2	42.8	37.9	34.1
7/2/2025	10:58:00 AM	10:59:00 AM	00:01:00	Slow	dBA	39.6	48.9	33.2	44.2	36	33.9
7/2/2025	10:59:00 AM	11:00:00 AM	00:01:00	Slow	dBA	41.6	53.1	33.2	47	34.6	33.7
7/2/2025	11:00:00 AM	11:01:00 AM	00:01:00	Slow	dBA	34.6	41.9	32.6	35.8	34.2	33.2
7/2/2025	11:01:00 AM	11:02:00 AM	00:01:00	Slow	dBA	42.3	55.8	33.6	45.6	36.8	34.3

MEASUREMENT LOCATION ST2	Leq			L10	L50	L90
Values Averaged Across Measurement Period:	42.9			45.6	35.2	33.4
Lowest Value Recorded Across Period (Lmin)			31.6			
Highest Value Recorded Across Period (Lmax)		66.7				

MEASUREMENT LOCATION ST3

Start Date	Start Time	End Time	Duration	SPL Rate	Freq Weight	Leq	Lmax	Lmin	L10	L50	L90
7/2/2025	11:09:00 AM	11:10:00 AM	00:01:00	Slow	dBA	44.5	52.9	39.1	48.1	41.7	39.5
7/2/2025	11:10:00 AM	11:11:00 AM	00:01:00	Slow	dBA	43.4	56.7	35.6	46.1	38.5	36.1
7/2/2025	11:11:00 AM	11:12:00 AM	00:01:00	Slow	dBA	38.5	47.7	35.5	40.5	36.8	36.1
7/2/2025	11:12:00 AM	11:13:00 AM	00:01:00	Slow	dBA	37.4	39.2	36	38.7	36.9	36.3
7/2/2025	11:13:00 AM	11:14:00 AM	00:01:00	Slow	dBA	38.1	44.7	36.2	39	37.4	36.4
7/2/2025	11:14:00 AM	11:15:00 AM	00:01:00	Slow	dBA	37.7	40.3	36.5	38.5	37.6	36.9
7/2/2025	11:15:00 AM	11:16:00 AM	00:01:00	Slow	dBA	40	46.4	36.2	44.3	37.6	36.5
7/2/2025	11:16:00 AM	11:17:00 AM	00:01:00	Slow	dBA	37	39.7	35.9	37.7	36.9	36.2
7/2/2025	11:17:00 AM	11:18:00 AM	00:01:00	Slow	dBA	37.6	40.7	35.8	39	37.2	36.3
7/2/2025	11:18:00 AM	11:19:00 AM	00:01:00	Slow	dBA	37	39	35.7	37.8	37	36
7/2/2025	11:19:00 AM	11:20:00 AM	00:01:00	Slow	dBA	37	40.3	35.7	37.6	36.8	36.1
7/2/2025	11:20:00 AM	11:21:00 AM	00:01:00	Slow	dBA	37.6	43.5	35.5	39.6	36.6	35.8
7/2/2025	11:21:00 AM	11:22:00 AM	00:01:00	Slow	dBA	43.1	48.9	36.2	47.1	41.3	36.9
7/2/2025	11:22:00 AM	11:23:00 AM	00:01:00	Slow	dBA	36.7	38.9	35.7	37.6	36.6	35.9
7/2/2025	11:23:00 AM	11:24:00 AM	00:01:00	Slow	dBA	37.3	42.3	35.4	38.7	37	36.1
7/2/2025	11:24:00 AM	11:25:00 AM	00:01:00	Slow	dBA	36	38.6	34.8	37.1	35.7	35.2
7/2/2025	11:25:00 AM	11:26:00 AM	00:01:00	Slow	dBA	47.2	54.7	34.4	52.7	36.7	34.8
7/2/2025	11:26:00 AM	11:27:00 AM	00:01:00	Slow	dBA	45.3	52.2	36.9	49.9	41.6	37.6
7/2/2025	11:27:00 AM	11:28:00 AM	00:01:00	Slow	dBA	55	62.4	39.8	59.3	51.4	41.4
7/2/2025	11:28:00 AM	11:29:00 AM	00:01:00	Slow	dBA	38.7	46.7	34.7	41.2	37.3	35.6
7/2/2025	11:29:00 AM	11:30:00 AM	00:01:00	Slow	dBA	44.1	58	36.2	45	38.3	36.6

MEASUREMENT LOCATION ST3

	Leq			L10	L50	L90
Values Averaged Across Measurement Period:	44.4			48.4	41.1	36.9
Lowest Value Recorded Across Period (Lmin)			34.4			
Highest Value Recorded Across Period (Lmax)		62.4				

MEASUREMENT LOCATION ST4

Start Date	Start Time	End Time	Duration	SPL Rate	Freq Weight	Leq	Lmax	Lmin	L10	L50	L90
7/2/2025	12:14:00 PM	12:15:00 PM	00:01:00	Slow	dBA	48.7	56.4	44.5	51.9	46.7	44.6
7/2/2025	12:15:00 PM	12:16:00 PM	00:01:00	Slow	dBA	45.5	47.3	43.9	46.4	45.4	44.5
7/2/2025	12:16:00 PM	12:17:00 PM	00:01:00	Slow	dBA	45.9	48.5	43.9	46.9	45.7	44.8
7/2/2025	12:17:00 PM	12:18:00 PM	00:01:00	Slow	dBA	45.4	46.8	44.1	46.1	45.3	44.6
7/2/2025	12:18:00 PM	12:19:00 PM	00:01:00	Slow	dBA	45.4	46.8	43.9	46.2	45.2	44.5
7/2/2025	12:19:00 PM	12:20:00 PM	00:01:00	Slow	dBA	45.7	50.6	43.9	46.4	45.6	44.7
7/2/2025	12:20:00 PM	12:21:00 PM	00:01:00	Slow	dBA	45.4	46.6	43.9	46.2	45.4	44.4
7/2/2025	12:21:00 PM	12:22:00 PM	00:01:00	Slow	dBA	45.6	46.9	43.6	46.3	45.6	44.5
7/2/2025	12:22:00 PM	12:23:00 PM	00:01:00	Slow	dBA	47.3	54.4	44.4	48.8	46.1	45.2
7/2/2025	12:23:00 PM	12:24:00 PM	00:01:00	Slow	dBA	45.7	49.5	44.2	46.4	45.6	44.7
7/2/2025	12:24:00 PM	12:25:00 PM	00:01:00	Slow	dBA	45.2	46.7	43.9	45.9	45.1	44.5
7/2/2025	12:25:00 PM	12:26:00 PM	00:01:00	Slow	dBA	45.3	46.8	43.4	46	45.2	44.5
7/2/2025	12:26:00 PM	12:27:00 PM	00:01:00	Slow	dBA	47.8	56.8	44.1	49.8	46.1	45
7/2/2025	12:27:00 PM	12:28:00 PM	00:01:00	Slow	dBA	50.2	59.4	44.7	52.9	48.3	45.8
7/2/2025	12:28:00 PM	12:29:00 PM	00:01:00	Slow	dBA	46.7	52.1	43.8	49.4	45.8	44.6
7/2/2025	12:29:00 PM	12:30:00 PM	00:01:00	Slow	dBA	45.7	48.9	44.2	46.4	45.7	44.8
7/2/2025	12:30:00 PM	12:31:00 PM	00:01:00	Slow	dBA	45.6	47.9	43.9	46.4	45.7	44.4
7/2/2025	12:31:00 PM	12:32:00 PM	00:01:00	Slow	dBA	45.6	47	44	46.4	45.6	44.7
7/2/2025	12:32:00 PM	12:33:00 PM	00:01:00	Slow	dBA	45.8	47.9	44.3	46.7	45.7	44.7
7/2/2025	12:33:00 PM	12:34:00 PM	00:01:00	Slow	dBA	45.7	48.3	44.2	46.5	45.6	44.7
7/2/2025	12:34:00 PM	12:35:00 PM	00:01:00	Slow	dBA	45.6	47.1	43.9	46.5	45.4	44.6

MEASUREMENT LOCATION ST4

	Leq			L10	L50	L90
Values Averaged Across Measurement Period:	46.4			47.9	45.8	44.7
Lowest Value Recorded Across Period (Lmin)			43.4			
Highest Value Recorded Across Period (Lmax)		59.4				

MEASUREMENT LOCATION ST5

Start Date	Start Time	End Time	Duration	SPL Rate	Freq Weight	Leq	Lmax	Lmin	L10	L50	L90
7/2/2025	1:09:00 PM	1:10:00 PM	00:01:00	Slow	dBA	47.2	50.9	45.1	48.6	47	46
7/2/2025	1:10:00 PM	1:11:00 PM	00:01:00	Slow	dBA	47.7	52.6	44.9	49.2	47.2	46.1
7/2/2025	1:11:00 PM	1:12:00 PM	00:01:00	Slow	dBA	47.2	53.8	44.3	48.3	46.6	45.2
7/2/2025	1:12:00 PM	1:13:00 PM	00:01:00	Slow	dBA	47.2	50.8	44.7	49	46.5	45.6
7/2/2025	1:13:00 PM	1:14:00 PM	00:01:00	Slow	dBA	51.3	58.2	45.8	53.9	50	46.8
7/2/2025	1:14:00 PM	1:15:00 PM	00:01:00	Slow	dBA	46.6	49.8	44.7	47.6	46.4	45.5
7/2/2025	1:15:00 PM	1:16:00 PM	00:01:00	Slow	dBA	48.2	53	45.3	50.3	47.4	46.1
7/2/2025	1:16:00 PM	1:17:00 PM	00:01:00	Slow	dBA	46.7	53.8	44.4	47.7	46	45.1
7/2/2025	1:17:00 PM	1:18:00 PM	00:01:00	Slow	dBA	47	52.6	44.5	48.8	46.4	45.4
7/2/2025	1:18:00 PM	1:19:00 PM	00:01:00	Slow	dBA	46.6	49.5	44.7	47.6	46.3	45.4
7/2/2025	1:19:00 PM	1:20:00 PM	00:01:00	Slow	dBA	46.5	48.2	44.7	47.3	46.3	45.5
7/2/2025	1:20:00 PM	1:21:00 PM	00:01:00	Slow	dBA	50.2	57.2	45.2	54.3	48	46
7/2/2025	1:21:00 PM	1:22:00 PM	00:01:00	Slow	dBA	46.4	48.3	44.5	47.5	46.3	45.3
7/2/2025	1:22:00 PM	1:23:00 PM	00:01:00	Slow	dBA	47.4	53.9	44.4	49.1	46.4	45.2
7/2/2025	1:23:00 PM	1:24:00 PM	00:01:00	Slow	dBA	46.5	48.3	44.6	47.6	46.3	45.3
7/2/2025	1:24:00 PM	1:25:00 PM	00:01:00	Slow	dBA	49.4	56.8	45	51.8	48.2	45.9
7/2/2025	1:25:00 PM	1:26:00 PM	00:01:00	Slow	dBA	46.8	51.8	44.4	47.8	46.4	45.5
7/2/2025	1:26:00 PM	1:27:00 PM	00:01:00	Slow	dBA	47.1	51.8	44.7	49	46.6	45.3
7/2/2025	1:27:00 PM	1:28:00 PM	00:01:00	Slow	dBA	47	54.1	44.2	48.9	46.3	45.2
7/2/2025	1:28:00 PM	1:29:00 PM	00:01:00	Slow	dBA	46.3	48	44.6	47.2	46.2	45.2
7/2/2025	1:29:00 PM	1:30:00 PM	00:01:00	Slow	dBA	49.7	51.8	46.2	51.2	48.8	46.4

MEASUREMENT LOCATION ST5

	Leq			L10	L50	L90
Values Averaged Across Measurement Period:	47.8			49.7	47.1	45.6
Lowest Value Recorded Across Period (Lmin)			44.2			
Highest Value Recorded Across Period (Lmax)		58.2				

MEASUREMENT LOCATION ST6

Start Date	Start Time	End Time	Duration	SPL Rate	Freq Weight	Leq	Lmax	Lmin	L10	L50	L90
7/2/2025	12:42:00 PM	12:43:00 PM	00:01:00	Slow	dBA	55.8	65.8	43.8	59.8	52.1	44.8
7/2/2025	12:43:00 PM	12:44:00 PM	00:01:00	Slow	dBA	47.3	49.8	44.2	48.8	47.3	45.5
7/2/2025	12:44:00 PM	12:45:00 PM	00:01:00	Slow	dBA	48.9	55.5	43.4	51.6	48.2	44.9
7/2/2025	12:45:00 PM	12:46:00 PM	00:01:00	Slow	dBA	46.4	49.2	43.2	47.9	46.3	44.6
7/2/2025	12:46:00 PM	12:47:00 PM	00:01:00	Slow	dBA	46.3	49.2	43	47.6	46.1	44.3
7/2/2025	12:47:00 PM	12:48:00 PM	00:01:00	Slow	dBA	49.3	53.2	45.3	51.4	49	46.3
7/2/2025	12:48:00 PM	12:49:00 PM	00:01:00	Slow	dBA	48.3	54.5	44.1	50.9	47.2	45.4
7/2/2025	12:49:00 PM	12:50:00 PM	00:01:00	Slow	dBA	45.8	49	42.9	47.1	45.9	43.9
7/2/2025	12:50:00 PM	12:51:00 PM	00:01:00	Slow	dBA	45.8	48.9	42.3	47.1	45.7	43.7
7/2/2025	12:51:00 PM	12:52:00 PM	00:01:00	Slow	dBA	46.2	48.8	42	47.9	46	43.9
7/2/2025	12:52:00 PM	12:53:00 PM	00:01:00	Slow	dBA	44.8	48.6	40.7	46.6	44.7	42.1
7/2/2025	12:53:00 PM	12:54:00 PM	00:01:00	Slow	dBA	46.3	48.7	42.5	47.8	46.2	44.1
7/2/2025	12:54:00 PM	12:55:00 PM	00:01:00	Slow	dBA	45.9	48.7	42.7	47.6	45.7	43.7
7/2/2025	12:55:00 PM	12:56:00 PM	00:01:00	Slow	dBA	45.6	49.3	42.1	47.2	45.5	43.3
7/2/2025	12:56:00 PM	12:57:00 PM	00:01:00	Slow	dBA	47.2	51.4	43.5	49	47	44.7
7/2/2025	12:57:00 PM	12:58:00 PM	00:01:00	Slow	dBA	46.1	49	42.5	47.6	45.9	43.8
7/2/2025	12:58:00 PM	12:59:00 PM	00:01:00	Slow	dBA	45.8	49.3	42.5	47.3	45.6	43.6
7/2/2025	12:59:00 PM	1:00:00 PM	00:01:00	Slow	dBA	45	48	41.6	46.6	45	42.7
7/2/2025	1:00:00 PM	1:01:00 PM	00:01:00	Slow	dBA	45	47.5	41.6	46.6	45	42.8
7/2/2025	1:01:00 PM	1:02:00 PM	00:01:00	Slow	dBA	48.2	52.9	43.4	50.2	47.5	45.1
7/2/2025	1:02:00 PM	1:03:00 PM	00:01:00	Slow	dBA	50.9	56.9	47.6	54.7	49.5	48.1

MEASUREMENT LOCATION ST6

	Leq			L10	L50	L90
Values Averaged Across Measurement Period:	48.2			51.0	47.2	44.6
Lowest Value Recorded Across Period (Lmin)			40.7			
Highest Value Recorded Across Period (Lmax)		65.8				

MEASUREMENT LOCATION ST7

Start Date	Start Time	End Time	Duration	SPL Rate	Freq Weight	Leq	Lmax	Lmin	L10	L50	L90
7/3/2025	2:49:00 PM	2:50:00 PM	00:01:00	Slow	dBA	40.7	48.7	32.3	45.2	36.9	33
7/3/2025	2:50:00 PM	2:51:00 PM	00:01:00	Slow	dBA	35.7	38.8	33	37.4	35.5	33.3
7/3/2025	2:51:00 PM	2:52:00 PM	00:01:00	Slow	dBA	42.6	46.8	38	44.8	42	38.8
7/3/2025	2:52:00 PM	2:53:00 PM	00:01:00	Slow	dBA	50.4	56.7	41.2	54.8	47.4	43.7
7/3/2025	2:53:00 PM	2:54:00 PM	00:01:00	Slow	dBA	42.3	46.6	37	45	42	38
7/3/2025	2:54:00 PM	2:55:00 PM	00:01:00	Slow	dBA	34.8	38.6	32.9	36.9	33.9	33.1
7/3/2025	2:55:00 PM	2:56:00 PM	00:01:00	Slow	dBA	34.7	37.4	32.9	36.9	33.8	33.2
7/3/2025	2:56:00 PM	2:57:00 PM	00:01:00	Slow	dBA	38.2	42.2	34.6	40.6	37.5	35.3
7/3/2025	2:57:00 PM	2:58:00 PM	00:01:00	Slow	dBA	37.1	48.6	32.3	38.1	34.9	32.8
7/3/2025	2:58:00 PM	2:59:00 PM	00:01:00	Slow	dBA	38.6	46.8	33.1	41.6	37.7	33.9
7/3/2025	2:59:00 PM	3:00:00 PM	00:01:00	Slow	dBA	34.5	36.1	32.5	35.6	34.5	33.5
7/3/2025	3:00:00 PM	3:01:00 PM	00:01:00	Slow	dBA	36.5	40.7	32.7	39.6	34.4	33.4
7/3/2025	3:01:00 PM	3:02:00 PM	00:01:00	Slow	dBA	37.3	42.8	33.2	40.7	36.7	33.6
7/3/2025	3:02:00 PM	3:03:00 PM	00:01:00	Slow	dBA	34.7	41.9	32.2	37.1	33.8	32.6
7/3/2025	3:03:00 PM	3:04:00 PM	00:01:00	Slow	dBA	37.2	44.3	32.9	40.2	35.8	33.3
7/3/2025	3:04:00 PM	3:05:00 PM	00:01:00	Slow	dBA	37.7	42.3	33.3	40.8	36	33.6
7/3/2025	3:05:00 PM	3:06:00 PM	00:01:00	Slow	dBA	48.3	52.9	38.9	50.8	48.1	41.3
7/3/2025	3:06:00 PM	3:07:00 PM	00:01:00	Slow	dBA	41.5	48.8	35.2	45.2	39.2	37
7/3/2025	3:07:00 PM	3:08:00 PM	00:01:00	Slow	dBA	37.7	41	33.9	39.2	37.5	34.9
7/3/2025	3:08:00 PM	3:09:00 PM	00:01:00	Slow	dBA	38.5	43.5	35.5	40.5	37.8	36.1
7/3/2025	3:09:00 PM	3:10:00 PM	00:01:00	Slow	dBA	40.4	52	32.9	41.3	38	33.3

MEASUREMENT LOCATION ST7

	Leq			L10	L50	L90
Values Averaged Across Measurement Period:	41.8			45.1	40.3	36.5
Lowest Value Recorded Across Period (Lmin)			32.2			
Highest Value Recorded Across Period (Lmax)		56.7				

24 Hour Ambient Noise Measurement Data

MEASUREMENT LOCATION LT1										
Start Date	Start Time	End Time	SPL Time Weight	Freq Weight	Leq	Lmax	Lmin	L10	L50	L90
7/2/2025	2:00:00 PM	3:00:00 PM	Slow	dBA	42.9	56	38.2	44.6	42.1	40.4
7/2/2025	3:00:00 PM	4:00:00 PM	Slow	dBA	43.3	57.2	38.7	45.1	41.8	40.5
7/2/2025	4:00:00 PM	5:00:00 PM	Slow	dBA	43	58.6	39.5	44.4	41.9	40.6
7/2/2025	5:00:00 PM	6:00:00 PM	Slow	dBA	43.8	59.6	38.4	45.9	41.3	40
7/2/2025	6:00:00 PM	7:00:00 PM	Slow	dBA	42.9	65	38.9	44.2	41.6	40.5
7/2/2025	7:00:00 PM	8:00:00 PM	Slow	dBA	45.7	64.1	39.7	47.8	42.7	41.3
7/2/2025	8:00:00 PM	9:00:00 PM	Slow	dBA	42.8	50.4	39.7	44	42.5	41.6
7/2/2025	9:00:00 PM	10:00:00 PM	Slow	dBA	41.8	50.1	39.5	42.2	41.5	40.9
7/2/2025	10:00:00 PM	11:00:00 PM	Slow	dBA	42	54.5	40	42.2	41.5	40.8
7/2/2025	11:00:00 PM	12:00:00 AM	Slow	dBA	42.2	48.8	40.6	42.8	42	41.4
7/3/2025	12:00:00 AM	1:00:00 AM	Slow	dBA	42.4	54.3	40.3	42.9	41.9	41.3
7/3/2025	1:00:00 AM	2:00:00 AM	Slow	dBA	41.8	51.7	40.2	42.3	41.7	41.1
7/3/2025	2:00:00 AM	3:00:00 AM	Slow	dBA	42.1	48.9	40	43.1	41.9	40.9
7/3/2025	3:00:00 AM	4:00:00 AM	Slow	dBA	42.9	48	40.8	44	42.6	41.8
7/3/2025	4:00:00 AM	5:00:00 AM	Slow	dBA	42.7	45.9	40.9	43.5	42.5	41.9
7/3/2025	5:00:00 AM	6:00:00 AM	Slow	dBA	46.3	55.9	41.4	50.4	43.5	42.4
7/3/2025	6:00:00 AM	7:00:00 AM	Slow	dBA	45.3	66.2	40.8	46.4	43.3	42.2
7/3/2025	7:00:00 AM	8:00:00 AM	Slow	dBA	45.7	62.9	41.6	48.3	43.7	42.7
7/3/2025	8:00:00 AM	9:00:00 AM	Slow	dBA	45.7	58.3	41.8	48.5	44.1	42.9
7/3/2025	9:00:00 AM	10:00:00 AM	Slow	dBA	43.8	57.2	40.5	45	43.3	42.2
7/3/2025	10:00:00 AM	11:00:00 AM	Slow	dBA	44	57.8	40.8	45.4	43.3	42
7/3/2025	11:00:00 AM	12:00:00 PM	Slow	dBA	45.7	60.8	39.6	47	43.7	42.1
7/3/2025	12:00:00 PM	1:00:00 PM	Slow	dBA	43.6	57.1	39.8	44.9	43	41.5
7/3/2025	1:00:00 PM	2:00:00 PM	Slow	dBA	45.8	57.7	39.4	48.2	43.8	42
Daytime Hourly L_{eq} Range (7 AM - 10 PM):					42 -46 dBA					
Nighttime Hourly L_{eq} Range (10 PM - 7 AM):					42 - 46 dBA					
L_{dn}					50 dBA					

24 Hour Ambient Noise Measurement Data

MEASUREMENT LOCATION LT2

Start Date	Start Time	End Time	SPL Time Weight	Freq Weight	Leq	Lmax	Lmin	L10	L50	L90
7/2/2025	3:00:00 PM	4:00:00 PM	Slow	dBA	38.6	51.7	33.9	40.3	37.8	36.1
7/2/2025	4:00:00 PM	5:00:00 PM	Slow	dBA	39	52.9	34.4	40.8	37.5	36.2
7/2/2025	5:00:00 PM	6:00:00 PM	Slow	dBA	38.7	54.3	35.2	40.1	37.6	36.3
7/2/2025	6:00:00 PM	7:00:00 PM	Slow	dBA	39.5	55.3	34.1	41.6	37	35.7
7/2/2025	7:00:00 PM	8:00:00 PM	Slow	dBA	38.6	60.7	34.6	39.9	37.3	36.2
7/2/2025	8:00:00 PM	9:00:00 PM	Slow	dBA	41.4	59.8	35.4	43.5	38.4	37
7/2/2025	9:00:00 PM	10:00:00 PM	Slow	dBA	38.5	46.1	35.4	39.7	38.2	37.3
7/2/2025	10:00:00 PM	11:00:00 PM	Slow	dBA	37.5	45.8	35.2	37.9	37.2	36.6
7/2/2025	11:00:00 PM	12:00:00 AM	Slow	dBA	37.7	50.2	35.7	37.9	37.2	36.5
7/2/2025	12:00:00 AM	1:00:00 AM	Slow	dBA	37.9	44.5	36.3	38.5	37.7	37.1
7/3/2025	1:00:00 AM	2:00:00 AM	Slow	dBA	38.1	50	36	38.6	37.6	37
7/3/2025	2:00:00 AM	3:00:00 AM	Slow	dBA	37.5	47.4	35.9	38	37.4	36.8
7/3/2025	3:00:00 AM	4:00:00 AM	Slow	dBA	37.8	44.6	35.7	38.8	37.6	36.6
7/3/2025	4:00:00 AM	5:00:00 AM	Slow	dBA	38.6	43.7	36.5	39.7	38.3	37.5
7/3/2025	5:00:00 AM	6:00:00 AM	Slow	dBA	38.4	41.6	36.6	39.2	38.2	37.6
7/3/2025	6:00:00 AM	7:00:00 AM	Slow	dBA	42	51.6	37.1	46.1	39.2	38.1
7/3/2025	7:00:00 AM	8:00:00 AM	Slow	dBA	41	61.9	36.5	42.1	39	37.9
7/3/2025	8:00:00 AM	9:00:00 AM	Slow	dBA	41.4	58.6	37.3	44	39.4	38.4
7/3/2025	9:00:00 AM	10:00:00 AM	Slow	dBA	41.4	54	37.5	44.2	39.8	38.6
7/3/2025	10:00:00 AM	11:00:00 AM	Slow	dBA	39.5	52.9	36.2	40.7	39	37.9
7/3/2025	11:00:00 AM	12:00:00 PM	Slow	dBA	39.7	53.5	36.5	41.1	39	37.7
7/3/2025	12:00:00 PM	1:00:00 PM	Slow	dBA	41.4	56.5	35.3	42.7	39.4	37.8
7/3/2025	1:00:00 PM	2:00:00 PM	Slow	dBA	39.3	52.8	35.5	40.6	38.7	37.2
7/3/2025	2:00:00 PM	3:00:00 PM	Slow	dBA	41.5	53.4	35.1	43.9	39.5	37.7

Daytime Hourly L_{eq} Range (7 AM - 10 PM):	38 - 41 dBA
Nighttime Hourly L_{eq} Range (10 PM - 7 AM):	37 - 42 dBA
L_{dn}	45 dBA

APPENDIX C

CONSTRUCTION NOISE MODELING DATA

Construction Activity	Equipment	Total Equipment Qty	Reference Level @ 50 ft. from FHWA RCNM 2 Table	Client Equipment Description, Data Source and/or Notes	Source to NSR Distance (ft.)	Temporary Barrier Insertion Loss (dB)	Additional Noise Reduction	Distance-Adjusted Leq	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 8-hour Leq
1. Linear, Grubbing & Land Clearing	dozer	2	80.0	Crawler Tractor	2320	0.1		39.5	8	480	43
	excavator	2	75.9	Excavator	2320	0.1		35.4	8	480	38
								Total for 1. Linear, Grubbing & Land Clearing Phase:			44.0
2 Linear, Grading & Excavation	dozer	2	80.0	Crawler Tractor	2320	0.1		39.5	8	480	43
	Excavator	6	75.9	Excavator	2320	0.1		35.4	8	480	43
	grader (passby)	2	78.5	Grader	2320	0.1		38.1	8	480	41
	compactor (roller)	4	75.4	Roller	2320	0.1		35.0	8	480	41
	dozer	2	80.0	Rubber Tired Loaders	2320	0.1		39.5	8	480	43
	Scraper	4	84.4	Scraper	2320	0.1		48.0	8	480	54
	backhoe	4	75.8	Tractor	2320	0.1		35.4	8	480	41
								Total for 2 Linear, Grading & Excavation Phase:			55.4
3 Linear, Drainage, Utilities, & Sub-Grade	compressor	2	65.8	Air Compressor	2320	0.1		25.2	8	480	28
	generator	2	67.1	Generator Set	2320	0.1		26.6	8	480	30
	grader (passby)	2	78.5	Grader	2320	0.1		38.1	8	480	41
	compactor (plate)	2	74.6	Plate Compactor	2320	0.1		34.2	8	480	37
	pump	2	72.8	Pump	2320	0.1		32.3	8	480	35
	dozer	2	80.0	Rough Terrain Forklift	2320	0.1		39.5	8	480	43
	scraper	4	84.4	Scraper	2320	0.1		48.0	8	480	54
	backhoe	4	75.8	Tractor	2320	0.1		35.4	8	480	41
								Total for 3 Linear, Drainage, Utilities, & Sub-Grade Phase:			54.9
4 Linear, Paving	Paving - Asphalt (Paver + D	2	81.8	Paver	2320	0.1		41.3	8	480	44
	Paving - Asphalt (Paver + N	2	82.8	Paving Equipment	2320	0.1		42.4	8	480	45
	Compactor (Roller)	6	75.4	Roller	2320	0.1		35.0	8	480	43
	backhoe	4	75.8	Tractor	2320	0.1		35.4	8	480	41
								Total for 4 Linear, Paving Phase:			49.8
5 Demolition	concrete saw	1	85.4	Concrete Saw	2320	0.1		45.0	8	480	45
	excavator	3	75.9	Excavator	2320	0.1		35.4	8	480	40
	dozer	2	80.0	Rubber Tired Dozer	2320	0.1		39.5	8	480	43
								Total for 5 Demolition Phase:			45.9
6 Site Preparation	dozer	3	80.0	rubber tired dozer	2320	0.1		39.5	8	480	44
	backhoe	4	75.8	tractor	2320	0.1		35.4	8	480	41
								Total for 6 Site Preparation Phase:			46.1
7 Grading	excavator	2	75.9	Excavator	2320	0.1		35.4	8	480	38
	grader (passby)	1	78.5	Grader	2320	0.1		38.1	8	480	38
	dozer	1	80.0	Rubber Tired Dozers	2320	0.1		39.5	8	480	40
	scraper	2	84.4	Scrapers	2320	0.1		48.0	8	480	51
	backhoe	2	75.8	Tractor	2320	0.1		35.4	8	480	38
								Total for 7 Grading Phase:			51.9
8 Building Construction	crane	1	74.2	Crane	2320	0.1		33.8	8	480	34
	man lift	3	72.1	Forklift	2320	0.1		31.6	8	480	36
	generator	1	67.1	Generator Set	2320	0.1		26.6	8	480	27
	backhoe	3	75.8	Tractor	2320	0.1		35.4	8	480	40
	welding machine	1	71.2	Welders	2320	0.1		30.7	8	480	31
								Total for 8 Building Construction Phase:			42.7
9 Paving	Paving - Asphalt (Paver + D	2	81.8	Pavers	2320	0.1		41.3	8	480	44
	Paving - Asphalt (Paver + N	2	82.8	Paving Equipment	2320	0.1		42.4	8	480	45
	compactor (roller)	2	75.4	Rollers	2320	0.1		35.0	8	480	38
								Total for 9 Paving Phase:			48.3
10 Architectural Coating	compressor	1	65.8	Air Compressor	2320	0.1		25.2	8	480	25
								Total for 10 Architectural Coating Phase:			25.2

Construction Activity	Equipment	Total Equipment Qty	Reference Level @ 50 ft, from FHWA RCNM 2 Table	CSand Equipment Description, Data Source and/or Notes	Source to NSR Distance (ft.)	Temporary Barrier Insertion Loss (dB)	Additional Noise Reduction	Distance-Adjusted Leq	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 1-hour Leq
1. Linear, Grubbing & Land Clearing	dozer	2	80.0	Crawler Tractor	5100	0.1		29.8	8	480	33
	excavator	2	75.9	Excavator	5100	0.1		25.8	8	480	29
								Total for 1. Linear, Grubbing & Land Clearing Phase:			34.3
2 Linear, Grading & Excavation	dozer	2	80.0	Crawler Tractor	5100	0.1		29.8	8	480	33
	Excavator	6	75.9	Excavator	5100	0.1		25.8	8	480	34
	grader (passby)	2	78.5	Grader	5100	0.1		28.4	8	480	31
	compactor (roller)	4	75.4	Roller	5100	0.1		25.3	8	480	31
	dozer	2	80.0	Rubber Tired Loaders	5100	0.1		29.8	8	480	33
	Scraper	4	84.4	Scraper	5100	0.1		34.3	8	480	44
	backhoe	4	75.8	Tractor	5100	0.1		25.7	8	480	32
								Total for 2 Linear, Grading & Excavation Phase:			45.7
3 Linear, Drainage, Utilities, & Sub-Grade	compressor	2	65.6	Air Compressor	5100	0.1		15.5	8	480	19
	generator	2	67.1	Generator Set	5100	0.1		17.0	8	480	20
	grader (passby)	2	78.5	Grader	5100	0.1		28.4	8	480	31
	compactor (plate)	2	74.6	Plate Compactor	5100	0.1		24.5	8	480	28
	pump	2	72.8	Pump	5100	0.1		22.7	8	480	26
	dozer	2	80.0	Rough Terrain Forklift	5100	0.1		29.8	8	480	33
	scraper	4	84.4	Scraper	5100	0.1		34.3	8	480	44
	backhoe	4	75.8	Tractor	5100	0.1		25.7	8	480	32
								Total for 3 Linear, Drainage, Utilities, & Sub-Grade Phase:			45.2
4 Linear, Paving	Paving - Asphalt (Paver + D	2	81.8	Paver	5100	0.1		31.7	8	480	35
	Paving - Asphalt (Paver + N	2	82.8	Paving Equipment	5100	0.1		32.7	8	480	36
	Compactor (Roller)	6	75.4	Roller	5100	0.1		25.3	8	480	33
	backhoe	4	75.8	Tractor	5100	0.1		25.7	8	480	32
								Total for 4 Linear, Paving Phase:			40.1
5 Demolition	concrete saw	1	85.4	Concrete Saw	5100	0.1		35.3	8	480	35
	excavator	3	75.9	Excavator	5100	0.1		25.8	8	480	31
	dozer	2	80.0	Rubber Tired Dozer	5100	0.1		29.9	8	480	33
								Total for 5 Demolition Phase:			35.3
6 Site Preparation	dozer	3	80.0	rubber tired dozer	5100	0.1		29.8	8	480	35
	backhoe	4	75.8	tractor	5100	0.1		25.7	8	480	32
								Total for 6 Site Preparation Phase:			36.4
7 Grading	excavator	2	75.9	Excavator	5100	0.1		25.8	8	480	29
	grader (passby)	1	78.5	Grader	5100	0.1		28.4	8	480	28
	dozer	1	80.0	Rubber Tired Dozers	5100	0.1		29.8	8	480	30
	scraper	2	84.4	Scrapers	5100	0.1		34.3	8	480	41
	backhoe	2	75.8	Tractor	5100	0.1		25.7	8	480	29
								Total for 7 Grading Phase:			42.2
8 Building Construction	crane	1	74.2	Crane	5100	0.1		24.1	8	480	24
	man lift	3	72.1	Forklift	5100	0.1		22.0	8	480	27
	generator	1	67.1	Generator Set	5100	0.1		17.0	8	480	17
	backhoe	3	75.8	Tractor	5100	0.1		25.7	8	480	30
	welding machine	1	71.2	Welders	5100	0.1		21.1	8	480	21
								Total for 8 Building Construction Phase:			33.1
9 Paving	Paving - Asphalt (Paver + D	2	81.8	Pavers	5100	0.1		31.7	8	480	35
	Paving - Asphalt (Paver + N	2	82.8	Paving Equipment	5100	0.1		32.7	8	480	36
	compactor (roller)	2	75.4	Rollers	5100	0.1		25.3	8	480	28
								Total for 9 Paving Phase:			38.7
10 Architectural Coating	compressor	1	65.6	Air Compressor	5100	0.1		15.5	8	480	16
								Total for 10 Architectural Coating Phase:			15.5

Construction Activity	Equipment	Total Equipment Qty	Reference Level @ 50 ft. from FHWA RCNM 2 Table	Client Equipment Description, Data Source and/or Notes	Source to NSR Distance (ft.)	Temporary Barrier Insertion Loss (dB)	Additional Noise Reduction	Distance-Adjusted Leq	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 8-hour Leq
1. Linear, Grubbing & Land Clearing	dozer	2	80.0	Crawler Tractor	17000	0.1		7.5	8	480	10
	excavator	2	75.9	Excavator	17000	0.1		3.4	8	480	6
								Total for 1. Linear, Grubbing & Land Clearing Phase:			11.9
2 Linear, Grading & Excavation	dozer	2	80.0	Crawler Tractor	17000	0.1		7.5	8	480	10
	Excavator	6	75.9	Excavator	17000	0.1		3.4	8	480	11
	grader (passby)	2	78.5	Grader	17000	0.1		6.0	8	480	9
	compactor (roller)	4	75.4	Roller	17000	0.1		2.9	8	480	9
	dozer	2	80.0	Rubber Tired Loaders	17000	0.1		7.5	8	480	10
	Scraper	4	84.4	Scraper	17000	0.1		15.9	8	480	22
	backhoe	4	75.8	Tractor	17000	0.1		3.3	8	480	9
								Total for 2 Linear, Grading & Excavation Phase:			23.3
3 Linear, Drainage, Utilities, & Sub-Grade	compressor	2	65.6	Air Compressor	17000	0.1		-6.8	8	480	-4
	generator	2	67.1	Generator Set	17000	0.1		-5.4	8	480	-2
	grader (passby)	2	78.5	Grader	17000	0.1		6.0	8	480	9
	compactor (plate)	2	74.6	Plate Compactor	17000	0.1		2.2	8	480	5
	pump	2	72.8	Pump	17000	0.1		0.3	8	480	3
	dozer	2	80.0	Rough Terrain Forklift	17000	0.1		7.5	8	480	10
	scraper	4	84.4	Scraper	17000	0.1		15.9	8	480	22
	backhoe	4	75.8	Tractor	17000	0.1		3.3	8	480	9
								Total for 3 Linear, Drainage, Utilities, & Sub-Grade Phase:			22.8
4 Linear, Paving	Paving - Asphalt (Paver + D	2	81.8	Paver	17000	0.1		9.3	8	480	12
	Paving - Asphalt (Paver + R	2	82.8	Paving Equipment	17000	0.1		10.4	8	480	13
	Compactor (Roller)	6	75.4	Roller	17000	0.1		2.9	8	480	11
	backhoe	4	75.8	Tractor	17000	0.1		3.3	8	480	9
								Total for 4 Linear, Paving Phase:			17.7
5 Demolition	concrete saw	1	85.4	Concrete Saw	17000	0.1		13.0	8	480	13
	excavator	3	75.9	Excavator	17000	0.1		3.4	8	480	8
	dozer	2	80.0	Rubber Tired Dozer	17000	0.1		7.5	8	480	10
								Total for 5 Demolition Phase:			13.8
6 Site Preparation	dozer	3	80.0	rubber tired dozer	17000	0.1		7.5	8	480	12
	backhoe	4	75.8	tractor	17000	0.1		3.3	8	480	9
								Total for 6 Site Preparation Phase:			14.0
7 Grading	excavator	2	75.9	Excavator	17000	0.1		3.4	8	480	6
	grader (passby)	1	78.5	Grader	17000	0.1		6.0	8	480	6
	dozer	1	80.0	Rubber Tired Dozers	17000	0.1		7.5	8	480	7
	scraper	2	84.4	Scrapers	17000	0.1		15.9	8	480	19
	backhoe	2	75.8	Tractor	17000	0.1		3.3	8	480	6
								Total for 7 Grading Phase:			19.8
8 Building Construction	crane	1	74.2	Crane	17000	0.1		1.7	8	480	2
	man lift	3	72.1	Forklift	17000	0.1		-0.4	8	480	4
	generator	1	67.1	Generator Set	17000	0.1		-5.4	8	480	-5
	backhoe	3	75.8	Tractor	17000	0.1		3.3	8	480	8
	welding machine	1	71.2	Welders	17000	0.1		-1.3	8	480	-1
								Total for 8 Building Construction Phase:			10.7
9 Paving	Paving - Asphalt (Paver + D	2	81.8	Pavers	17000	0.1		9.3	8	480	12
	Paving - Asphalt (Paver + R	2	82.8	Paving Equipment	17000	0.1		10.4	8	480	13
	compactor (roller)	2	75.4	Rollers	17000	0.1		2.9	8	480	6
								Total for 9 Paving Phase:			16.3
10 Architectural Coating	compressor	1	65.6	Air Compressor	17000	0.1		-6.8	8	480	-7
								Total for 10 Architectural Coating Phase:			0.0

Construction Activity	Equipment	Total Equipment Qty	Reference Level @ 50 ft. from FHWA RCNM 2 Table	CSort Equipment Description, Data Source and/or Notes	Source to NSR Distance (ft.)	Temporary Barrier Insertion Loss (dB)	Additional Noise Reduction	Distance-Adjusted Leq	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 1-hour Leq
1. Linear, Grubbing & Land Clearing	dozer	2	80.0	Crawler Tractor	16850	0.1		7.7	8	480	11
	excavator	2	75.9	Excavator	16850	0.1		3.6	8	480	7
								Total for 1. Linear, Grubbing & Land Clearing Phase:			12.1
2 Linear, Grading & Excavation	dozer	2	80.0	Crawler Tractor	16850	0.1		7.7	8	480	11
	Excavator	6	75.9	Excavator	16850	0.1		3.6	8	480	11
	grader (passby)	2	78.5	Grader	16850	0.1		6.3	8	480	9
	compactor (roller)	4	75.4	Roller	16850	0.1		3.1	8	480	9
	dozer	2	80.0	Rubber Tired Loaders	16850	0.1		7.7	8	480	11
	Scraper	4	84.4	Scraper	16850	0.1		16.1	8	480	22
	backhoe	4	75.8	Tractor	16850	0.1		3.6	8	480	10
								Total for 2 Linear, Grading & Excavation Phase:			23.6
3 Linear, Drainage, Utilities, & Sub-Grade	compressor	2	65.8	Air Compressor	16850	0.1		-6.6	8	480	-4
	generator	2	67.1	Generator Set	16850	0.1		-5.2	8	480	-2
	grader (passby)	2	78.5	Grader	16850	0.1		6.3	8	480	9
	compactor (plate)	2	74.6	Plate Compactor	16850	0.1		2.4	8	480	5
	pump	2	72.8	Pump	16850	0.1		0.5	8	480	4
	dozer	2	80.0	Rough Terrain Forklift	16850	0.1		7.7	8	480	11
	scraper	4	84.4	Scraper	16850	0.1		16.1	8	480	22
	backhoe	4	75.8	Tractor	16850	0.1		3.6	8	480	10
								Total for 3 Linear, Drainage, Utilities, & Sub-Grade Phase:			23.0
4 Linear, Paving	Paving - Asphalt (Paver + C	2	81.8	Paver	16850	0.1		9.5	8	480	13
	Paving - Asphalt (Paver + N	2	82.8	Paving Equipment	16850	0.1		10.6	8	480	14
	Compactor (Roller)	6	75.4	Roller	16850	0.1		3.1	8	480	11
	backhoe	4	75.8	Tractor	16850	0.1		3.6	8	480	10
								Total for 4 Linear, Paving Phase:			17.9
5 Demolition	concrete saw	1	85.4	Concrete Saw	16850	0.1		13.2	8	480	13
	excavator	3	75.9	Excavator	16850	0.1		3.6	8	480	8
	dozer	2	80.0	Rubber Tired Dozer	16850	0.1		7.7	8	480	11
								Total for 5 Demolition Phase:			13.2
6 Site Preparation	dozer	3	80.0	rubber tired dozer	16850	0.1		7.7	8	480	12
	backhoe	4	75.8	tractor	16850	0.1		3.6	8	480	10
								Total for 6 Site Preparation Phase:			14.3
7 Grading	excavator	2	75.9	Excavator	16850	0.1		3.6	8	480	7
	grader (passby)	1	78.5	Grader	16850	0.1		6.3	8	480	6
	dozer	1	80.0	Rubber Tired Dozers	16850	0.1		7.7	8	480	8
	scraper	2	84.4	Scrapers	16850	0.1		16.1	8	480	19
	backhoe	2	75.8	Tractor	16850	0.1		3.6	8	480	7
								Total for 7 Grading Phase:			20.1
8 Building Construction	crane	1	74.2	Crane	16850	0.1		1.9	8	480	2
	man lift	3	72.1	Forklift	16850	0.1		-0.2	8	480	5
	generator	1	67.1	Generator Set	16850	0.1		-5.2	8	480	-5
	backhoe	3	75.8	Tractor	16850	0.1		3.6	8	480	8
	welding machine	1	71.2	Welders	16850	0.1		-1.1	8	480	-1
								Total for 8 Building Construction Phase:			10.9
9 Paving	Paving - Asphalt (Paver + C	2	81.8	Pavers	16850	0.1		9.5	8	480	13
	Paving - Asphalt (Paver + N	2	82.8	Paving Equipment	16850	0.1		10.6	8	480	14
	compactor (roller)	2	75.4	Rollers	16850	0.1		3.1	8	480	6
								Total for 9 Paving Phase:			16.5
10 Architectural Coating	compressor	1	65.8	Air Compressor	16850	0.1		-6.6	8	480	-7
								Total for 10 Architectural Coating Phase:			0.9

Construction Activity	Equipment	Total Equipment Qty	Reference Level @ 50 ft. from FHWA RCNM 2 Table	Client Equipment Description, Data Source and/or Notes	Source to NSR Distance (ft.)	Temporary Barrier Insertion Loss (dB)	Additional Noise Reduction	Distance Adjusted Leq	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 8-hour Leq
1. Linear, Grubbing & Land Clearing	dozer	2	80.0	Crawler Tractor	18000	0.1		6.0	8	480	9
	excavator	2	75.9	Excavator	18000	0.1		1.9	8	480	5
								Total for 1. Linear, Grubbing & Land Clearing Phase:			10.4
2 Linear, Grading & Excavation	dozer	2	80.0	Crawler Tractor	18000	0.1		6.0	8	480	9
	Excavator	6	75.9	Excavator	18000	0.1		1.9	8	480	10
	grader (passby)	2	78.5	Grader	18000	0.1		4.5	8	480	8
	compactor (roller)	4	75.4	Roller	18000	0.1		1.4	8	480	7
	dozer	2	80.0	Rubber Tired Loaders	18000	0.1		6.0	8	480	9
	Scraper	4	88.4	Scraper	18000	0.1		14.4	8	480	20
	backhoe	4	75.8	Tractor	18000	0.1		1.8	8	480	8
								Total for 2 Linear, Grading & Excavation Phase:			21.3
3 Linear, Drainage, Utilities, & Sub-Grade	compressor	2	65.6	Air Compressor	18000	0.1		-8.3	8	480	-5
	generator	2	67.1	Generator Set	18000	0.1		-6.9	8	480	-4
	grader (passby)	2	78.5	Grader	18000	0.1		4.5	8	480	6
	compactor (plate)	2	74.6	Plate Compactor	18000	0.1		0.7	8	480	4
	pump	2	72.8	Pump	18000	0.1		-1.2	8	480	2
	dozer	2	80.0	Rough Terrain Forklift	18000	0.1		6.0	8	480	9
	scraper	4	88.4	Scraper	18000	0.1		14.4	8	480	20
	backhoe	4	75.8	Tractor	18000	0.1		1.8	8	480	8
								Total for 3 Linear, Drainage, Utilities, & Sub-Grade Phase:			21.3
4 Linear, Paving	Paving - Asphalt (Paver + D	2	81.8	Paver	18000	0.1		7.8	8	480	11
	Paving - Asphalt (Paver + N	2	82.8	Paving Equipment	18000	0.1		8.9	8	480	12
	Compactor (Roller)	6	75.4	Roller	18000	0.1		1.4	8	480	9
	backhoe	4	75.8	Tractor	18000	0.1		1.8	8	480	8
								Total for 4 Linear, Paving Phase:			16.2
5 Demolition	concrete saw	1	85.4	Concrete Saw	18000	0.1		11.5	8	480	11
	excavator	3	75.9	Excavator	18000	0.1		1.9	8	480	7
	dozer	2	80.0	Rubber Tired Dozer	18000	0.1		6.0	8	480	9
								Total for 5 Demolition Phase:			11.5
6 Site Preparation	dozer	3	80.0	rubber tired dozer	18000	0.1		6.0	8	480	11
	backhoe	4	75.8	tractor	18000	0.1		1.8	8	480	8
								Total for 6 Site Preparation Phase:			12.5
7 Grading	excavator	2	75.9	Excavator	18000	0.1		1.9	8	480	5
	grader (passby)	1	78.5	Grader	18000	0.1		4.5	8	480	5
	dozer	1	80.0	Rubber Tired Dozers	18000	0.1		6.0	8	480	6
	scraper	2	88.4	Scrapers	18000	0.1		14.4	8	480	17
	backhoe	2	75.8	Tractor	18000	0.1		1.8	8	480	5
								Total for 7 Grading Phase:			18.3
8 Building Construction	crane	1	74.2	Crane	18000	0.1		0.2	8	480	0
	man lift	3	72.1	Forklift	18000	0.1		-1.9	8	480	3
	generator	1	67.1	Generator Set	18000	0.1		-6.9	8	480	-7
	backhoe	3	75.8	Tractor	18000	0.1		1.8	8	480	7
	welding machine	1	71.2	Welders	18000	0.1		-2.8	8	480	-3
								Total for 8 Building Construction Phase:			9.2
9 Paving	Paving - Asphalt (Paver + D	2	81.8	Pavers	18000	0.1		7.8	8	480	11
	Paving - Asphalt (Paver + N	2	82.8	Paving Equipment	18000	0.1		8.9	8	480	12
	compactor (roller)	2	75.4	Rollers	18000	0.1		1.4	8	480	4
								Total for 9 Paving Phase:			14.8
10 Architectural Coating	compressor	1	65.6	Air Compressor	18000	0.1		-8.3	8	480	-8
								Total for 10 Architectural Coating Phase:			0.0

Construction Activity	Equipment	Total Equipment Qty	Reference Level @ 50 ft. from FHWA RCNM 2 Table	Client Equipment Description, Data Source and/or Notes	Source to NSR Distance (ft.)	Temporary Barrier Insertion Loss (dB)	Additional Noise Reduction	Distance-Adjusted Leq	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 1-hour Leq
1. Linear, Grubbing & Land Clearing	dozer	2	80.0	Crawler Tractor	18950	0.1		4.6	8	480	8
	excavator	2	75.9	Excavator	18950	0.1		0.5	8	480	3
								Total for 1. Linear, Grubbing & Land Clearing Phase:			8.9
2 Linear, Grading & Excavation	dozer	2	80.0	Crawler Tractor	18950	0.1		4.6	8	480	8
	Excavator	6	75.9	Excavator	18950	0.1		0.5	8	480	8
	grader (passby)	2	78.5	Grader	18950	0.1		3.1	8	480	6
	compactor (roller)	4	75.4	Roller	18950	0.1		0.0	8	480	6
	dozer	2	80.0	Rubber Tired Loaders	18950	0.1		4.6	8	480	8
	Scraper	4	84.4	Scraper	18950	0.1		13.0	8	480	19
	backhoe	4	75.8	Tractor	18950	0.1		0.4	8	480	6
								Total for 2 Linear, Grading & Excavation Phase:			20.5
3 Linear, Drainage, Utilities, & Sub-Grade	compressor	2	65.8	Air Compressor	18950	0.1		-9.7	8	480	-7
	generator	2	67.1	Generator Set	18950	0.1		-8.3	8	480	-5
	grader (passby)	2	78.5	Grader	18950	0.1		3.1	8	480	6
	compactor (plate)	2	74.6	Plate Compactor	18950	0.1		-0.7	8	480	2
	pump	2	72.6	Pump	18950	0.1		-2.6	8	480	0
	dozer	2	80.0	Rough Terrain Forklift	18950	0.1		4.6	8	480	8
	scraper	4	84.4	Scraper	18950	0.1		13.0	8	480	19
	backhoe	4	75.8	Tractor	18950	0.1		0.4	8	480	6
								Total for 3 Linear, Drainage, Utilities, & Sub-Grade Phase:			19.9
4 Linear, Paving	Paving - Asphalt (Paver + D	2	81.8	Paver	18950	0.1		6.4	8	480	9
	Paving - Asphalt (Paver + N	2	82.8	Paving Equipment	18950	0.1		7.5	8	480	10
	Compactor (Roller)	6	75.4	Roller	18950	0.1		0.0	8	480	8
	backhoe	4	75.8	Tractor	18950	0.1		0.4	8	480	6
								Total for 4 Linear, Paving Phase:			14.8
5 Demolition	concrete saw	1	85.4	Concrete Saw	18950	0.1		10.1	8	480	10
	excavator	3	75.9	Excavator	18950	0.1		0.5	8	480	5
	dozer	2	80.0	Rubber Tired Dozer	18950	0.1		4.6	8	480	8
								Total for 5 Demolition Phase:			10.1
6 Site Preparation	dozer	3	80.0	rubber tired dozer	18950	0.1		4.6	8	480	9
	backhoe	4	75.8	tractor	18950	0.1		0.4	8	480	6
								Total for 6 Site Preparation Phase:			11.1
7 Grading	excavator	2	75.9	Excavator	18950	0.1		0.5	8	480	3
	grader (passby)	1	78.5	Grader	18950	0.1		3.1	8	480	3
	dozer	1	80.0	Rubber Tired Dozers	18950	0.1		4.6	8	480	5
	scraper	2	84.4	Scrapers	18950	0.1		13.0	8	480	16
	backhoe	2	75.8	Tractor	18950	0.1		0.4	8	480	3
								Total for 7 Grading Phase:			16.9
8 Building Construction	crane	1	74.2	Crane	18950	0.1		-1.2	8	480	-1
	man lift	3	72.1	Forklift	18950	0.1		-3.3	8	480	1
	generator	1	67.1	Generator Set	18950	0.1		-8.3	8	480	-8
	backhoe	3	75.8	Tractor	18950	0.1		0.4	8	480	5
	welding machine	1	71.2	Welders	18950	0.1		-4.2	8	480	-4
								Total for 8 Building Construction Phase:			7.8
9 Paving	Paving - Asphalt (Paver + D	2	81.8	Pavers	18950	0.1		6.4	8	480	9
	Paving - Asphalt (Paver + N	2	82.8	Paving Equipment	18950	0.1		7.5	8	480	10
	compactor (roller)	2	75.4	Rollers	18950	0.1		0.0	8	480	3
								Total for 9 Paving Phase:			13.4
10 Architectural Coating	compressor	1	65.8	Air Compressor	18950	0.1		-9.7	8	480	-10
								Total for 10 Architectural Coating Phase:			0.0

Construction Activity	Equipment	Total Equipment Qty	Reference Level @ 50 ft. from FHWA RCNM 2 Table	CGaut Equipment Description, Data Source and/or Notes	Source to NSR Distance (ft.)	Temporary Barrier Insertion Loss (dB)	Additional Noise Reduction	Distance-Adjusted Leq	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 8-hour Leq
1. Linear, Grubbing & Land Clearing	dozer	2	80.0	Crawler Tractor	18800	0.1		4.8	8	480	8
	excavator	2	75.9	Excavator	18800	0.1		0.7	8	480	4
								Total for 1. Linear, Grubbing & Land Clearing Phase:			9.2
2 Linear, Grading & Excavation	dozer	2	80.0	Crawler Tractor	18800	0.1		4.8	8	480	8
	Excavator	6	75.9	Excavator	18800	0.1		0.7	8	480	8
	grader (passby)	2	78.5	Grader	18800	0.1		3.4	8	480	6
	compactor (roller)	4	75.4	Roller	18800	0.1		0.2	8	480	6
	dozer	2	80.0	Rubber Tired Loaders	18800	0.1		4.8	8	480	8
	Scraper	4	84.4	Scraper	18800	0.1		13.2	8	480	19
	backhoe	4	75.8	Tractor	18800	0.1		0.6	8	480	7
								Total for 2 Linear, Grading & Excavation Phase:			20.7
3 Linear, Drainage, Utilities, & Sub-Grade	compressor	2	65.8	Air Compressor	18800	0.1		-9.5	8	480	-7
	generator	2	67.1	Generator Set	18800	0.1		-8.1	8	480	-5
	grader (passby)	2	78.5	Grader	18800	0.1		3.4	8	480	6
	compactor (plate)	2	74.6	Plate Compactor	18800	0.1		-0.5	8	480	2
	pump	2	72.8	Pump	18800	0.1		-2.4	8	480	1
	dozer	2	80.0	Rough Terrain Forklift	18800	0.1		4.8	8	480	8
	scraper	4	84.4	Scraper	18800	0.1		13.2	8	480	19
	backhoe	4	75.8	Tractor	18800	0.1		0.6	8	480	7
								Total for 3 Linear, Drainage, Utilities, & Sub-Grade Phase:			20.1
4 Linear, Paving	Paving - Asphalt (Paver + D	2	81.8	Paver	18800	0.1		6.6	8	480	10
	Paving - Asphalt (Paver + R	2	82.8	Paving Equipment	18800	0.1		7.7	8	480	11
	Compactor (Roller)	6	75.4	Roller	18800	0.1		0.2	8	480	6
	backhoe	4	75.8	Tractor	18800	0.1		0.6	8	480	7
								Total for 4 Linear, Paving Phase:			15.0
5 Demolition	concrete saw	1	85.4	Concrete Saw	18800	0.1		10.3	8	480	10
	excavator	3	75.9	Excavator	18800	0.1		0.7	8	480	5
	dozer	2	80.0	Rubber Tired Dozer	18800	0.1		4.8	8	480	8
								Total for 5 Demolition Phase:			10.3
6 Site Preparation	dozer	3	82.0	rubber tired dozer	18800	0.1		4.8	8	480	10
	backhoe	4	75.8	tractor	18800	0.1		0.6	8	480	7
								Total for 6 Site Preparation Phase:			11.4
7 Grading	excavator	2	75.9	Excavator	18800	0.1		0.7	8	480	4
	grader (passby)	1	78.5	Grader	18800	0.1		3.4	8	480	3
	dozer	1	80.0	Rubber Tired Dozers	18800	0.1		4.8	8	480	5
	scraper	2	84.4	Scrapers	18800	0.1		13.2	8	480	16
	backhoe	2	75.8	Tractor	18800	0.1		0.6	8	480	4
								Total for 7 Grading Phase:			17.2
8 Building Construction	crane	1	74.2	Crane	18800	0.1		-1.0	8	480	-1
	man lift	3	72.1	Forklift	18800	0.1		-3.1	8	480	2
	generator	1	67.1	Generator Set	18800	0.1		-8.1	8	480	-8
	backhoe	3	75.8	Tractor	18800	0.1		0.6	8	480	5
	welding machine	1	71.2	Welders	18800	0.1		-4.0	8	480	-4
								Total for 8 Building Construction Phase:			8.0
9 Paving	Paving - Asphalt (Paver + D	2	81.8	Pavers	18800	0.1		6.6	8	480	10
	Paving - Asphalt (Paver + R	2	82.8	Paving Equipment	18800	0.1		7.7	8	480	11
	compactor (roller)	2	75.4	Rollers	18800	0.1		0.2	8	480	3
								Total for 9 Paving Phase:			13.6
10 Architectural Coating	compressor	1	65.8	Air Compressor	18800	0.1		-9.5	8	480	-10
								Total for 10 Architectural Coating Phase:			0.0

Construction Activity	Equipment	Total Equipment Qty	Reference Level @ 50 ft. from FHWA RCNM 2 Table	Client Equipment Description, Data Source under Notes	Source to NSR Distance (ft.)	Temporary Barrier Insertion Loss (dB)	Additional Noise Reduction	Distance-Adjusted Leq	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 1-hour Leq
1. Linear, Grubbing & Land Clearing	dozer	2	80.0	Crawler Tractor	4700	0.1		31.0	8	480	34
	excavator	2	75.9	Excavator	4700	0.1		26.9	8	480	30
								Total for 1. Linear, Grubbing & Land Clearing Phase:			35.4
2 Linear, Grading & Excavation	dozer	2	80.0	Crawler Tractor	4700	0.1		31.0	8	480	34
	Excavator	6	75.9	Excavator	4700	0.1		26.9	8	480	35
	grader (passby)	2	78.5	Grader	4700	0.1		29.5	8	480	33
	compactor (roller)	4	75.4	Roller	4700	0.1		26.4	8	480	32
	dozer	2	80.0	Rubber Tired Loaders	4700	0.1		31.0	8	480	34
	Scraper	4	88.4	Scraper	4700	0.1		39.4	8	480	45
	backhoe	4	75.8	Tractor	4700	0.1		26.8	8	480	33
								Total for 2 Linear, Grading & Excavation Phase:			46.8
3 Linear, Drainage, Utilities, & Sub-Grade	compressor	2	65.8	Air Compressor	4700	0.1		16.8	8	480	20
	generator	2	67.1	Generator Set	4700	0.1		18.1	8	480	21
	grader (passby)	2	78.5	Grader	4700	0.1		29.5	8	480	33
	compactor (plate)	2	74.6	Plate Compactor	4700	0.1		25.6	8	480	29
	pump	2	72.0	Pump	4700	0.1		23.0	8	480	27
	dozer	2	80.0	Rough Terrain Forklift	4700	0.1		31.0	8	480	34
	scraper	4	88.4	Scraper	4700	0.1		39.4	8	480	45
	backhoe	4	75.8	Tractor	4700	0.1		26.8	8	480	33
								Total for 3 Linear, Drainage, Utilities, & Sub-Grade Phase:			46.3
4 Linear, Paving	Paving - Asphalt (Paver + D	2	81.8	Paver	4700	0.1		32.8	8	480	36
	Paving - Asphalt (Paver + N	2	82.8	Paving Equipment	4700	0.1		33.8	8	480	37
	Compactor (Roller)	6	75.4	Roller	4700	0.1		26.4	8	480	34
	backhoe	4	75.8	Tractor	4700	0.1		26.8	8	480	33
								Total for 4 Linear, Paving Phase:			41.2
5 Demolition	concrete saw	1	85.4	Concrete Saw	4700	0.1		36.4	8	480	36
	excavator	3	75.9	Excavator	4700	0.1		26.9	8	480	32
	dozer	2	80.0	Rubber Tired Dozer	4700	0.1		31.0	8	480	34
								Total for 5 Demolition Phase:			36.4
6 Site Preparation	dozer	3	80.0	rubber tired dozer	4700	0.1		31.0	8	480	36
	backhoe	4	75.8	tractor	4700	0.1		26.8	8	480	33
								Total for 6 Site Preparation Phase:			37.5
7 Grading	excavator	2	75.9	Excavator	4700	0.1		26.9	8	480	30
	grader (passby)	1	78.5	Grader	4700	0.1		29.5	8	480	30
	dozer	1	80.0	Rubber Tired Dozers	4700	0.1		31.0	8	480	31
	scraper	2	88.4	Scrapers	4700	0.1		39.4	8	480	42
	backhoe	2	75.8	Tractor	4700	0.1		26.8	8	480	30
								Total for 7 Grading Phase:			43.3
8 Building Construction	crane	1	74.2	Crane	4700	0.1		25.2	8	480	25
	man lift	3	72.1	Forklift	4700	0.1		23.1	8	480	28
	generator	1	67.1	Generator Set	4700	0.1		18.1	8	480	18
	backhoe	3	75.8	Tractor	4700	0.1		26.8	8	480	32
	welding machine	1	71.2	Welders	4700	0.1		22.2	8	480	22
								Total for 8 Building Construction Phase:			34.2
9 Paving	Paving - Asphalt (Paver + D	2	81.8	Pavers	4700	0.1		32.8	8	480	36
	Paving - Asphalt (Paver + N	2	82.8	Paving Equipment	4700	0.1		33.8	8	480	37
	compactor (roller)	2	75.4	Rollers	4700	0.1		26.4	8	480	29
								Total for 9 Paving Phase:			39.8
10 Architectural Coating	compressor	1	65.8	Air Compressor	4700	0.1		16.8	8	480	17
								Total for 10 Architectural Coating Phase:			16.8

Construction Activity	Equipment	Total Equipment Qty	Reference Level @ 50 ft. from FHWA RCNM 2 Table	Client Equipment Description, Data Source and/or Notes	Source to NSR Distance (ft.)	Temporary Barrier Insertion Loss (dB)	Additional Noise Reduction	Distance-Adjusted Leq	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 8-hour Leq
1. Linear, Grubbing & Land Clearing	dozer	2	80.0	Crawler Tractor	5100	0.1		29.9	8	480	33
	excavator	2	75.9	Excavator	5100	0.1		25.8	8	480	29
								Total for 1. Linear, Grubbing & Land Clearing Phase:			34.3
2 Linear, Grading & Excavation	dozer	2	80.0	Crawler Tractor	5100	0.1		29.9	8	480	33
	Excavator	6	75.9	Excavator	5100	0.1		25.8	8	480	34
	grader (passby)	2	78.5	Grader	5100	0.1		28.4	8	480	31
	compactor (roller)	4	75.4	Roller	5100	0.1		25.3	8	480	31
	dozer	2	80.0	Rubber Tired Loaders	5100	0.1		29.9	8	480	33
	Scraper	4	84.4	Scraper	5100	0.1		38.3	8	480	44
	backhoe	4	75.8	Tractor	5100	0.1		25.7	8	480	32
								Total for 2 Linear, Grading & Excavation Phase:			46.7
3 Linear, Drainage, Utilities, & Sub-Grade	compressor	2	65.8	Air Compressor	5100	0.1		15.5	8	480	19
	generator	2	67.1	Generator Set	5100	0.1		17.0	8	480	20
	grader (passby)	2	78.5	Grader	5100	0.1		28.4	8	480	31
	compactor (plate)	2	74.6	Plate Compactor	5100	0.1		24.5	8	480	28
	pump	2	72.8	Pump	5100	0.1		22.7	8	480	26
	dozer	2	80.0	Rough Terrain Forklift	5100	0.1		29.9	8	480	33
	scraper	4	84.4	Scraper	5100	0.1		38.3	8	480	44
	backhoe	4	75.8	Tractor	5100	0.1		25.7	8	480	32
								Total for 3 Linear, Drainage, Utilities, & Sub-Grade Phase:			45.2
4 Linear, Paving	Paving - Asphalt (Paver + D	2	81.8	Paver	5100	0.1		31.7	8	480	35
	Paving - Asphalt (Paver + N	2	82.8	Paving Equipment	5100	0.1		32.7	8	480	36
	Compactor (Roller)	6	75.4	Roller	5100	0.1		25.3	8	480	33
	backhoe	4	75.8	Tractor	5100	0.1		25.7	8	480	32
								Total for 4 Linear, Paving Phase:			40.1
5 Demolition	concrete saw	1	85.4	Concrete Saw	5100	0.1		35.3	8	480	35
	excavator	3	75.9	Excavator	5100	0.1		25.8	8	480	31
	dozer	2	80.0	Rubber Tired Dozer	5100	0.1		29.9	8	480	33
								Total for 5 Demolition Phase:			35.3
6 Site Preparation	dozer	3	80.0	rubber tired dozer	5100	0.1		29.9	8	480	35
	backhoe	4	75.8	tractor	5100	0.1		25.7	8	480	32
								Total for 6 Site Preparation Phase:			36.4
7 Grading	excavator	2	75.9	Excavator	5100	0.1		25.8	8	480	29
	grader (passby)	1	78.5	Grader	5100	0.1		28.4	8	480	28
	dozer	1	80.0	Rubber Tired Dozers	5100	0.1		29.9	8	480	30
	scraper	2	84.4	Scrapers	5100	0.1		38.3	8	480	41
	backhoe	2	75.8	Tractor	5100	0.1		25.7	8	480	29
								Total for 7 Grading Phase:			42.2
8 Building Construction	crane	1	74.2	Crane	5100	0.1		24.1	8	480	24
	man lift	3	72.1	Forklift	5100	0.1		22.0	8	480	27
	generator	1	97.1	Generator Set	5100	0.1		17.0	8	480	17
	backhoe	3	75.8	Tractor	5100	0.1		25.7	8	480	30
	welding machine	1	71.2	Welders	5100	0.1		21.1	8	480	21
								Total for 8 Building Construction Phase:			33.1
9 Paving	Paving - Asphalt (Paver + D	2	81.8	Pavers	5100	0.1		31.7	8	480	35
	Paving - Asphalt (Paver + N	2	82.8	Paving Equipment	5100	0.1		32.7	8	480	36
	compactor (roller)	2	75.4	Rollers	5100	0.1		25.3	8	480	28
								Total for 9 Paving Phase:			38.7
10 Architectural Coating	compressor	1	65.8	Air Compressor	5100	0.1		15.5	8	480	16
								Total for 10 Architectural Coating Phase:			15.5

Construction Activity	Equipment	Total Equipment Qty	Reference Level @ 50 ft. from FHWA RCNM 2 Table	Client Equipment Description, Data Source and/or Notes	Source to NSR Distance (ft.)	Temporary Barrier Insertion Loss (dB)	Additional Noise Reduction	Distance-Adjusted Leq	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 8-hour Leq
1. Linear, Grubbing & Land Clearing	dozer	2	80.0	Crawler Tractor	17000	0.1		7.5	8	480	10
	excavator	2	75.9	Excavator	17000	0.1		3.4	8	480	6
								Total for 1. Linear, Grubbing & Land Clearing Phase:			11.9
2 Linear, Grading & Excavation	dozer	2	80.0	Crawler Tractor	17000	0.1		7.5	8	480	10
	Excavator	6	75.9	Excavator	17000	0.1		3.4	8	480	11
	grader (passby)	2	76.5	Grader	17000	0.1		6.0	8	480	9
	compactor (roller)	4	75.4	Roller	17000	0.1		2.9	8	480	9
	dozer	2	80.0	Rubber Tired Loaders	17000	0.1		7.5	8	480	10
	Scraper	4	88.4	Scraper	17000	0.1		15.9	8	480	22
	backhoe	4	75.8	Tractor	17000	0.1		3.3	8	480	9
								Total for 2 Linear, Grading & Excavation Phase:			23.3
3 Linear, Drainage, Utilities, & Sub-Grade	compressor	2	65.6	Air Compressor	17000	0.1		-6.8	8	480	-4
	generator	2	67.1	Generator Set	17000	0.1		-5.4	8	480	-2
	grader (passby)	2	76.5	Grader	17000	0.1		6.0	8	480	9
	compactor (plate)	2	74.6	Plate Compactor	17000	0.1		2.2	8	480	5
	pump	2	72.8	Pump	17000	0.1		0.3	8	480	3
	dozer	2	80.0	Rough Terrain Forklift	17000	0.1		7.5	8	480	10
	scraper	4	88.4	Scraper	17000	0.1		15.9	8	480	22
	backhoe	4	75.8	Tractor	17000	0.1		3.3	8	480	9
								Total for 3 Linear, Drainage, Utilities, & Sub-Grade Phase:			22.8
4 Linear, Paving	Paving - Asphalt (Paver + C	2	81.8	Pavers	17000	0.1		9.3	8	480	12
	Paving - Asphalt (Paver + N	2	82.8	Paving Equipment	17000	0.1		10.4	8	480	13
	Compactor (Roller)	6	75.4	Roller	17000	0.1		2.9	8	480	11
	backhoe	4	75.8	Tractor	17000	0.1		3.3	8	480	9
								Total for 4 Linear, Paving Phase:			17.7
5 Demolition	concrete saw	1	85.4	Concrete Saw	17000	0.1		13.0	8	480	13
	excavator	3	75.9	Excavator	17000	0.1		3.4	8	480	8
	dozer	2	80.0	Rubber Tired Dozer	17000	0.1		7.5	8	480	10
								Total for 5 Demolition Phase:			13.8
6 Site Preparation	dozer	3	80.0	rubber tired dozer	17000	0.1		7.5	8	480	12
	backhoe	4	75.8	tractor	17000	0.1		3.3	8	480	9
								Total for 6 Site Preparation Phase:			14.8
7 Grading	excavator	2	75.9	Excavator	17000	0.1		3.4	8	480	6
	grader (passby)	1	76.5	Grader	17000	0.1		6.0	8	480	6
	dozer	1	80.0	Rubber Tired Dozers	17000	0.1		7.5	8	480	7
	scraper	2	88.4	Scrapers	17000	0.1		15.9	8	480	19
	backhoe	2	75.8	Tractor	17000	0.1		3.3	8	480	6
								Total for 7 Grading Phase:			15.8
8 Building Construction	crane	1	74.2	Crane	17000	0.1		1.7	8	480	2
	man lift	3	72.1	Forklift	17000	0.1		-0.4	8	480	4
	generator	1	67.1	Generator Set	17000	0.1		-5.4	8	480	-5
	backhoe	3	75.8	Tractor	17000	0.1		3.3	8	480	8
	welding machine	1	71.2	Welders	17000	0.1		-1.3	8	480	-1
								Total for 8 Building Construction Phase:			10.7
9 Paving	Paving - Asphalt (Paver + C	2	81.8	Pavers	17000	0.1		9.3	8	480	12
	Paving - Asphalt (Paver + N	2	82.8	Paving Equipment	17000	0.1		10.4	8	480	13
	compactor (roller)	2	75.4	Rollers	17000	0.1		2.9	8	480	6
								Total for 9 Paving Phase:			16.3
10 Architectural Coating	compressor	1	65.6	Air Compressor	17000	0.1		-6.8	8	480	-7
								Total for 10 Architectural Coating Phase:			0.0

Construction Activity	Equipment	Total Equipment Qty	Reference Level @ 50 ft. from FHWA RCNM 2 Table	Client Equipment Description, Data Source and/or Notes	Source to NSR Distance (ft.)	Temporary Barrier Insertion Loss (dB)	Additional Noise Reduction	Distance-Adjusted Leq	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 1-hour Leq
1. Linear, Grubbing & Land Clearing	dozer	2	80.0	Crawler Tractor	16850	0.1		7.7	8	480	11
	excavator	2	75.9	Excavator	16850	0.1		3.6	8	480	7
								Total for 1. Linear, Grubbing & Land Clearing Phase:			12.1
2 Linear, Grading & Excavation	dozer	2	80.0	Crawler Tractor	16850	0.1		7.7	8	480	11
	Excavator	6	75.9	Excavator	16850	0.1		3.6	8	480	11
	grader (passby)	2	79.5	Grader	16850	0.1		6.3	8	480	9
	compactor (roller)	4	75.4	Roller	16850	0.1		3.1	8	480	9
	dozer	2	80.0	Rubber Tired Loaders	16850	0.1		7.7	8	480	11
	Scraper	4	88.4	Scraper	16850	0.1		16.1	8	480	22
	backhoe	4	75.8	Tractor	16850	0.1		3.6	8	480	10
								Total for 2 Linear, Grading & Excavation Phase:			23.6
3 Linear, Drainage, Utilities, & Sub-Grade	compressor	2	85.6	Air Compressor	16850	0.1		-6.6	8	480	-4
	generator	2	67.1	Generator Set	16850	0.1		-5.2	8	480	-2
	grader (passby)	2	79.5	Grader	16850	0.1		6.3	8	480	9
	compactor (plate)	2	74.8	Plate Compactor	16850	0.1		2.4	8	480	5
	pump	2	72.9	Pump	16850	0.1		0.5	8	480	4
	dozer	2	80.0	Rough Terrain Forklift	16850	0.1		7.7	8	480	11
	scraper	4	88.4	Scraper	16850	0.1		16.1	8	480	22
	backhoe	4	75.8	Tractor	16850	0.1		3.6	8	480	10
								Total for 3 Linear, Drainage, Utilities, & Sub-Grade Phase:			23.0
4 Linear, Paving	Paving - Asphalt (Paver + D	2	81.8	Paver	16850	0.1		9.5	8	480	13
	Paving - Asphalt (Paver + R	2	82.8	Paving Equipment	16850	0.1		10.6	8	480	14
	Compactor (Roller)	6	75.4	Roller	16850	0.1		3.1	8	480	11
	backhoe	4	75.8	Tractor	16850	0.1		3.6	8	480	10
								Total for 4 Linear, Paving Phase:			17.9
5 Demolition	concrete saw	1	85.4	Concrete Saw	16850	0.1		13.2	8	480	13
	excavator	3	75.9	Excavator	16850	0.1		3.6	8	480	8
	doser	2	80.0	Rubber Tired Dozer	16850	0.1		7.7	8	480	11
								Total for 5 Demolition Phase:			13.2
6 Site Preparation	dozer	3	80.0	rubber tired dozer	16850	0.1		7.7	8	480	12
	backhoe	4	75.8	tractor	16850	0.1		3.6	8	480	10
								Total for 6 Site Preparation Phase:			14.3
7 Grading	excavator	2	75.9	Excavator	16850	0.1		3.6	8	480	7
	grader (passby)	1	79.5	Grader	16850	0.1		6.3	8	480	6
	dozer	1	80.0	Rubber Tired Dozers	16850	0.1		7.7	8	480	8
	scraper	2	88.4	Scrapers	16850	0.1		16.1	8	480	13
	backhoe	2	75.8	Tractor	16850	0.1		3.6	8	480	7
								Total for 7 Grading Phase:			20.1
8 Building Construction	crane	1	74.2	Crane	16850	0.1		1.9	8	480	2
	man lift	3	72.1	Forklift	16850	0.1		-0.2	8	480	5
	generator	1	67.1	Generator Set	16850	0.1		-5.2	8	480	-5
	backhoe	3	75.8	Tractor	16850	0.1		3.6	8	480	8
	welding machine	1	71.2	Welders	16850	0.1		-1.1	8	480	-1
								Total for 8 Building Construction Phase:			10.9
9 Paving	Paving - Asphalt (Paver + D	2	81.8	Pavers	16850	0.1		9.5	8	480	13
	Paving - Asphalt (Paver + R	2	82.8	Paving Equipment	16850	0.1		10.6	8	480	14
	compactor (roller)	2	75.4	Rollers	16850	0.1		3.1	8	480	6
								Total for 9 Paving Phase:			16.5
10 Architectural Coating	compressor	1	85.6	Air Compressor	16850	0.1		-6.6	8	480	-7
								Total for 10 Architectural Coating Phase:			0.0

Construction Activity	Equipment	Total Equipment Qty	Reference Level @ 50 ft. from FHWA RCNM 2 Table	Client Equipment Description, Data Source and/or Notes	Source to RSR Distance (ft.)	Temporary Barrier Insertion Loss (dB)	Additional Noise Reduction	Distance-Adjusted Leq	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 8-hour Leq
1. Linear, Grubbing & Land Clearing	dozer	2	80.0	Crawler Tractor	18000	0.1		6.0	8	480	9
	excavator	2	75.9	Excavator	18000	0.1		1.9	8	480	5
								Total for 1. Linear, Grubbing & Land Clearing Phase:			10.4
2 Linear, Grading & Excavation	dozer	2	80.0	Crawler Tractor	18000	0.1		6.0	8	480	9
	Excavator	6	75.9	Excavator	18000	0.1		1.9	8	480	10
	grader (passby)	2	78.5	Grader	18000	0.1		4.5	8	480	8
	compactor (roller)	4	75.4	Roller	18000	0.1		1.4	8	480	7
	dozer	2	80.0	Rubber Tired Loaders	18000	0.1		6.0	8	480	9
	Scraper	4	88.4	Scraper	18000	0.1		14.4	8	480	20
	backhoe	4	75.8	Tractor	18000	0.1		1.8	8	480	8
								Total for 2 Linear, Grading & Excavation Phase:			21.0
3 Linear, Drainage, Utilities, & Sub-Grade	compressor	2	65.6	Air Compressor	18000	0.1		-8.3	8	480	-5
	generator	2	67.1	Generator Set	18000	0.1		-6.9	8	480	-4
	grader (passby)	2	78.5	Grader	18000	0.1		4.5	8	480	8
	compactor (plate)	2	74.6	Plate Compactor	18000	0.1		0.7	8	480	4
	pump	2	72.8	Pump	18000	0.1		-1.2	8	480	2
	dozer	2	80.0	Rough Terrain Forklift	18000	0.1		6.0	8	480	9
	scraper	4	88.4	Scraper	18000	0.1		14.4	8	480	20
	backhoe	4	75.8	Tractor	18000	0.1		1.8	8	480	8
								Total for 3 Linear, Drainage, Utilities, & Sub-Grade Phase:			21.3
4 Linear, Paving	Paving - Asphalt (Paver + D	2	81.8	Paver	18000	0.1		7.8	8	480	11
	Paving - Asphalt (Paver + N	2	82.8	Paving Equipment	18000	0.1		8.9	8	480	12
	Compactor (Roller)	6	75.4	Roller	18000	0.1		1.4	8	480	8
	backhoe	4	75.8	Tractor	18000	0.1		1.8	8	480	8
								Total for 4 Linear, Paving Phase:			91.2
5 Demolition	concrete saw	1	85.4	Concrete Saw	18000	0.1		11.5	8	480	11
	excavator	3	75.9	Excavator	18000	0.1		1.9	8	480	7
	dozer	2	80.0	Rubber Tired Dozer	18000	0.1		6.0	8	480	9
								Total for 5 Demolition Phase:			11.5
6 Site Preparation	dozer	3	80.0	rubber tired dozer	18000	0.1		6.0	8	480	11
	backhoe	4	75.8	tractor	18000	0.1		1.8	8	480	8
								Total for 6 Site Preparation Phase:			12.5
7 Grading	excavator	2	75.9	Excavator	18000	0.1		1.9	8	480	5
	grader (passby)	1	78.5	Grader	18000	0.1		4.5	8	480	5
	dozer	1	80.0	Rubber Tired Dozers	18000	0.1		6.0	8	480	6
	scraper	2	88.4	Scrapers	18000	0.1		14.4	8	480	17
	backhoe	2	75.8	Tractor	18000	0.1		1.8	8	480	5
								Total for 7 Grading Phase:			18.3
8 Building Construction	crane	1	74.2	Crane	18000	0.1		0.2	8	480	0
	man lift	3	72.1	Forklift	18000	0.1		-1.9	8	480	3
	generator	1	67.1	Generator Set	18000	0.1		-6.9	8	480	-7
	backhoe	3	75.8	Tractor	18000	0.1		1.8	8	480	7
	welding machine	1	71.2	Welders	18000	0.1		-2.8	8	480	-3
								Total for 8 Building Construction Phase:			9.2
9 Paving	Paving - Asphalt (Paver + D	2	81.8	Pavers	18000	0.1		7.8	8	480	11
	Paving - Asphalt (Paver + N	2	82.8	Paving Equipment	18000	0.1		8.9	8	480	12
	compactor (roller)	2	75.4	Rollers	18000	0.1		1.4	8	480	4
								Total for 9 Paving Phase:			14.8
10 Architectural Coating	compressor	1	65.6	Air Compressor	18000	0.1		-8.3	8	480	-8
								Total for 10 Architectural Coating Phase:			0.0

Construction Activity	Equipment	Total Equipment Qty	Reference Level @ 50 ft, from FHWA RCNM 1 Table	CSord Equipment Description, Data Source under Notes	Source to NSR Distance (ft.)	*Temporary Barrier Insertion Loss (dB)*	*Additional Noise Reduction*	Distance-Adjusted Leq	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 1-hour Leq
1. Linear, Grubbing & Land Clearing	dozer	2	80.0	Crawler Tractor	18950	0.1		4.6	8	480	8
	excavator	2	75.9	Excavator	18950	0.1		0.5	8	480	3
								Total for 1. Linear, Grubbing & Land Clearing Phase:			8.0
2 Linear, Grading & Excavation	dozer	2	80.0	Crawler Tractor	18950	0.1		4.6	8	480	8
	Excavator	6	75.9	Excavator	18950	0.1		0.5	8	480	8
	grader (passby)	2	78.5	Grader	18950	0.1		3.1	8	480	6
	compactor (roller)	4	75.4	Roller	18950	0.1		0.0	8	480	6
	dozer	2	80.0	Rubber Tired Loaders	18950	0.1		4.6	8	480	8
	Scraper	4	84.4	Scraper	18950	0.1		13.0	8	480	19
	backhoe	4	75.8	Tractor	18950	0.1		0.4	8	480	6
								Total for 2 Linear, Grading & Excavation Phase:			20.5
3 Linear, Drainage, Utilities, & Sub-Grade	compresser	2	65.8	Air Compressor	18950	0.1		-9.7	8	480	-7
	generator	2	67.1	Generator Set	18950	0.1		-8.3	8	480	-5
	grader (passby)	2	78.5	Grader	18950	0.1		3.1	8	480	6
	compactor (plate)	2	74.8	Plate Compactor	18950	0.1		-0.7	8	480	2
	pump	2	72.8	Pump	18950	0.1		-2.6	8	480	0
	dozer	2	80.0	Rough Terrain Forklift	18950	0.1		4.6	8	480	8
	scraper	4	84.4	Scraper	18950	0.1		13.0	8	480	19
	backhoe	4	75.8	Tractor	18950	0.1		0.4	8	480	6
								Total for 3 Linear, Drainage, Utilities, & Sub-Grade Phase:			19.8
4 Linear, Paving	Paving - Asphalt (Paver + D	2	81.8	Paver	18950	0.1		6.4	8	480	9
	Paving - Asphalt (Paver + N	2	82.8	Paving Equipment	18950	0.1		7.5	8	480	10
	Compactor (Roller)	6	75.4	Roller	18950	0.1		0.0	8	480	8
	backhoe	4	75.8	Tractor	18950	0.1		0.4	8	480	6
								Total for 4 Linear, Paving Phase:			14.6
5 Demolition	concrete saw	1	85.4	Concrete Saw	18950	0.1		10.1	8	480	10
	excavator	3	75.9	Excavator	18950	0.1		0.5	8	480	5
	dozer	2	80.0	Rubber Tired Dozer	18950	0.1		4.6	8	480	8
								Total for 5 Demolition Phase:			18.1
6 Site Preparation	dozer	3	80.0	rubber tired dozer	18950	0.1		4.6	8	480	9
	backhoe	4	75.8	tractor	18950	0.1		0.4	8	480	6
								Total for 6 Site Preparation Phase:			11.1
7 Grading	excavator	2	75.9	Excavator	18950	0.1		0.5	8	480	3
	grader (passby)	1	78.5	Grader	18950	0.1		3.1	8	480	3
	dozer	1	80.0	Rubber Tired Dozers	18950	0.1		4.6	8	480	5
	scraper	2	84.4	Scrapers	18950	0.1		13.0	8	480	16
	backhoe	2	75.8	Tractor	18950	0.1		0.4	8	480	3
								Total for 7 Grading Phase:			16.9
8 Building Construction	crane	1	74.2	Crane	18950	0.1		-1.2	8	480	-1
	man lift	3	72.1	Forklift	18950	0.1		-3.3	8	480	1
	generator	1	67.1	Generator Set	18950	0.1		-8.3	8	480	-6
	backhoe	3	75.8	Tractor	18950	0.1		0.4	8	480	5
	welding machine	1	71.2	Welders	18950	0.1		-4.2	8	480	-4
								Total for 8 Building Construction Phase:			7.8
9 Paving	Paving - Asphalt (Paver + D	2	81.8	Pavers	18950	0.1		6.4	8	480	9
	Paving - Asphalt (Paver + N	2	82.8	Paving Equipment	18950	0.1		7.5	8	480	10
	compactor (roller)	2	75.4	Rollers	18950	0.1		0.0	8	480	3
								Total for 9 Paving Phase:			13.4
10 Architectural Coating	compressor	1	65.8	Air Compressor	18950	0.1		-9.7	8	480	-10
								Total for 10 Architectural Coating Phase:			0.0

Construction Activity	Equipment	Total Equipment Qty	Reference Level @ 50 ft, from FHWA RCNM 1 Table	CSort Equipment Description, Data Source and/or Notes	Source to NSR Distance (ft.)	Temporary Barrier Insertion Loss (dB)	Additional Noise Reduction	Distance-Adjusted Leq	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 1-hour Leq
1. Linear, Grubbing & Land Clearing	dozer	2	80.0	Crawler Tractor	18800	0.1		4.8	8	480	8
	excavator	2	75.9	Excavator	18800	0.1		0.7	8	480	4
							Total for 1. Linear, Grubbing & Land Clearing Phase:				9.2
2 Linear, Grading & Excavation	dozer	2	80.0	Crawler Tractor	18800	0.1		4.8	8	480	8
	Excavator	6	75.9	Excavator	18800	0.1		0.7	8	480	6
	grader (passby)	2	78.5	Grader	18800	0.1		3.4	8	480	6
	compactor (roller)	4	75.4	Roller	18800	0.1		0.2	8	480	6
	dozer	2	80.0	Rubber Tired Loaders	18800	0.1		4.8	8	480	8
	Scraper	4	84.4	Scraper	18800	0.1		13.2	8	480	19
	backhoe	4	75.8	Tractor	18800	0.1		0.6	8	480	7
							Total for 2 Linear, Grading & Excavation Phase:				20.7
3 Linear, Drainage, Utilities, & Sub-Grade	compresser	2	65.8	Air Compresser	18800	0.1		-9.5	8	480	-7
	generator	2	67.1	Generator Set	18800	0.1		-8.1	8	480	-5
	grader (passby)	2	78.5	Grader	18800	0.1		3.4	8	480	6
	compactor (plate)	2	74.6	Plate Compactor	18800	0.1		-0.5	8	480	2
	pump	2	72.8	Pump	18800	0.1		-2.4	8	480	1
	dozer	2	80.0	Rough Terrain Forklift	18800	0.1		4.8	8	480	8
	scraper	4	84.4	Scraper	18800	0.1		13.2	8	480	19
	backhoe	4	75.8	Tractor	18800	0.1		0.6	8	480	7
							Total for 3 Linear, Drainage, Utilities, & Sub-Grade Phase:				26.1
4 Linear, Paving	Paving - Asphalt (Paver + D	2	81.8	Paver	18800	0.1		6.6	8	480	10
	Paving - Asphalt (Paver + N	2	82.8	Paving Equipment	18800	0.1		7.7	8	480	11
	Compactor (Roller)	6	75.4	Roller	18800	0.1		0.2	8	480	6
	backhoe	4	75.8	Tractor	18800	0.1		0.6	8	480	7
							Total for 4 Linear, Paving Phase:				15.8
5 Demolition	concrete saw	1	85.4	Concrete Saw	18800	0.1		10.3	8	480	10
	excavator	3	75.9	Excavator	18800	0.1		0.7	8	480	5
	dozer	2	80.0	Rubber Tired Dozer	18800	0.1		4.8	8	480	8
							Total for 5 Demolition Phase:				18.3
6 Site Preparation	dozer	3	80.0	rubber tired dozer	18800	0.1		4.8	8	480	10
	backhoe	4	75.8	tractor	18800	0.1		0.6	8	480	7
							Total for 6 Site Preparation Phase:				11.4
7 Grading	excavator	2	75.9	Excavator	18800	0.1		0.7	8	480	4
	grader (passby)	1	78.5	Grader	18800	0.1		3.4	8	480	3
	dozer	1	80.0	Rubber Tired Dozers	18800	0.1		4.8	8	480	5
	scraper	2	84.4	Scrapers	18800	0.1		13.2	8	480	16
	backhoe	2	75.8	Tractor	18800	0.1		0.6	8	480	4
							Total for 7 Grading Phase:				17.2
8 Building Construction	crane	1	74.2	Crane	18800	0.1		-1.0	8	480	-1
	man lift	3	72.1	Forklift	18800	0.1		-3.1	8	480	2
	generator	1	67.1	Generator Set	18800	0.1		-8.1	8	480	-8
	backhoe	3	75.8	Tractor	18800	0.1		0.6	8	480	5
	welding machine	1	71.2	Welders	18800	0.1		-4.0	8	480	-4
							Total for 8 Building Construction Phase:				8.9
9 Paving	Paving - Asphalt (Paver + D	2	81.8	Pavers	18800	0.1		6.6	8	480	10
	Paving - Asphalt (Paver + N	2	82.8	Paving Equipment	18800	0.1		7.7	8	480	11
	compactor (roller)	2	75.4	Rollers	18800	0.1		0.2	8	480	3
							Total for 9 Paving Phase:				13.6
10 Architectural Coating	compressor	1	65.8	Air Compressor	18800	0.1		-9.5	8	480	-10
							Total for 10 Architectural Coating Phase:				0.0

Construction Activity	Equipment	Total Equipment Qty	Reference Level @ 50 ft, from FHWA RCNM 2 Table	Client Equipment Description, Data Source and/or Notes	Source to NSR Distance (ft.)	Temporary Barrier Insertion Loss (dB)	Additional Noise Reduction	Distance-Adjusted Leq	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 1-hour Leq
1. Linear, Grubbing & Land Clearing	dozer	2	80.0	Crawler Tractor	4700	0.1		31.0	8	480	34
	excavator	2	75.9	Excavator	4700	0.1		26.9	8	480	30
								Total for 1. Linear, Grubbing & Land Clearing Phase:			35.4
2 Linear, Grading & Excavation	dozer	2	80.0	Crawler Tractor	4700	0.1		31.0	8	480	34
	Excavator	6	75.9	Excavator	4700	0.1		26.9	8	480	35
	grader (passby)	2	78.5	Grader	4700	0.1		29.5	8	480	33
	compactor (roller)	4	75.4	Roller	4700	0.1		26.4	8	480	32
	dozer	2	80.0	Rubber Tired Loaders	4700	0.1		31.0	8	480	34
	Scraper	4	88.4	Scraper	4700	0.1		39.4	8	480	45
	backhoe	4	75.8	Tractor	4700	0.1		26.8	8	480	33
								Total for 2 Linear, Grading & Excavation Phase:			46.8
3 Linear, Drainage, Utilities, & Sub-Grade	compressor	2	65.6	Air Compressor	4700	0.1		18.6	8	480	20
	generator	2	67.1	Generator Set	4700	0.1		18.1	8	480	21
	grader (passby)	2	78.5	Grader	4700	0.1		29.5	8	480	33
	compactor (plate)	2	74.8	Plate Compactor	4700	0.1		25.8	8	480	29
	pump	2	72.8	Pump	4700	0.1		23.8	8	480	27
	dozer	2	80.0	Rough Terrain Forklift	4700	0.1		31.0	8	480	34
	scraper	4	88.4	Scraper	4700	0.1		39.4	8	480	45
	backhoe	4	75.8	Tractor	4700	0.1		26.8	8	480	33
								Total for 3 Linear, Drainage, Utilities, & Sub-Grade Phase:			46.3
4 Linear, Paving	Paving - Asphalt (Paver + D	2	81.8	Paver	4700	0.1		32.8	8	480	36
	Paving - Asphalt (Paver + N	2	82.8	Paving Equipment	4700	0.1		33.8	8	480	37
	Compactor (Roller)	6	75.4	Roller	4700	0.1		26.4	8	480	34
	backhoe	4	75.8	Tractor	4700	0.1		26.8	8	480	33
								Total for 4 Linear, Paving Phase:			41.2
5 Demolition	concrete saw	1	85.4	Concrete Saw	4700	0.1		36.4	8	480	36
	excavator	3	75.9	Excavator	4700	0.1		26.9	8	480	32
	dozer	2	80.0	Rubber Tired Dozer	4700	0.1		31.0	8	480	34
								Total for 5 Demolition Phase:			36.4
6 Site Preparation	dozer	3	80.0	rubber tired dozer	4700	0.1		31.0	8	480	36
	backhoe	4	75.8	tractor	4700	0.1		26.8	8	480	33
								Total for 6 Site Preparation Phase:			37.5
7 Grading	excavator	2	75.9	Excavator	4700	0.1		26.9	8	480	30
	grader (passby)	1	78.5	Grader	4700	0.1		29.5	8	480	30
	dozer	1	80.0	Rubber Tired Dozers	4700	0.1		31.0	8	480	31
	scraper	2	88.4	Scrapers	4700	0.1		39.4	8	480	42
	backhoe	2	75.8	Tractor	4700	0.1		26.8	8	480	30
								Total for 7 Grading Phase:			43.3
8 Building Construction	crane	1	74.2	Crane	4700	0.1		25.2	8	480	25
	man lift	3	72.1	Forklift	4700	0.1		23.1	8	480	28
	generator	1	67.1	Generator Set	4700	0.1		18.1	8	480	18
	backhoe	3	75.8	Tractor	4700	0.1		26.8	8	480	32
	welding machine	1	71.2	Welders	4700	0.1		22.2	8	480	22
								Total for 8 Building Construction Phase:			34.2
9 Paving	Paving - Asphalt (Paver + D	2	81.8	Pavers	4700	0.1		32.8	8	480	36
	Paving - Asphalt (Paver + N	2	82.8	Paving Equipment	4700	0.1		33.8	8	480	37
	compactor (roller)	2	75.4	Rollers	4700	0.1		26.4	8	480	29
								Total for 9 Paving Phase:			38.8
10 Architectural Coating	compressor	1	65.6	Air Compressor	4700	0.1		18.6	8	480	17
								Total for 10 Architectural Coating Phase:			16.6

Construction Activity	Equipment	Total Equipment Qty	Reference Level @ 50 ft. from FHWA RCNM 2 Table	Client Equipment Description, Data Source and/or Notes	Source to NSR Distance (ft.)	Temporary Barrier Insertion Loss (dB)	Additional Noise Reduction	Distance-Adjusted Leq	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 8-hour Leq
1, Linear, Grubbing & Land Clearing	dozer	2	80.0	Crawler Tractor	5500	0.1		28.8	8	480	32
	excavator	2	75.9	Excavator	5500	0.1		24.7	8	480	28
								Total for 1, Linear, Grubbing & Land Clearing Phase:			33.2
2 Linear, Grading & Excavation	dozer	2	80.0	Crawler Tractor	5500	0.1		28.8	8	480	32
	Excavator	6	75.9	Excavator	5500	0.1		24.7	8	480	32
	grader (passby)	2	78.5	Grader	5500	0.1		27.4	8	480	30
	compactor (roller)	4	75.4	Roller	5500	0.1		24.2	8	480	30
	dozer	2	80.0	Rubber Tired Loaders	5500	0.1		28.8	8	480	32
	Scraper	4	84.4	Scraper	5500	0.1		37.2	8	480	43
	backhoe	4	75.8	Tractor	5500	0.1		24.6	8	480	31
								Total for 2 Linear, Grading & Excavation Phase:			44.7
3 Linear, Drainage, Utilities, & Sub-Grade	compressor	2	65.6	Air Compressor	5500	0.1		14.5	8	480	17
	generator	2	67.1	Generator Set	5500	0.1		15.9	8	480	19
	grader (passby)	2	78.5	Grader	5500	0.1		27.4	8	480	30
	compactor (plate)	2	74.6	Plate Compactor	5500	0.1		23.5	8	480	26
	pump	2	72.8	Pump	5500	0.1		21.6	8	480	25
	dozer	2	80.0	Rough Terrain Forklift	5500	0.1		28.8	8	480	32
	scraper	4	84.4	Scraper	5500	0.1		37.2	8	480	43
	backhoe	4	75.8	Tractor	5500	0.1		24.6	8	480	31
								Total for 3 Linear, Drainage, Utilities, & Sub-Grade Phase:			44.1
4 Linear, Paving	Paving - Asphalt (Paver + C	2	81.8	Paver	5500	0.1		30.6	8	480	34
	Paving - Asphalt (Paver + N	2	82.8	Paving Equipment	5500	0.1		31.7	8	480	35
	Compactor (Roller)	6	75.4	Roller	5500	0.1		24.2	8	480	32
	backhoe	4	75.8	Tractor	5500	0.1		24.6	8	480	31
								Total for 4 Linear, Paving Phase:			39.8
5 Demolition	concrete saw	1	85.4	Concrete Saw	5500	0.1		34.3	8	480	34
	excavator	3	75.9	Excavator	5500	0.1		24.7	8	480	29
	dozer	2	80.0	Rubber Tired Dozer	5500	0.1		28.8	8	480	32
								Total for 5 Demolition Phase:			34.3
6 Site Preparation	dozer	3	80.0	rubber tired dozer	5500	0.1		28.8	8	480	34
	backhoe	4	75.8	tractor	5500	0.1		24.6	8	480	31
								Total for 6 Site Preparation Phase:			35.4
7 Grading	excavator	2	75.9	Excavator	5500	0.1		24.7	8	480	28
	grader (passby)	1	78.5	Grader	5500	0.1		27.4	8	480	27
	dozer	1	80.0	Rubber Tired Dozers	5500	0.1		28.8	8	480	29
	scraper	2	84.4	Scrapers	5500	0.1		37.2	8	480	40
	backhoe	2	75.8	Tractor	5500	0.1		24.6	8	480	28
								Total for 7 Grading Phase:			41.2
8 Building Construction	crane	1	74.2	Crane	5500	0.1		23.0	8	480	23
	man lift	3	72.1	Forklift	5500	0.1		20.9	8	480	26
	generator	1	67.1	Generator Set	5500	0.1		15.9	8	480	16
	backhoe	3	75.8	Tractor	5500	0.1		24.6	8	480	29
	welding machine	1	71.2	Welders	5500	0.1		20.0	8	480	20
								Total for 8 Building Construction Phase:			32.8
9 Paving	Paving - Asphalt (Paver + C	2	81.8	Pavers	5500	0.1		30.6	8	480	34
	Paving - Asphalt (Paver + N	2	82.8	Paving Equipment	5500	0.1		31.7	8	480	35
	compactor (roller)	2	75.4	Rollers	5500	0.1		24.2	8	480	27
								Total for 9 Paving Phase:			37.8
10 Architectural Coating	compressor	1	65.6	Air Compressor	5500	0.1		14.5	8	480	14
								Total for 10 Architectural Coating Phase:			14.5

Construction Activity	Equipment	Total Equipment Qty	Reference Level @ 50 ft. from FHWA RCNM 2 Table	Client Equipment Description, Data Source and/or Notes	Source to NSR Distance (ft.)	Temporary Barrier Insertion Loss (dB)	Additional Noise Reduction	Distance-Adjusted Leq	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 8-hour Leq
1, Linear, Grubbing & Land Clearing	dozer	2	80.0	Crawler Tractor	18500	0.1		5.2	8	480	8
	excavator	2	75.9	Excavator	18500	0.1		1.1	8	480	4
								Total for 1, Linear, Grubbing & Land Clearing Phase:			9.7
2 Linear, Grading & Excavation	dozer	2	80.0	Crawler Tractor	18500	0.1		5.2	8	480	8
	Excavator	6	75.9	Excavator	18500	0.1		1.1	8	480	9
	grader (passby)	2	78.5	Grader	18500	0.1		3.8	8	480	7
	compactor (roller)	4	75.4	Roller	18500	0.1		0.7	8	480	7
	dozer	2	80.0	Rubber Tired Loaders	18500	0.1		5.2	8	480	8
	Scraper	4	84.4	Scraper	18500	0.1		13.7	8	480	20
	backhoe	4	75.8	Tractor	18500	0.1		1.1	8	480	7
								Total for 2 Linear, Grading & Excavation Phase:			21.1
3 Linear, Drainage, Utilities, & Sub-Grade	compressor	2	65.6	Air Compressor	18500	0.1		-9.1	8	480	-6
	generator	2	67.1	Generator Set	18500	0.1		-7.6	8	480	-5
	grader (passby)	2	78.5	Grader	18500	0.1		3.8	8	480	7
	compactor (plate)	2	74.6	Plate Compactor	18500	0.1		-0.1	8	480	3
	pump	2	72.8	Pump	18500	0.1		-1.9	8	480	1
	dozer	2	80.0	Rough Terrain Forklift	18500	0.1		5.2	8	480	8
	scraper	4	84.4	Scraper	18500	0.1		13.7	8	480	20
	backhoe	4	75.8	Tractor	18500	0.1		1.1	8	480	7
								Total for 3 Linear, Drainage, Utilities, & Sub-Grade Phase:			20.8
4 Linear, Paving	Paving - Asphalt (Paver + D	2	81.8	Paver	18500	0.1		7.1	8	480	10
	Paving - Asphalt (Paver + N	2	82.8	Paving Equipment	18500	0.1		8.1	8	480	11
	Compactor (Roller)	6	75.4	Roller	18500	0.1		0.7	8	480	8
	backhoe	4	75.8	Tractor	18500	0.1		1.1	8	480	7
								Total for 4 Linear, Paving Phase:			15.5
5 Demolition	concrete saw	1	85.4	Concrete Saw	18500	0.1		10.7	8	480	11
	excavator	3	75.9	Excavator	18500	0.1		1.1	8	480	6
	dozer	2	80.0	Rubber Tired Dozer	18500	0.1		5.2	8	480	8
								Total for 5 Demolition Phase:			10.7
6 Site Preparation	dozer	3	80.0	rubber tired dozer	18500	0.1		5.2	8	480	10
	backhoe	4	75.8	tractor	18500	0.1		1.1	8	480	7
								Total for 6 Site Preparation Phase:			11.8
7 Grading	excavator	2	75.9	Excavator	18500	0.1		1.1	8	480	4
	grader (passby)	1	78.5	Grader	18500	0.1		3.8	8	480	4
	dozer	1	80.0	Rubber Tired Dozers	18500	0.1		5.2	8	480	5
	scraper	2	84.4	Scrapers	18500	0.1		13.7	8	480	17
	backhoe	2	75.8	Tractor	18500	0.1		1.1	8	480	4
								Total for 7 Grading Phase:			17.6
8 Building Construction	crane	1	74.2	Crane	18500	0.1		-0.5	8	480	-1
	man lift	3	72.1	Forklift	18500	0.1		-2.6	8	480	2
	generator	1	67.1	Generator Set	18500	0.1		-7.6	8	480	-4
	backhoe	3	75.8	Tractor	18500	0.1		1.1	8	480	6
	welding machine	1	71.2	Welders	18500	0.1		-3.5	8	480	-4
								Total for 8 Building Construction Phase:			8.4
9 Paving	Paving - Asphalt (Paver + D	2	81.8	Pavers	18500	0.1		7.1	8	480	10
	Paving - Asphalt (Paver + N	2	82.8	Paving Equipment	18500	0.1		8.1	8	480	11
	compactor (roller)	2	75.4	Rollers	18500	0.1		0.7	8	480	4
								Total for 9 Paving Phase:			14.1
10 Architectural Coating	compressor	1	65.6	Air Compressor	18500	0.1		-9.1	8	480	-9
								Total for 10 Architectural Coating Phase:			0.0

Construction Activity	Equipment	Total Equipment Qty	Reference Level @ 50 ft, from FHWA RCNM 2 Table	Client Equipment Description, Data Source and/or Notes	Source to NSR Distance (ft.)	Temporary Barrier Insertion Loss (dB)	Additional Noise Reduction	Distance-Adjusted Leq	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 8-hour Leq
1. Linear, Grubbing & Land Clearing	dozer	2	80.0	Crawler Tractor	18525	0.1		5.2	8	480	8
	excavator	2	75.9	Excavator	18500	0.1		1.1	8	480	4
								Total for 1. Linear, Grubbing & Land Clearing Phase:			9.6
2 Linear, Grading & Excavation	dozer	2	80.0	Crawler Tractor	18525	0.1		5.2	8	480	8
	Excavator	6	75.9	Excavator	18525	0.1		1.1	8	480	9
	grader (passby)	2	78.5	Grader	18525	0.1		3.8	8	480	7
	compactor (roller)	4	75.4	Roller	18525	0.1		0.6	8	480	7
	dozer	2	80.0	Rubber Tired Loaders	18525	0.1		5.2	8	480	8
	Scraper	4	88.4	Scraper	18525	0.1		13.6	8	480	20
	backhoe	4	75.8	Tractor	18525	0.1		1.1	8	480	7
								Total for 2 Linear, Grading & Excavation Phase:			21.1
3 Linear, Drainage, Utilities, & Sub-Grade	compressor	2	65.6	Air Compressor	18525	0.1		-9.1	8	480	-6
	generator	2	67.1	Generator Set	18525	0.1		-7.7	8	480	-5
	grader (passby)	2	78.5	Grader	18525	0.1		3.8	8	480	7
	compactor (plate)	2	74.8	Plate Compactor	18525	0.1		-0.1	8	480	3
	pump	2	72.8	Pump	18525	0.1		-2.0	8	480	1
	dozer	2	80.0	Rough Terrain Forklift	18525	0.1		5.2	8	480	8
	scraper	4	88.4	Scraper	18525	0.1		13.6	8	480	20
	backhoe	4	75.8	Tractor	18525	0.1		1.1	8	480	7
								Total for 3 Linear, Drainage, Utilities, & Sub-Grade Phase:			20.5
4 Linear, Paving	Paving - Asphalt (Paver + D	2	81.8	Paver	18525	0.1		7.0	8	480	10
	Paving - Asphalt (Paver + N	2	82.8	Paving Equipment	18525	0.1		8.1	8	480	11
	Compactor (Roller)	6	75.4	Roller	18525	0.1		0.6	8	480	8
	backhoe	4	75.8	Tractor	18525	0.1		1.1	8	480	7
								Total for 4 Linear, Paving Phase:			15.4
5 Demolition	concrete saw	1	85.4	Concrete Saw	18525	0.1		10.7	8	480	11
	excavator	3	75.9	Excavator	18525	0.1		1.1	8	480	6
	dozer	2	80.0	Rubber Tired Dozer	18525	0.1		5.2	8	480	8
								Total for 5 Demolition Phase:			10.7
6 Site Preparation	dozer	3	80.0	rubber tired dozer	18525	0.1		5.2	8	480	10
	backhoe	4	75.8	tractor	18525	0.1		1.1	8	480	7
								Total for 6 Site Preparation Phase:			11.8
7 Grading	excavator	2	75.9	Excavator	18525	0.1		1.1	8	480	4
	grader (passby)	1	78.5	Grader	18525	0.1		3.8	8	480	4
	dozer	1	80.0	Rubber Tired Dozers	18525	0.1		5.2	8	480	5
	scraper	2	88.4	Scrapers	18525	0.1		13.6	8	480	17
	backhoe	2	75.8	Tractor	18525	0.1		1.1	8	480	4
								Total for 7 Grading Phase:			17.6
8 Building Construction	crane	1	74.2	Crane	18525	0.1		-0.6	8	480	-1
	man lifs	3	72.1	Forklift	18525	0.1		-2.7	8	480	2
	generator	1	67.1	Generator Set	18525	0.1		-7.7	8	480	-8
	backhoe	3	75.8	Tractor	18525	0.1		1.1	8	480	6
	welding machine	1	71.2	Welders	18525	0.1		-3.6	8	480	-4
								Total for 8 Building Construction Phase:			8.4
9 Paving	Paving - Asphalt (Paver + D	2	81.8	Pavers	18525	0.1		7.0	8	480	10
	Paving - Asphalt (Paver + N	2	82.8	Paving Equipment	18525	0.1		8.1	8	480	11
	compactor (roller)	2	75.4	Rollers	18525	0.1		0.6	8	480	4
								Total for 9 Paving Phase:			14.9
10 Architectural Coating	compressor	1	65.8	Air Compressor	18525	0.1		-8.1	8	480	-9
								Total for 10 Architectural Coating Phase:			0.0

Construction Activity	Equipment	Total Equipment Qty	Reference Level @ 50 ft. from FHWA RCNM 2 Table	Client Equipment Description, Data Source and/or Notes	Source to NSR Distance (ft.)	Temporary Barrier Insertion Loss (dB)	Additional Noise Reduction	Distance-Adjusted Leq	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 8-hour Leq
1. Linear, Grubbing & Land Clearing	dozer	2	80.0	Crawler Tractor	23350	0.1		-1.6	8	480	1
	excavator	2	75.9	Excavator	23350	0.1		-5.7	8	480	-3
								Total for 1. Linear, Grubbing & Land Clearing Phase:			2.8
2 Linear, Grading & Excavation	dozer	2	80.0	Crawler Tractor	23350	0.1		-1.6	8	480	1
	Excavator	8	75.9	Excavator	23350	0.1		-5.7	8	480	2
	grader (passby)	2	78.5	Grader	23350	0.1		-3.1	8	480	0
	compactor (roller)	4	75.4	Roller	23350	0.1		-6.2	8	480	0
	dozer	2	80.0	Rubber Tired Loaders	23350	0.1		-1.6	8	480	1
	Scraper	4	84.4	Scraper	23350	0.1		6.8	8	480	13
	backhoe	4	75.8	Tractor	23350	0.1		-5.8	8	480	0
								Total for 2 Linear, Grading & Excavation Phase:			14.2
3 Linear, Drainage, Utilities, & Sub-Grade	compressor	2	65.8	Air Compressor	23350	0.1		-16.0	8	480	-13
	generator	2	67.1	Generator Set	23350	0.1		-14.5	8	480	-11
	grader (passby)	2	78.5	Grader	23350	0.1		-3.1	8	480	0
	compactor (plate)	2	74.6	Plate Compactor	23350	0.1		-7.0	8	480	-4
	pump	2	72.8	Pump	23350	0.1		-8.8	8	480	-6
	dozer	2	80.0	Rough Terrain Forklift	23350	0.1		-1.6	8	480	1
	scraper	4	88.4	Scraper	23350	0.1		6.8	8	480	13
	backhoe	4	75.8	Tractor	23350	0.1		-5.8	8	480	0
								Total for 3 Linear, Drainage, Utilities, & Sub-Grade Phase:			13.7
4 Linear, Paving	Paving - Asphalt (Paver + D	2	81.6	Paver	23350	0.1		0.2	8	480	3
	Paving - Asphalt (Paver + N	2	82.8	Paving Equipment	23350	0.1		1.2	8	480	4
	Compactor (Roller)	6	75.4	Roller	23350	0.1		-6.2	8	480	2
	backhoe	4	75.8	Tractor	23350	0.1		-5.8	8	480	0
								Total for 4 Linear, Paving Phase:			8.5
5 Demolition	concrete saw	1	85.4	Concrete Saw	23350	0.1		3.9	8	480	4
	excavator	3	75.9	Excavator	23350	0.1		-5.7	8	480	-1
	dozer	2	80.9	Rubber Tired Dozer	23350	0.1		-1.6	8	480	1
								Total for 5 Demolition Phase:			3.9
6 Site Preparation	dozer	3	80.0	rubber tired dozer	23350	0.1		-1.6	8	480	3
	backhoe	4	75.8	tractor	23350	0.1		-5.8	8	480	0
								Total for 6 Site Preparation Phase:			4.9
7 Grading	excavator	2	75.9	Excavator	23350	0.1		-5.7	8	480	-3
	grader (passby)	1	78.5	Grader	23350	0.1		-3.1	8	480	-3
	dozer	1	80.0	Rubber Tired Dozers	23350	0.1		-1.6	8	480	-2
	scraper	2	88.4	Scrapers	23350	0.1		6.8	8	480	10
	backhoe	2	75.8	Tractor	23350	0.1		-5.8	8	480	-3
								Total for 7 Grading Phase:			10.7
8 Building Construction	crane	1	74.2	Crane	23350	0.1		-7.4	8	480	-7
	man lift	3	72.1	Forklift	23350	0.1		-9.5	8	480	-5
	generator	1	67.1	Generator Set	23350	0.1		-14.5	8	480	-15
	backhoe	3	75.8	Tractor	23350	0.1		-5.8	8	480	-1
	welding machine	1	71.2	Welders	23350	0.1		-10.4	8	480	-10
								Total for 8 Building Construction Phase:			1.6
9 Paving	Paving - Asphalt (Paver + D	2	81.6	Pavers	23350	0.1		0.2	8	480	3
	Paving - Asphalt (Paver + N	2	82.8	Paving Equipment	23350	0.1		1.2	8	480	4
	compactor (roller)	2	75.4	Rollers	23350	0.1		-6.2	8	480	-3
								Total for 9 Paving Phase:			7.2
10 Architectural Coating	compressor	1	65.8	Air Compressor	23350	0.1		-16.0	8	480	-16
								Total for 10 Architectural Coating Phase:			0.0

Construction Activity	Equipment	Total Equipment Qty	Reference Level @ 50 ft. from FHWA RCNM 2 Table	CEnt Equipment Description, Data Source and/or Notes	Source to NSR Distance (ft.)	Temporary Barrier Insertion Loss (dB)	Additional Noise Reduction	Distance-Adjusted Leq	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 8-hour Leq
1. Linear, Grubbing & Land Clearing	dozer	2	80.0	Crawler Tractor	23850	0.1		-2.3	8	480	1
	excavator	2	75.9	Excavator	23850	0.1		-6.4	8	480	-3
								Total for 1. Linear, Grubbing & Land Clearing Phase:			2.1
2 Linear, Grading & Excavation	dozer	2	80.0	Crawler Tractor	23850	0.1		-2.3	8	480	1
	Excavator	6	75.9	Excavator	23850	0.1		-6.4	8	480	1
	grader (passby)	2	78.5	Grader	23850	0.1		-3.8	8	480	-1
	compactor (roller)	4	75.4	Roller	23850	0.1		-6.9	8	480	-1
	dozer	2	80.0	Rubber Tired Loaders	23850	0.1		-2.3	8	480	1
	Scraper	4	84.4	Scraper	23850	0.1		6.1	8	480	12
	backhoe	4	75.8	Tractor	23850	0.1		-6.5	8	480	0
								Total for 2 Linear, Grading & Excavation Phase:			13.6
3 Linear, Drainage, Utilities, & Sub-Grade	compressor	2	65.6	Air Compressor	23850	0.1		-16.6	8	480	-14
	generator	2	67.1	Generator Set	23850	0.1		-15.2	8	480	-12
	grader (passby)	2	78.5	Grader	23850	0.1		-3.8	8	480	-1
	compactor (plate)	2	74.8	Plate Compactor	23850	0.1		-7.6	8	480	-5
	pump	2	72.8	Pump	23850	0.1		-9.5	8	480	-6
	dozer	2	80.0	Rough Terrain Forklift	23850	0.1		-2.3	8	480	1
	scraper	4	84.4	Scraper	23850	0.1		6.1	8	480	12
	backhoe	4	75.8	Tractor	23850	0.1		-6.5	8	480	0
								Total for 3 Linear, Drainage, Utilities, & Sub-Grade Phase:			13.0
4 Linear, Paving	Paving - Asphalt (Paver + D	2	81.8	Paver	23850	0.1		-0.5	8	480	3
	Paving - Asphalt (Paver + N	2	82.8	Paving Equipment	23850	0.1		0.6	8	480	4
	Compactor (Roller)	6	75.4	Roller	23850	0.1		-6.9	8	480	1
	backhoe	4	75.8	Tractor	23850	0.1		-6.5	8	480	0
								Total for 4 Linear, Paving Phase:			7.9
5 Demolition	concrete saw	1	85.4	Concrete Saw	23850	0.1		3.2	8	480	3
	excavator	3	75.9	Excavator	23850	0.1		-6.4	8	480	-2
	dozer	2	80.0	Rubber Tired Dozer	23850	0.1		-2.3	8	480	1
								Total for 5 Demolition Phase:			3.2
6 Site Preparation	dozer	3	80.0	rubber tired dozer	23850	0.1		-2.3	8	480	2
	backhoe	4	75.8	tractor	23850	0.1		-6.5	8	480	0
								Total for 6 Site Preparation Phase:			4.2
7 Grading	excavator	2	75.9	Excavator	23850	0.1		-6.4	8	480	-3
	grader (passby)	1	78.5	Grader	23850	0.1		-3.8	8	480	-4
	dozer	1	80.0	Rubber Tired Dozers	23850	0.1		-2.3	8	480	-2
	scraper	2	84.4	Scrapers	23850	0.1		6.1	8	480	9
	backhoe	2	75.8	Tractor	23850	0.1		-6.5	8	480	-3
								Total for 7 Grading Phase:			10.0
8 Building Construction	crane	1	74.2	Crane	23850	0.1		-8.1	8	480	-8
	man lift	3	72.1	Forklift	23850	0.1		-10.2	8	480	-6
	generator	1	67.1	Generator Set	23850	0.1		-15.2	8	480	-15
	backhoe	3	75.8	Tractor	23850	0.1		-6.5	8	480	-2
	welding machine	1	71.2	Welders	23850	0.1		-11.1	8	480	-11
								Total for 8 Building Construction Phase:			0.9
9 Paving	Paving - Asphalt (Paver + D	2	81.8	Pavers	23850	0.1		-0.5	8	480	3
	Paving - Asphalt (Paver + N	2	82.8	Paving Equipment	23850	0.1		0.6	8	480	4
	compactor (roller)	2	75.4	Rollers	23850	0.1		-6.9	8	480	-4
								Total for 9 Paving Phase:			6.5
10 Architectural Coating	compressor	1	65.6	Air Compressor	23850	0.1		-16.6	8	480	-17
								Total for 10 Architectural Coating Phase:			0.0

Construction Activity	Equipment	Total Equipment Qty	Reference Level @ 50 ft. from FHWA RCNM 2 Table	Client Equipment Description, Data Source and/or Notes	Source to NSR Distance (ft.)	Temporary Barrier Insertion Loss (dB)	Additional Noise Reduction	Distance-Adjusted Leq	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 8-hour Leq
1. Linear, Grubbing & Land Clearing	dozer	2	80.0	Crawler Tractor	23850	0.1		-2.3	8	480	1
	excavator	2	75.9	Excavator	23850	0.1		-6.4	8	480	-3
								Total for 1. Linear, Grubbing & Land Clearing Phase:			2.1
2 Linear, Grading & Excavation	dozer	2	80.0	Crawler Tractor	23850	0.1		-2.3	8	480	1
	Excavator	6	75.9	Excavator	23850	0.1		-6.4	8	480	1
	grader (passby)	2	78.5	Grader	23850	0.1		-3.8	8	480	-1
	compactor (roller)	4	75.4	Roller	23850	0.1		-6.9	8	480	-1
	dozer	2	80.0	Rubber Tired Loaders	23850	0.1		-2.3	8	480	1
	Scraper	4	88.4	Scraper	23850	0.1		6.1	8	480	12
	backhoe	4	75.8	Tractor	23850	0.1		-6.5	8	480	0
								Total for 2 Linear, Grading & Excavation Phase:			13.8
3 Linear, Drainage, Utilities, & Sub-Grade	compressor	2	65.6	Air Compressor	23850	0.1		-16.6	8	480	-14
	generator	2	67.1	Generator Set	23850	0.1		-15.2	8	480	-12
	grader (passby)	2	78.5	Grader	23850	0.1		-3.8	8	480	-1
	compactor (plate)	2	74.6	Plate Compactor	23850	0.1		-7.6	8	480	-5
	pump	2	72.8	Pump	23850	0.1		-9.5	8	480	-6
	dozer	2	80.0	Rough Terrain Forklift	23850	0.1		-2.3	8	480	1
	scraper	4	88.4	Scraper	23850	0.1		6.1	8	480	12
	backhoe	4	75.8	Tractor	23850	0.1		-6.5	8	480	0
								Total for 3 Linear, Drainage, Utilities, & Sub-Grade Phase:			13.8
4 Linear, Paving	Paving - Asphalt (Paver + C	2	81.8	Paver	23850	0.1		-0.5	8	480	3
	Paving - Asphalt (Paver + N	2	82.8	Paving Equipment	23850	0.1		0.6	8	480	4
	Compactor (Roller)	6	75.4	Roller	23850	0.1		-6.9	8	480	1
	backhoe	4	75.8	Tractor	23850	0.1		-6.5	8	480	0
								Total for 4 Linear, Paving Phase:			7.9
5 Demolition	concrete saw	1	85.4	Concrete Saw	23850	0.1		3.2	8	480	3
	excavator	3	75.9	Excavator	23850	0.1		-6.4	8	480	-2
	dozer	2	80.0	Rubber Tired Dozer	23850	0.1		-2.3	8	480	1
								Total for 5 Demolition Phase:			3.2
6 Site Preparation	dozer	3	80.0	rubber tired dozer	23850	0.1		-2.3	8	480	2
	backhoe	4	75.8	tractor	23850	0.1		-6.5	8	480	0
								Total for 6 Site Preparation Phase:			4.2
7 Grading	excavator	2	75.9	Excavator	23850	0.1		-6.4	8	480	-3
	grader (passby)	1	78.5	Grader	23850	0.1		-3.8	8	480	-4
	dozer	1	80.0	Rubber Tired Dozers	23850	0.1		-2.3	8	480	-2
	scraper	2	88.4	Scrapers	23850	0.1		6.1	8	480	9
	backhoe	2	75.8	Tractor	23850	0.1		-6.5	8	480	-3
								Total for 7 Grading Phase:			10.0
8 Building Construction	crane	1	74.2	Crane	23850	0.1		-8.1	8	480	-8
	man lift	3	72.1	Forklift	23850	0.1		-10.2	8	480	-5
	generator	1	67.1	Generator Set	23850	0.1		-15.2	8	480	-15
	backhoe	3	75.8	Tractor	23850	0.1		-6.5	8	480	-2
	welding machine	1	71.2	Welders	23850	0.1		-11.1	8	480	-11
								Total for 8 Building Construction Phase:			0.9
9 Paving	Paving - Asphalt (Paver + C	2	81.8	Pavers	23850	0.1		-0.5	8	480	3
	Paving - Asphalt (Paver + A	2	82.8	Paving Equipment	23850	0.1		0.6	8	480	4
	compactor (roller)	2	75.4	Rollers	23850	0.1		-6.9	8	480	-4
								Total for 9 Paving Phase:			6.5
10 Architectural Coating	compressor	1	65.6	Air Compressor	23850	0.1		-16.6	8	480	-17
								Total for 10 Architectural Coating Phase:			0.0

Construction Activity	Equipment	Total Equipment Qty	Reference Level @ 50 ft. from FHWA RCNM 2 Table	Client Equipment Description, Data Source and/or Notes	Source to NSR Distance (ft.)	*Temporary Barrier Insertion Loss (dB)*	*Additional Noise Reduction*	Distance-Adjusted Leq	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 8-hour Leq
1 Linear, Drainage, Utilities, & Sub-Grade	compressor	2	65.6	Air Compressor	9500	0.1		5.7	8	480	9
	generator	2	67.1	Generator Set	9500	0.1		7.2	8	480	10
	grader (passby)	2	78.5	Grader	9500	0.1		18.6	8	480	22
	compactor (plate)	2	74.6	Plate Compactor	9500	0.1		14.7	8	480	18
	pump	2	72.8	Pump	9500	0.1		12.9	8	480	16
	dozer	2	80.0	Rough Terrain Forklift	9500	0.1		20.0	8	480	23
	scraper	4	88.4	Scraper	9500	0.1		28.5	8	480	35
	backhoe	4	75.8	Tractor	9500	0.1		15.9	8	480	22
								Total for 1 Linear, Drainage, Utilities, & Sub-Grade Phase:			**35.4**
2 Linear, Paving	Paving - Asphalt (Paver + D	2	81.8	Paver	9500	0.1		21.9	8	480	25
	Paving - Asphalt (Paver + M	2	82.8	Paving Equipment	9500	0.1		22.9	8	480	26
	Compactor (Roller)	6	75.4	Roller	9500	0.1		15.5	8	480	23
	backhoe	4	75.8	Tractor	9500	0.1		15.9	8	480	22
								Total for 2 Linear, Paving Phase:			**30.3**
3 Demolition	concrete saw	3	85.4	Concrete Saw	9500	0.1		25.5	8	480	30
	excavator	2	75.9	Excavator	9500	0.1		15.9	8	480	19
	dozer	3	80.0	Rubber Tired Dozer	9500	0.1		20.0	8	480	25
								Total for 3 Demolition Phase:			**30.3**
4 Site Preparation	dozer	3	80.0	rubber tired dozer	9500	0.1		20.0	8	480	25
	backhoe	4	75.8	tractor	9500	0.1		15.9	8	480	22
								Total for 4 Site Preparation Phase:			**26.6**
5 Grading	excavator	2	75.9	Excavator	9500	0.1		15.9	8	480	19
	grader (passby)	1	78.5	Grader	9500	0.1		18.6	8	480	19
	dozer	1	80.0	Rubber Tired Dozers	9500	0.1		20.0	8	480	20
	scraper	2	88.4	Scrapers	9500	0.1		28.5	8	480	31
	backhoe	2	75.8	Tractor	9500	0.1		15.9	8	480	19
								Total for 5 Grading Phase:			**32.4**
6 Building Construction	crane	1	74.2	Crane	9500	0.1		14.3	8	480	14
	man lift	3	72.1	Forklift	9500	0.1		12.2	8	480	17
	generator	1	67.1	Generator Set	9500	0.1		7.2	8	480	7
	backhoe	3	75.8	Tractor	9500	0.1		15.9	8	480	21
	welding machine	1	71.2	Welders	9500	0.1		11.3	8	480	11
								Total for 6 Building Construction Phase:			**23.2**
7 Paving	Paving - Asphalt (Paver + D	2	81.8	Pavers	9500	0.1		21.9	8	480	25
	Paving - Asphalt (Paver + M	2	82.8	Paving Equipment	9500	0.1		22.9	8	480	26
	compactor (roller)	2	75.4	Rollers	9500	0.1		15.5	8	480	18
								Total for 7 Paving Phase:			**28.9**
8 Architectural Coating	compressor	1	65.6	Air Compressor	9500	0.1		5.7	8	480	6
								Total for 8 Architectural Coating Phase:			**5.7**

Construction Activity	Equipment	Total Equipment Qty	Reference Level @ 50 ft. from FHWA RCNM 2 Table	Client Equipment Description, Data Source and/or Notes	Source to NSR Distance (ft.)	*Temporary Barrier Insertion Loss (dB)*	*Additional Noise Reduction*	Distance-Adjusted Leq	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 8-hour Leq
1 Linear, Drainage, Utilities, & Sub-Grade	compressor	2	65.6	Air Compressor	11000	0.1		2.9	8	480	6
	generator	2	67.1	Generator Set	11000	0.1		4.4	8	480	7
	grader (passby)	2	78.5	Grader	11000	0.1		15.8	8	480	19
	compactor (plate)	2	74.6	Plate Compactor	11000	0.1		11.9	8	480	15
	pump	2	72.8	Pump	11000	0.1		10.1	8	480	13
	dozer	2	80.0	Rough Terrain Forklift	11000	0.1		17.3	8	480	20
	scraper	4	88.4	Scraper	11000	0.1		25.7	8	480	32
	backhoe	4	75.8	Tractor	11000	0.1		13.1	8	480	19
								Total for 1 Linear, Drainage, Utilities, & Sub-Grade Phase:			**32.6**
2 Linear, Paving	Paving - Asphalt (Paver + D	2	81.8	Paver	11000	0.1		19.1	8	480	22
	Paving - Asphalt (Paver + M	2	82.8	Paving Equipment	11000	0.1		20.1	8	480	23
	Compactor (Roller)	6	75.4	Roller	11000	0.1		12.7	8	480	20
	backhoe	4	75.8	Tractor	11000	0.1		13.1	8	480	19
								Total for 2 Linear, Paving Phase:			**27.5**
3 Demolition	concrete saw	3	85.4	Concrete Saw	11000	0.1		22.7	8	480	28
	excavator	2	75.9	Excavator	11000	0.1		13.2	8	480	16
	dozer	3	80.0	Rubber Tired Dozer	11000	0.1		17.3	8	480	22
								Total for 3 Demolition Phase:			**27.5**
4 Site Preparation	dozer	3	80.0	rubber tired dozer	11000	0.1		17.3	8	480	22
	backhoe	4	75.8	tractor	11000	0.1		13.1	8	480	19
								Total for 4 Site Preparation Phase:			**23.8**
5 Grading	excavator	2	75.9	Excavator	11000	0.1		13.2	8	480	16
	grader (passby)	1	78.5	Grader	11000	0.1		15.8	8	480	16
	dozer	1	80.0	Rubber Tired Dozers	11000	0.1		17.3	8	480	17
	scraper	2	88.4	Scrapers	11000	0.1		25.7	8	480	29
	backhoe	2	75.8	Tractor	11000	0.1		13.1	8	480	16
								Total for 5 Grading Phase:			**29.6**
6 Building Construction	crane	1	74.2	Crane	11000	0.1		11.5	8	480	11
	man lift	3	72.1	Forklift	11000	0.1		9.4	8	480	14
	generator	1	67.1	Generator Set	11000	0.1		4.4	8	480	4
	backhoe	3	75.8	Tractor	11000	0.1		13.1	8	480	18
	welding machine	1	71.2	Welders	11000	0.1		8.5	8	480	8
								Total for 6 Building Construction Phase:			**20.5**
7 Paving	Paving - Asphalt (Paver + D	2	81.8	Pavers	11000	0.1		19.1	8	480	22
	Paving - Asphalt (Paver + M	2	82.8	Paving Equipment	11000	0.1		20.1	8	480	23
	compactor (roller)	2	75.4	Rollers	11000	0.1		12.7	8	480	16
								Total for 7 Paving Phase:			**26.1**
8 Architectural Coating	compressor	1	65.6	Air Compressor	11000	0.1		2.9	8	480	3
								Total for 8 Architectural Coating Phase:			**2.9**

Construction Activity	Equipment	Total Equipment Qty	Reference Level @ 50 ft. from FHWA RCNM 2 Table	Client Equipment Description, Data Source and/or Notes	Source to NSR Distance (ft.)	*Temporary Barrier Insertion Loss (dB)*	*Additional Noise Reduction*	Distance-Adjusted Leq	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 8-hour Leq
1 Linear, Drainage, Utilities, & Sub-Grade	compressor	2	65.6	Air Compressor	20500	0.1		-12.0	8	480	-9
	generator	2	67.1	Generator Set	20500	0.1		-10.5	8	480	-8
	grader (passby)	2	78.5	Grader	20500	0.1		0.9	8	480	4
	compactor (plate)	2	74.6	Plate Compactor	20500	0.1		-3.0	8	480	0
	pump	2	72.8	Pump	20500	0.1		-4.8	8	480	-2
	dozer	2	80.0	Rough Terrain Forklift	20500	0.1		2.3	8	480	5
	scraper	4	88.4	Scraper	20500	0.1		10.8	8	480	17
	backhoe	4	75.8	Tractor	20500	0.1		-1.8	8	480	4
								Total for 1 Linear, Drainage, Utilities, & Sub-Grade Phase			**17.7**
2 Linear, Paving	Paving - Asphalt (Paver + D	2	81.8	Paver	20500	0.1		4.2	8	480	7
	Paving - Asphalt (Paver + M	2	82.8	Paving Equipment	20500	0.1		5.2	8	480	8
	Compactor (Roller)	6	75.4	Roller	20500	0.1		-2.2	8	480	6
	backhoe	4	75.8	Tractor	20500	0.1		-1.8	8	480	4
								Total for 2 Linear, Paving Phase			**12.6**
3 Demolition	concrete saw	3	85.4	Concrete Saw	20500	0.1		7.8	8	480	13
	excavator	2	75.9	Excavator	20500	0.1		-1.8	8	480	1
	dozer	3	80.0	Rubber Tired Dozer	20500	0.1		2.3	8	480	7
								Total for 3 Demolition Phase			**12.6**
4 Site Preparation	dozer	3	80.0	rubber tired dozer	20500	0.1		2.3	8	480	7
	backhoe	4	75.8	tractor	20500	0.1		-1.8	8	480	4
								Total for 4 Site Preparation Phase			**8.9**
5 Grading	excavator	2	75.9	Excavator	20500	0.1		-1.8	8	480	1
	grader (passby)	1	78.5	Grader	20500	0.1		0.9	8	480	1
	dozer	1	80.0	Rubber Tired Dozers	20500	0.1		2.3	8	480	2
	scraper	2	88.4	Scrapers	20500	0.1		10.8	8	480	14
	backhoe	2	75.8	Tractor	20500	0.1		-1.8	8	480	1
								Total for 5 Grading Phase			**14.7**
6 Building Construction	crane	1	74.2	Crane	20500	0.1		-3.4	8	480	-3
	man lift	3	72.1	Forklift	20500	0.1		-5.5	8	480	-1
	generator	1	67.1	Generator Set	20500	0.1		-10.5	8	480	-11
	backhoe	3	75.8	Tractor	20500	0.1		-1.8	8	480	3
	welding machine	1	71.2	Welders	20500	0.1		-6.4	8	480	-6
								Total for 6 Building Construction Phase			**5.6**
7 Paving	Paving - Asphalt (Paver + D	2	81.8	Pavers	20500	0.1		4.2	8	480	7
	Paving - Asphalt (Paver + M	2	82.8	Paving Equipment	20500	0.1		5.2	8	480	8
	compactor (roller)	2	75.4	Rollers	20500	0.1		-2.2	8	480	1
								Total for 7 Paving Phase			**11.2**
8 Architectural Coating	compressor	1	65.6	Air Compressor	20500	0.1		-12.0	8	480	-12
								Total for 8 Architectural Coating Phase			**0.0**

Construction Activity	Equipment	Total Equipment Qty	Reference Level @ 50 ft. from FHWA RCNM 2 Table	Client Equipment Description, Data Source and/or Notes	Source to NSR Distance (ft.)	*Temporary Barrier Insertion Loss (dB)*	*Additional Noise Reduction*	Distance-Adjusted Leq	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 8-hour Leq
1 Linear, Drainage, Utilities, & Sub-Grade	compressor	2	65.6	Air Compressor	20000	0.1		-11.3	8	480	-8
	generator	2	67.1	Generator Set	20000	0.1		-9.8	8	480	-7
	grader (passby)	2	76.5	Grader	20000	0.1		1.6	8	480	5
	compactor (plate)	2	74.6	Plate Compactor	20000	0.1		-2.3	8	480	1
	pump	2	72.8	Pump	20000	0.1		-4.1	8	480	-1
	dozer	2	80.0	Rough Terrain Forklift	20000	0.1		3.1	8	480	6
	scraper	4	88.4	Scraper	20000	0.1		11.5	8	480	18
	backhoe	4	75.8	Tractor	20000	0.1		-1.1	8	480	5
								Total for 1 Linear, Drainage, Utilities, & Sub-Grade Phase			**18.4**
2 Linear, Paving	Paving - Asphalt (Paver + D	2	81.8	Paver	20000	0.1		4.9	8	480	8
	Paving - Asphalt (Paver + M	2	82.8	Paving Equipment	20000	0.1		5.9	8	480	9
	Compactor (Roller)	6	75.4	Roller	20000	0.1		-1.5	8	480	6
	backhoe	4	75.8	Tractor	20000	0.1		-1.1	8	480	5
								Total for 2 Linear, Paving Phase			**13.3**
3 Demolition	concrete saw	3	85.4	Concrete Saw	20000	0.1		8.5	8	480	13
	excavator	2	75.9	Excavator	20000	0.1		-1.0	8	480	2
	dozer	3	80.0	Rubber Tired Dozer	20000	0.1		3.1	8	480	8
								Total for 3 Demolition Phase			**13.3**
4 Site Preparation	dozer	3	80.0	rubber tired dozer	20000	0.1		3.1	8	480	8
	backhoe	4	75.8	tractor	20000	0.1		-1.1	8	480	5
								Total for 4 Site Preparation Phase			**9.6**
5 Grading	excavator	2	75.9	Excavator	20000	0.1		-1.0	8	480	2
	grader (passby)	1	76.5	Grader	20000	0.1		1.6	8	480	2
	dozer	1	80.0	Rubber Tired Dozers	20000	0.1		3.1	8	480	3
	scraper	2	88.4	Scrapers	20000	0.1		11.5	8	480	15
	backhoe	2	75.8	Tractor	20000	0.1		-1.1	8	480	2
								Total for 5 Grading Phase			**15.4**
6 Building Construction	crane	1	74.2	Crane	20000	0.1		-2.7	8	480	-3
	man lift	3	72.1	Forklift	20000	0.1		-4.8	8	480	0
	generator	1	67.1	Generator Set	20000	0.1		-9.8	8	480	-10
	backhoe	3	75.8	Tractor	20000	0.1		-1.1	8	480	4
	welding machine	1	71.2	Welders	20000	0.1		-5.7	8	480	-6
								Total for 6 Building Construction Phase			**6.3**
7 Paving	Paving - Asphalt (Paver + D	2	81.8	Pavers	20000	0.1		4.9	8	480	8
	Paving - Asphalt (Paver + M	2	82.8	Paving Equipment	20000	0.1		5.9	8	480	9
	compactor (roller)	2	75.4	Rollers	20000	0.1		-1.5	8	480	2
								Total for 7 Paving Phase			**11.9**
8 Architectural Coating	compressor	1	65.6	Air Compressor	20000	0.1		-11.3	8	480	-11
								Total for 8 Architectural Coating Phase			**0.0**

Construction Activity	Equipment	Total Equipment Qty	Reference Level @ 50 ft. from FHWA RCNM 2 Table	Client Equipment Description, Data Source and/or Notes	Source to NSR Distance (ft.)	*Temporary Barrier Insertion Loss (dB)*	*Additional Noise Reduction*	Distance-Adjusted Leq	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 8-hour Leq
1 Linear, Drainage, Utilities, & Sub-Grade	compressor	2	65.6	Air Compressor	18500	0.1		-9.1	8	480	-6
	generator	2	67.1	Generator Set	18500	0.1		-7.6	8	480	-5
	grader (passby)	2	78.5	Grader	18500	0.1		3.8	8	480	7
	compactor (plate)	2	74.6	Plate Compactor	18500	0.1		-0.1	8	480	3
	pump	2	72.6	Pump	18500	0.1		-1.9	8	480	1
	dozer	2	80.0	Rough Terrain Forklift	18500	0.1		5.2	8	480	8
	scraper	4	88.4	Scraper	18500	0.1		13.7	8	480	20
	backhoe	4	75.8	Tractor	18500	0.1		1.1	8	480	7
								Total for 1 Linear, Drainage, Utilities, & Sub-Grade Phase:			**20.6**
2 Linear, Paving	Paving - Asphalt (Paver + D	2	81.8	Paver	18500	0.1		7.1	8	480	10
	Paving - Asphalt (Paver + M	2	82.8	Paving Equipment	18500	0.1		8.1	8	480	11
	Compactor (Roller)	6	75.4	Roller	18500	0.1		0.7	8	480	8
	backhoe	4	75.8	Tractor	18500	0.1		1.1	8	480	7
								Total for 2 Linear, Paving Phase:			**15.5**
3 Demolition	concrete saw	3	85.4	Concrete Saw	18500	0.1		10.7	8	480	15
	excavator	2	75.9	Excavator	18500	0.1		1.1	8	480	4
	dozer	3	80.0	Rubber Tired Dozer	18500	0.1		5.2	8	480	10
								Total for 3 Demolition Phase:			**15.5**
4 Site Preparation	dozer	3	80.0	rubber tired dozer	18500	0.1		5.2	8	480	10
	backhoe	4	75.8	tractor	18500	0.1		1.1	8	480	7
								Total for 4 Site Preparation Phase:			**11.8**
5 Grading	excavator	2	75.9	Excavator	18500	0.1		1.1	8	480	4
	grader (passby)	1	78.5	Grader	18500	0.1		3.8	8	480	4
	dozer	1	80.0	Rubber Tired Dozers	18500	0.1		5.2	8	480	5
	scraper	2	88.4	Scrapers	18500	0.1		13.7	8	480	17
	backhoe	2	75.8	Tractor	18500	0.1		1.1	8	480	4
								Total for 5 Grading Phase:			**17.6**
6 Building Construction	crane	1	74.2	Crane	18500	0.1		-0.5	8	480	-1
	man lift	3	72.1	Forklift	18500	0.1		-2.6	8	480	2
	generator	1	67.1	Generator Set	18500	0.1		-7.6	8	480	-8
	backhoe	3	75.8	Tractor	18500	0.1		1.1	8	480	6
	welding machine	1	71.2	Welders	18500	0.1		-3.5	8	480	-4
								Total for 6 Building Construction Phase:			**8.4**
7 Paving	Paving - Asphalt (Paver + D	2	81.8	Pavers	18500	0.1		7.1	8	480	10
	Paving - Asphalt (Paver + M	2	82.8	Paving Equipment	18500	0.1		8.1	8	480	11
	compactor (roller)	2	75.4	Rollers	18500	0.1		0.7	8	480	4
								Total for 7 Paving Phase:			**14.1**
8 Architectural Coating	compressor	1	65.6	Air Compressor	18500	0.1		-9.1	8	480	-9
								Total for 8 Architectural Coating Phase:			**0.0**

Construction Activity	Equipment	Total Equipment Qty	Reference Level @ 50 ft. from FHWA RCNM 2 Table	Client Equipment Description, Data Source and/or Notes	Source to NSR Distance (ft.)	*Temporary Barrier Insertion Loss (dB)*	*Additional Noise Reduction*	Distance-Adjusted Leq	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 8-hour Leq
1 Linear, Drainage, Utilities, & Sub-Grade	compressor	2	65.6	Air Compressor	17525	0.1		-7.6	8	480	-5
	generator	2	67.1	Generator Set	17525	0.1		-6.2	8	480	-3
	grader (passby)	2	78.5	Grader	17525	0.1		5.2	8	480	8
	compactor (plate)	2	74.6	Plate Compactor	17525	0.1		1.4	8	480	4
	pump	2	72.8	Pump	17525	0.1		-0.5	8	480	3
	dozer	2	80.0	Rough Terrain Forklift	17525	0.1		6.7	8	480	10
	scraper	4	88.4	Scraper	17525	0.1		15.1	8	480	21
	backhoe	4	75.8	Tractor	17525	0.1		2.5	8	480	9
								Total for 1 Linear, Drainage, Utilities, & Sub-Grade Phase			**22.0**
2 Linear, Paving	Paving - Asphalt (Paver + D	2	81.8	Paver	17525	0.1		8.5	8	480	12
	Paving - Asphalt (Paver + M	2	82.8	Paving Equipment	17525	0.1		9.6	8	480	13
	Compactor (Roller)	6	75.4	Roller	17525	0.1		2.1	8	480	10
	backhoe	4	75.8	Tractor	17525	0.1		2.5	8	480	9
								Total for 2 Linear, Paving Phase			**16.9**
3 Demolition	concrete saw	3	85.4	Concrete Saw	17525	0.1		12.2	8	480	17
	excavator	2	75.9	Excavator	17525	0.1		2.6	8	480	6
	dozer	3	80.0	Rubber Tired Dozer	17525	0.1		6.7	8	480	11
								Total for 3 Demolition Phase			**16.9**
4 Site Preparation	dozer	3	80.0	rubber tired dozer	17525	0.1		6.7	8	480	11
	backhoe	4	75.8	tractor	17525	0.1		2.5	8	480	9
								Total for 4 Site Preparation Phase			**13.3**
5 Grading	excavator	2	75.9	Excavator	17525	0.1		2.6	8	480	6
	grader (passby)	1	78.5	Grader	17525	0.1		5.2	8	480	5
	dozer	1	80.0	Rubber Tired Dozers	17525	0.1		6.7	8	480	7
	scraper	2	88.4	Scrapers	17525	0.1		15.1	8	480	18
	backhoe	2	75.8	Tractor	17525	0.1		2.5	8	480	6
								Total for 5 Grading Phase			**19.1**
6 Building Construction	crane	1	74.2	Crane	17525	0.1		0.9	8	480	1
	man lift	3	72.1	Forklift	17525	0.1		-1.2	8	480	4
	generator	1	67.1	Generator Set	17525	0.1		-6.2	8	480	-6
	backhoe	3	75.8	Tractor	17525	0.1		2.5	8	480	7
	welding machine	1	71.2	Welders	17525	0.1		-2.1	8	480	-2
								Total for 6 Building Construction Phase			**9.9**
7 Paving	Paving - Asphalt (Paver + D	2	81.8	Pavers	17525	0.1		8.5	8	480	12
	Paving - Asphalt (Paver + M	2	82.8	Paving Equipment	17525	0.1		9.6	8	480	13
	compactor (roller)	2	75.4	Rollers	17525	0.1		2.1	8	480	5
								Total for 7 Paving Phase			**15.5**
8 Architectural Coating	compressor	1	65.6	Air Compressor	17525	0.1		-7.6	8	480	-8
								Total for 8 Architectural Coating Phase			**0.0**

Construction Activity	Equipment	Total Equipment Qty	Reference Level @ 50 ft. from FHWA RCNM 2 Table	Client Equipment Description, Data Source and/or Notes	Source to NSR Distance (ft.)	*Temporary Barrier Insertion Loss (dB)*	*Additional Noise Reduction*	Distance-Adjusted Leq	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 8-hour Leq
1 Linear, Drainage, Utilities, & Sub-Grade	compressor	2	65.6	Air Compressor	15900	0.1		-5.2	8	480	-2
	generator	2	67.1	Generator Set	15900	0.1		-3.7	8	480	-1
	grader (passby)	2	78.5	Grader	15900	0.1		7.7	8	480	11
	compactor (plate)	2	74.6	Plate Compactor	15900	0.1		3.8	8	480	7
	pump	2	72.8	Pump	15900	0.1		2.0	8	480	5
	dozer	2	80.0	Rough Terrain Forklift	15900	0.1		9.2	8	480	12
	scraper	4	88.4	Scraper	15900	0.1		17.6	8	480	24
	backhoe	4	75.8	Tractor	15900	0.1		5.0	8	480	11
								Total for 1 Linear, Drainage, Utilities, & Sub-Grade Phase:			**24.5**
2 Linear, Paving	Paving - Asphalt (Paver + D	2	81.8	Paver	15900	0.1		11.0	8	480	14
	Paving - Asphalt (Paver + M	2	82.8	Paving Equipment	15900	0.1		12.0	8	480	15
	Compactor (Roller)	6	75.4	Roller	15900	0.1		4.6	8	480	12
	backhoe	4	75.8	Tractor	15900	0.1		5.0	8	480	11
								Total for 2 Linear, Paving Phase:			**19.4**
3 Demolition	concrete saw	3	85.4	Concrete Saw	15900	0.1		14.6	8	480	19
	excavator	2	75.9	Excavator	15900	0.1		5.1	8	480	8
	dozer	3	80.0	Rubber Tired Dozer	15900	0.1		9.2	8	480	14
								Total for 3 Demolition Phase:			**19.4**
4 Site Preparation	dozer	3	80.0	rubber tired dozer	15900	0.1		9.2	8	480	14
	backhoe	4	75.8	tractor	15900	0.1		5.0	8	480	11
								Total for 4 Site Preparation Phase:			**15.7**
5 Grading	excavator	2	75.9	Excavator	15900	0.1		5.1	8	480	8
	grader (passby)	1	78.5	Grader	15900	0.1		7.7	8	480	8
	dozer	1	80.0	Rubber Tired Dozers	15900	0.1		9.2	8	480	9
	scraper	2	88.4	Scrapers	15900	0.1		17.6	8	480	21
	backhoe	2	75.8	Tractor	15900	0.1		5.0	8	480	8
								Total for 5 Grading Phase:			**21.5**
6 Building Construction	crane	1	74.2	Crane	15900	0.1		3.4	8	480	3
	man lift	3	72.1	Forklift	15900	0.1		1.3	8	480	6
	generator	1	67.1	Generator Set	15900	0.1		-3.7	8	480	-4
	backhoe	3	75.8	Tractor	15900	0.1		5.0	8	480	10
	welding machine	1	71.2	Welders	15900	0.1		0.4	8	480	0
								Total for 6 Building Construction Phase:			**12.4**
7 Paving	Paving - Asphalt (Paver + D	2	81.8	Pavers	15900	0.1		11.0	8	480	14
	Paving - Asphalt (Paver + M	2	82.8	Paving Equipment	15900	0.1		12.0	8	480	15
	compactor (roller)	2	75.4	Rollers	15900	0.1		4.6	8	480	8
								Total for 7 Paving Phase:			**18.0**
8 Architectural Coating	compressor	1	65.6	Air Compressor	15900	0.1		-5.2	8	480	-5
								Total for 8 Architectural Coating Phase:			**0.0**

Construction Activity	Equipment	Total Equipment Qty	Reference Level @ 50 ft. from FHWA RCNM 2 Table	Client Equipment Description, Data Source and/or Notes	Source to RSR Distance (ft.)	Temporary Barrier Insertion Loss (dB)	Additional Noise Reduction	Distance-Adjusted Leq	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 1-hour Leq
1. Linear, Grubbing & Land Clearing	dozer	2	80.0	Crawler Tractor	5000	0.1		30.1	8	480	33
	excavator	2	75.9	Excavator	5000	0.1		26.0	8	480	29
								Total for 1. Linear, Grubbing & Land Clearing Phase:			34.6
2 Linear, Grading & Excavation	dozer	2	80.0	Crawler Tractor	5000	0.1		30.1	8	480	33
	Excavator	6	75.9	Excavator	5000	0.1		26.0	8	480	34
	grader (passby)	2	78.5	Grader	5000	0.1		28.7	8	480	32
	compactor (roller)	4	75.4	Roller	5000	0.1		25.6	8	480	32
	dozer	2	80.0	Rubber Tired Loaders	5000	0.1		30.1	8	480	33
	Scraper	4	84.4	Scraper	5000	0.1		34.5	8	480	45
	backhoe	4	75.8	Tractor	5000	0.1		26.0	8	480	32
								Total for 2 Linear, Grading & Excavation Phase:			46.8
3 Linear, Drainage, Utilities, & Sub-Grade	compressor	2	65.6	Air Compressor	5000	0.1		15.8	8	480	19
	generator	2	67.1	Generator Set	5000	0.1		17.3	8	480	20
	grader (passby)	2	78.5	Grader	5000	0.1		28.7	8	480	32
	compactor (plate)	2	74.6	Plate Compactor	5000	0.1		24.8	8	480	28
	pump	2	72.8	Pump	5000	0.1		22.9	8	480	26
	dozer	2	80.0	Rough Terrain Forklift	5000	0.1		30.1	8	480	33
	scraper	4	84.4	Scraper	5000	0.1		34.5	8	480	45
	backhoe	4	75.8	Tractor	5000	0.1		26.0	8	480	32
								Total for 3 Linear, Drainage, Utilities, & Sub-Grade Phase:			45.5
4 Linear, Paving	Paving - Asphalt (Paver + D	2	81.8	Paver	5000	0.1		31.9	8	480	35
	Paving - Asphalt (Paver + R	2	82.8	Paving Equipment	5000	0.1		33.0	8	480	36
	Compactor (Roller)	6	75.4	Roller	5000	0.1		25.6	8	480	33
	backhoe	4	75.8	Tractor	5000	0.1		26.0	8	480	32
								Total for 4 Linear, Paving Phase:			40.4
5 Demolition	concrete saw	1	85.4	Concrete Saw	5000	0.1		35.6	8	480	36
	excavator	3	75.9	Excavator	5000	0.1		26.0	8	480	31
	dozer	2	80.0	Rubber Tired Dozer	5000	0.1		30.1	8	480	33
								Total for 5 Demolition Phase:			35.8
6 Site Preparation	dozer	3	80.0	rubber tired dozer	5000	0.1		30.1	8	480	35
	backhoe	4	75.8	tractor	5000	0.1		26.0	8	480	32
								Total for 6 Site Preparation Phase:			36.7
7 Grading	excavator	2	75.9	Excavator	5000	0.1		26.0	8	480	29
	grader (passby)	1	78.5	Grader	5000	0.1		28.7	8	480	29
	dozer	1	80.0	Rubber Tired Dozers	5000	0.1		30.1	8	480	30
	scraper	2	84.4	Scrapers	5000	0.1		34.5	8	480	42
	backhoe	2	75.8	Tractor	5000	0.1		26.0	8	480	29
								Total for 7 Grading Phase:			42.5
8 Building Construction	crane	1	74.2	Crane	5000	0.1		24.4	8	480	24
	man lift	3	72.1	Forklift	5000	0.1		22.3	8	480	27
	generator	1	67.1	Generator Set	5000	0.1		17.3	8	480	17
	backhoe	3	75.8	Tractor	5000	0.1		26.0	8	480	31
	welding machine	1	71.2	Welders	5000	0.1		21.4	8	480	21
								Total for 8 Building Construction Phase:			33.3
9 Paving	Paving - Asphalt (Paver + D	2	81.8	Pavers	5000	0.1		31.9	8	480	35
	Paving - Asphalt (Paver + R	2	82.8	Paving Equipment	5000	0.1		33.0	8	480	36
	compactor (roller)	2	75.4	Rollers	5000	0.1		25.6	8	480	29
								Total for 9 Paving Phase:			38.9
10 Architectural Coating	compressor	1	65.6	Air Compressor	5000	0.1		15.8	8	480	16
								Total for 10 Architectural Coating Phase:			15.8

Construction Activity	Equipment	Total Equipment Qty	Reference Level @ 50 ft. from FHWA RCNM 2 Table	Client Equipment Description, Data Source and/or Notes	Source to NSR Distance (ft.)	Temporary Barrier Insertion Loss (dB)	Additional Noise Reduction	Distance-Adjusted Leq	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 8-hour Leq
1. Linear, Grubbing & Land Clearing	dozer	2	80.0	Crawler Tractor	8000	0.1		23.0	8	480	26
	excavator	2	75.9	Excavator	8000	0.1		18.9	8	480	22
								Total for 1. Linear, Grubbing & Land Clearing Phase:			27.5
2 Linear, Grading & Excavation	dozer	2	80.0	Crawler Tractor	8000	0.1		23.0	8	480	26
	Excavator	6	75.9	Excavator	8000	0.1		18.9	8	480	27
	grader (passby)	2	78.5	Grader	8000	0.1		21.6	8	480	25
	compactor (roller)	4	75.4	Roller	8000	0.1		18.5	8	480	24
	dozer	2	80.0	Rubber Tired Loaders	8000	0.1		23.0	8	480	26
	Scraper	4	84.4	Scraper	8000	0.1		31.5	8	480	38
	backhoe	4	75.8	Tractor	8000	0.1		18.9	8	480	25
								Total for 2 Linear, Grading & Excavation Phase:			38.9
3 Linear, Drainage, Utilities, & Sub-Grade	compresser	2	65.6	Air Compressor	8000	0.1		8.7	8	480	12
	generator	2	67.1	Generator Set	8000	0.1		10.2	8	480	13
	grader (passby)	2	78.5	Grader	8000	0.1		21.6	8	480	25
	compactor (plate)	2	74.6	Plate Compactor	8000	0.1		17.7	8	480	21
	pump	2	72.8	Pump	8000	0.1		15.8	8	480	19
	dozer	2	80.0	Rough Terrain Forklift	8000	0.1		23.0	8	480	26
	scraper	4	84.4	Scraper	8000	0.1		31.5	8	480	38
	backhoe	4	75.8	Tractor	8000	0.1		18.9	8	480	25
								Total for 3 Linear, Drainage, Utilities, & Sub-Grade Phase:			38.6
4 Linear, Paving	Paving - Asphalt (Paver + D	2	81.8	Paver	8000	0.1		24.9	8	480	28
	Paving - Asphalt (Paver + N	2	82.8	Paving Equipment	8000	0.1		25.9	8	480	29
	Compactor (Roller)	6	75.4	Roller	8000	0.1		18.5	8	480	26
	backhoe	4	75.8	Tractor	8000	0.1		18.9	8	480	25
								Total for 4 Linear, Paving Phase:			33.3
5 Demolition	concrete saw	1	85.4	Concrete Saw	8000	0.1		28.5	8	480	29
	excavator	3	75.9	Excavator	8000	0.1		18.9	8	480	24
	dozer	2	80.0	Rubber Tired Dozer	8000	0.1		23.0	8	480	26
								Total for 5 Demolition Phase:			28.5
6 Site Preparation	dozer	3	80.0	rubber tired dozer	8000	0.1		23.0	8	480	28
	backhoe	4	75.8	tractor	8000	0.1		18.9	8	480	25
								Total for 6 Site Preparation Phase:			29.6
7 Grading	excavator	2	75.9	Excavator	8000	0.1		18.9	8	480	22
	grader (passby)	1	78.5	Grader	8000	0.1		21.6	8	480	22
	dozer	1	80.0	Rubber Tired Dozers	8000	0.1		23.0	8	480	23
	scraper	2	84.4	Scrapers	8000	0.1		31.5	8	480	34
	backhoe	2	75.8	Tractor	8000	0.1		18.9	8	480	22
								Total for 7 Grading Phase:			35.4
8 Building Construction	crane	1	74.2	Crane	8000	0.1		17.3	8	480	17
	man lift	3	72.1	Forklift	8000	0.1		15.2	8	480	20
	generator	1	67.1	Generator Set	8000	0.1		10.2	8	480	10
	backhoe	3	75.8	Tractor	8000	0.1		18.9	8	480	24
	welding machine	1	71.2	Welders	8000	0.1		14.3	8	480	14
								Total for 8 Building Construction Phase:			24.2
9 Paving	Paving - Asphalt (Paver + D	2	81.8	Pavers	8000	0.1		24.9	8	480	28
	Paving - Asphalt (Paver + N	2	82.8	Paving Equipment	8000	0.1		25.9	8	480	29
	compactor (roller)	2	75.4	Rollers	8000	0.1		18.5	8	480	21
								Total for 9 Paving Phase:			31.9
10 Architectural Coating	compressor	1	65.6	Air Compressor	8000	0.1		8.7	8	480	9
								Total for 10 Architectural Coating Phase:			8.7

Construction Activity	Equipment	Total Equipment Qty	Reference Level @ 50 ft. from FHWA RCNM 2 Table	Client Equipment Description, Data Source and/or Notes	Source to RSR Distance (ft.)	Temporary Barrier Insertion Loss (dB)	Additional Noise Reduction	Distance-Adjusted Leq	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 8-hour Leq
1, Linear, Grubbing & Land Clearing	dozer	2	80.0	Crawler Tractor	22000	0.1		0.2	8	480	3
	excavator	2	75.9	Excavator	22000	0.1		-3.9	8	480	-1
								Total for 1, Linear, Grubbing & Land Clearing Phase:			4.7
2 Linear, Grading & Excavation	dozer	2	80.0	Crawler Tractor	22000	0.1		0.2	8	480	3
	Excavator	6	75.9	Excavator	22000	0.1		-3.9	8	480	4
	grader (passby)	2	78.5	Grader	22000	0.1		-1.2	8	480	2
	compactor (roller)	4	75.4	Roller	22000	0.1		-4.3	8	480	2
	dozer	2	80.0	Rubber Tired Loaders	22000	0.1		0.2	8	480	3
	Scraper	4	84.4	Scraper	22000	0.1		8.7	8	480	15
	backhoe	4	75.8	Tractor	22000	0.1		-3.9	8	480	2
								Total for 2 Linear, Grading & Excavation Phase:			16.1
3 Linear, Drainage, Utilities, & Sub-Grade	compressor	2	65.6	Air Compressor	22000	0.1		-14.1	8	480	-11
	generator	2	67.1	Generator Set	22000	0.1		-12.6	8	480	-10
	grader (passby)	2	78.5	Grader	22000	0.1		-1.2	8	480	2
	compactor (plate)	2	74.6	Plate Compactor	22000	0.1		-5.1	8	480	-2
	pump	2	72.8	Pump	22000	0.1		-6.9	8	480	-4
	dozer	2	80.0	Rough Terrain Forklift	22000	0.1		0.2	8	480	3
	scraper	4	84.4	Scraper	22000	0.1		8.7	8	480	15
	backhoe	4	75.8	Tractor	22000	0.1		-3.9	8	480	2
								Total for 3 Linear, Drainage, Utilities, & Sub-Grade Phase:			15.8
4 Linear, Paving	Paving - Asphalt (Paver + L	2	81.8	Paver	22000	0.1		2.1	8	480	5
	Paving - Asphalt (Paver + N	2	82.8	Paving Equipment	22000	0.1		3.1	8	480	6
	Compactor (Roller)	6	75.4	Roller	22000	0.1		-4.3	8	480	3
	backhoe	4	75.8	Tractor	22000	0.1		-3.9	8	480	2
								Total for 4 Linear, Paving Phase:			10.5
5 Demolition	concrete saw	1	85.4	Concrete Saw	22000	0.1		5.7	8	480	6
	excavator	3	75.9	Excavator	22000	0.1		-3.9	8	480	1
	dozer	2	80.0	Rubber Tired Dozer	22000	0.1		0.2	8	480	3
								Total for 5 Demolition Phase:			8.7
6 Site Preparation	dozer	3	80.0	rubber tired dozer	22000	0.1		0.2	8	480	5
	backhoe	4	75.8	tractor	22000	0.1		-3.9	8	480	2
								Total for 6 Site Preparation Phase:			6.8
7 Grading	excavator	2	75.9	Excavator	22000	0.1		-3.9	8	480	-1
	grader (passby)	1	78.5	Grader	22000	0.1		-1.2	8	480	-1
	dozer	1	80.0	Rubber Tired Dozers	22000	0.1		0.2	8	480	0
	scraper	2	84.4	Scrapers	22000	0.1		8.7	8	480	12
	backhoe	2	75.8	Tractor	22000	0.1		-3.9	8	480	-1
								Total for 7 Grading Phase:			12.6
8 Building Construction	crane	1	74.2	Crane	22000	0.1		-5.5	8	480	-6
	man lift	3	72.1	Forklift	22000	0.1		-7.6	8	480	-3
	generator	1	67.1	Generator Set	22000	0.1		-12.6	8	480	-13
	backhoe	3	75.8	Tractor	22000	0.1		-3.9	8	480	1
	welding machine	1	71.2	Welders	22000	0.1		-8.5	8	480	-9
								Total for 8 Building Construction Phase:			3.4
9 Paveng	Paving - Asphalt (Paver + L	2	81.8	Pavers	22000	0.1		2.1	8	480	5
	Paving - Asphalt (Paver + N	2	82.8	Paving Equipment	22000	0.1		3.1	8	480	6
	compactor (roller)	2	75.4	Rollers	22000	0.1		-4.3	8	480	-1
								Total for 9 Paveng Phase:			9.1
10 Architectural Coating	compressor	1	65.6	Air Compressor	22000	0.1		-14.1	8	480	-14
								Total for 10 Architectural Coating Phase:			0.0

Construction Activity	Equipment	Total Equipment Qty	Reference Level @ 50 ft, from FHWA RCNM 2 Table	Client Equipment Description, Data Source and/or Notes	Source to NSR Distance (ft.)	Temporary Barrier Insertion Loss (dB)	Additional Noise Reduction	Distance-Adjusted Leq	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 1-hour Leq
1. Linear, Grubbing & Land Clearing	dozer	2	80.0	Crawler Tractor	24000	0.1		-2.5	8	480	0
	excavator	2	75.9	Excavator	24000	0.1		-6.6	8	480	-4
								Total for 1. Linear, Grubbing & Land Clearing Phase:			1.5
2 Linear, Grading & Excavation	dozer	2	80.0	Crawler Tractor	24000	0.1		-2.5	8	480	0
	Excavator	6	75.9	Excavator	24000	0.1		-6.6	8	480	1
	grader (passby)	2	78.5	Grader	24000	0.1		-4.0	8	480	-1
	compactor (roller)	4	75.4	Roller	24000	0.1		-7.1	8	480	-1
	dozer	2	80.0	Rubber Tired Loaders	24000	0.1		-2.5	8	480	0
	Scraper	4	88.4	Scraper	24000	0.1		5.9	8	480	12
	backhoe	4	75.8	Tractor	24000	0.1		-6.7	8	480	-1
								Total for 2 Linear, Grading & Excavation Phase:			12.3
3 Linear, Drainage, Utilities, & Sub-Grade	compressor	2	65.8	Air Compressor	24000	0.1		-16.8	8	480	-14
	generator	2	67.1	Generator Set	24000	0.1		-15.4	8	480	-12
	grader (passby)	2	78.5	Grader	24000	0.1		-4.0	8	480	-1
	compactor (plate)	2	74.8	Plate Compactor	24000	0.1		-7.8	8	480	-5
	pump	2	72.8	Pump	24000	0.1		-9.7	8	480	-7
	dozer	2	80.0	Rough Terrain Forklift	24000	0.1		-2.5	8	480	0
	scraper	4	88.4	Scraper	24000	0.1		5.9	8	480	12
	backhoe	4	75.8	Tractor	24000	0.1		-6.7	8	480	-1
								Total for 3 Linear, Drainage, Utilities, & Sub-Grade Phase:			12.8
4 Linear, Paving	Paving - Asphalt (Paver + D	2	81.8	Paver	24000	0.1		-0.7	8	480	2
	Paving - Asphalt (Paver + N	2	82.8	Paving Equipment	24000	0.1		0.4	8	480	3
	Compactor (Roller)	6	75.4	Roller	24000	0.1		-7.1	8	480	1
	backhoe	4	75.8	Tractor	24000	0.1		-6.7	8	480	-1
								Total for 4 Linear, Paving Phase:			7.7
5 Demolition	concrete saw	1	85.4	Concrete Saw	24000	0.1		3.0	8	480	3
	excavator	3	75.9	Excavator	24000	0.1		-6.6	8	480	-2
	dozer	2	80.0	Rubber Tired Dozer	24000	0.1		-2.5	8	480	0
								Total for 5 Demolition Phase:			3.0
6 Site Preparation	dozer	3	80.0	rubber tired dozer	24000	0.1		-2.5	8	480	2
	backhoe	4	75.8	tractor	24000	0.1		-6.7	8	480	-1
								Total for 6 Site Preparation Phase:			4.0
7 Grading	excavator	2	75.9	Excavator	24000	0.1		-6.6	8	480	-4
	grader (passby)	1	78.5	Grader	24000	0.1		-4.0	8	480	-4
	dozer	1	80.0	Rubber Tired Dozers	24000	0.1		-2.5	8	480	-3
	scraper	2	88.4	Scrapers	24000	0.1		5.5	8	480	9
	backhoe	2	75.8	Tractor	24000	0.1		-6.7	8	480	-4
								Total for 7 Grading Phase:			8.8
8 Building Construction	crane	1	74.2	Crane	24000	0.1		-8.3	8	480	-6
	man lift	3	72.1	Forklift	24000	0.1		-10.4	8	480	-6
	generator	1	67.1	Generator Set	24000	0.1		-15.4	8	480	-15
	backhoe	3	75.8	Tractor	24000	0.1		-6.7	8	480	-2
	welding machine	1	71.2	Welders	24000	0.1		-11.3	8	480	-11
								Total for 8 Building Construction Phase:			0.7
9 Paving	Paving - Asphalt (Paver + D	2	81.8	Pavers	24000	0.1		-0.7	8	480	2
	Paving - Asphalt (Paver + N	2	82.8	Paving Equipment	24000	0.1		0.4	8	480	3
	compactor (roller)	2	75.4	Rollers	24000	0.1		-7.1	8	480	-4
								Total for 9 Paving Phase:			6.3
10 Architectural Coating	compressor	1	65.8	Air Compressor	24000	0.1		-16.8	8	480	-17
								Total for 10 Architectural Coating Phase:			0.0

Construction Activity	Equipment	Total Equipment Qty	Reference Level @ 50 ft. from FHWA RCNM 2 Table	Client Equipment Description, Data Source and/or Notes	Source to NSR Distance (ft.)	Temporary Barrier Insertion Loss (dB)	Additional Noise Reduction	Distance-Adjusted Leq	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 8-hour Leq
1, Linear, Grubbing & Land Clearing	dozer	2	80.0	Crawler Tractor	24350	0.1		-3.0	8	480	0
	excavator	2	75.9	Excavator	24350	0.1		-7.1	8	480	-4
								Total for 1, Linear, Grubbing & Land Clearing Phase:			1.4
2 Linear, Grading & Excavation	dozer	2	80.0	Crawler Tractor	24350	0.1		-3.0	8	480	0
	Excavator	6	75.9	Excavator	24350	0.1		-7.1	8	480	1
	grader (passby)	2	78.5	Grader	24350	0.1		-4.4	8	480	-1
	compactor (roller)	4	75.4	Roller	24350	0.1		-7.6	8	480	-2
	dozer	2	80.0	Rubber Tired Loaders	24350	0.1		-3.0	8	480	0
	Scraper	4	84.4	Scraper	24350	0.1		5.4	8	480	11
	backhoe	4	75.8	Tractor	24350	0.1		-7.1	8	480	-1
								Total for 2 Linear, Grading & Excavation Phase:			12.3
3 Linear, Drainage, Utilities, & Sub-Grade	compressor	2	65.6	Air Compressor	24350	0.1		-17.3	8	480	-14
	generator	2	67.1	Generator Set	24350	0.1		-15.9	8	480	-13
	grader (passby)	2	78.5	Grader	24350	0.1		-4.4	8	480	-1
	compactor (plate)	2	74.6	Plate Compactor	24350	0.1		-8.3	8	480	-5
	pump	2	72.8	Pump	24350	0.1		-10.2	8	480	-7
	dozer	2	80.0	Rough Terrain Forklift	24350	0.1		-3.0	8	480	0
	scraper	4	84.4	Scraper	24350	0.1		5.4	8	480	11
	backhoe	4	75.8	Tractor	24350	0.1		-7.1	8	480	-1
								Total for 3 Linear, Drainage, Utilities, & Sub-Grade Phase:			12.3
4 Linear, Paving	Paving - Asphalt (Paver + D	2	81.8	Paver	24350	0.1		-1.2	8	480	2
	Paving - Asphalt (Paver + N	2	82.8	Paving Equipment	24350	0.1		-0.1	8	480	3
	Compactor (Roller)	6	75.4	Roller	24350	0.1		-7.6	8	480	0
	backhoe	4	75.8	Tractor	24350	0.1		-7.1	8	480	-1
								Total for 4 Linear, Paving Phase:			7.2
5 Demolition	concrete saw	1	85.4	Concrete Saw	24350	0.1		2.5	8	480	2
	excavator	3	75.9	Excavator	24350	0.1		-7.1	8	480	-2
	dozer	2	80.0	Rubber Tired Dozer	24350	0.1		-3.0	8	480	0
								Total for 5 Demolition Phase:			2.5
6 Site Preparation	dozer	3	80.0	rubber tired dozer	24350	0.1		-3.0	8	480	2
	backhoe	4	75.8	tractor	24350	0.1		-7.1	8	480	-1
								Total for 6 Site Preparation Phase:			2.8
7 Grading	excavator	2	75.9	Excavator	24350	0.1		-7.1	8	480	-4
	grader (passby)	1	78.5	Grader	24350	0.1		-4.4	8	480	-4
	dozer	1	80.0	Rubber Tired Dozers	24350	0.1		-3.0	8	480	-3
	scraper	2	84.4	Scrapers	24350	0.1		5.4	8	480	8
	backhoe	2	75.8	Tractor	24350	0.1		-7.1	8	480	-4
								Total for 7 Grading Phase:			9.4
8 Building Construction	crane	1	74.2	Crane	24350	0.1		-8.8	8	480	-9
	man lift	3	72.1	Forklift	24350	0.1		-10.9	8	480	-6
	generator	1	67.1	Generator Set	24350	0.1		-15.9	8	480	-16
	backhoe	3	75.8	Tractor	24350	0.1		-7.1	8	480	-2
	welding machine	1	71.2	Welders	24350	0.1		-11.8	8	480	-12
								Total for 8 Building Construction Phase:			9.2
9 Paving	Paving - Asphalt (Paver + D	2	81.8	Pavers	24350	0.1		-1.2	8	480	2
	Paving - Asphalt (Paver + N	2	82.8	Paving Equipment	24350	0.1		-0.1	8	480	3
	compactor (roller)	2	75.4	Rollers	24350	0.1		-7.6	8	480	-5
								Total for 9 Paving Phase:			5.8
10 Architectural Coating	compressor	1	65.6	Air Compressor	24350	0.1		-17.3	8	480	-17
								Total for 10 Architectural Coating Phase:			0.0

Construction Activity	Equipment	Total Equipment Qty	Reference Level @ 50 ft. from FHWA RCNM 2 Table	Client Equipment Description, Data Source and/or Notes	Source to NSR Distance (ft.)	Temporary Barrier Insertion Loss (dB)	Additional Noise Reduction	Distance-Adjusted Leq	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 8-hour Leq
1. Linear, Grubbing & Land Clearing	dozer	2	80.0	Crawler Tractor	22950	0.1		-1.1	8	480	2
	excavator	2	75.9	Excavator	22950	0.1		-5.2	8	480	-2
								Total for 1. Linear, Grubbing & Land Clearing Phase:			3.4
2 Linear, Grading & Excavation	dozer	2	80.0	Crawler Tractor	22950	0.1		-1.1	8	480	2
	Excavator	6	75.9	Excavator	22950	0.1		-5.2	8	480	3
	grader (passby)	2	78.5	Grader	22950	0.1		-2.5	8	480	0
	compactor (roller)	4	75.4	Roller	22950	0.1		-5.6	8	480	0
	dozer	2	80.0	Rubber Tired Loaders	22950	0.1		-1.1	8	480	2
	Scraper	4	84.4	Scraper	22950	0.1		7.4	8	480	13
	backhoe	4	75.8	Tractor	22950	0.1		-5.2	8	480	1
								Total for 2 Linear, Grading & Excavation Phase:			14.8
3 Linear, Drainage, Utilities, & Sub-Grade	compressor	2	65.6	Air Compressor	22950	0.1		-15.4	8	480	-12
	generator	2	67.1	Generator Set	22950	0.1		-14.0	8	480	-11
	grader (passby)	2	78.5	Grader	22950	0.1		-2.5	8	480	0
	compactor (plate)	2	74.6	Plate Compactor	22950	0.1		-6.4	8	480	-3
	pump	2	72.8	Pump	22950	0.1		-8.3	8	480	-5
	dozer	2	80.0	Rough Terrain Forklift	22950	0.1		-1.1	8	480	2
	scraper	4	84.4	Scraper	22950	0.1		7.4	8	480	13
	backhoe	4	75.8	Tractor	22950	0.1		-5.2	8	480	1
								Total for 3 Linear, Drainage, Utilities, & Sub-Grade Phase:			14.2
4 Linear, Paving	Paving - Asphalt (Paver + D	2	81.8	Paver	22950	0.1		0.7	8	480	4
	Paving - Asphalt (Paver + N	2	82.8	Paving Equipment	22950	0.1		1.8	8	480	5
	Compactor (Roller)	6	75.4	Roller	22950	0.1		-5.6	8	480	2
	backhoe	4	75.8	Tractor	22950	0.1		-5.2	8	480	1
								Total for 4 Linear, Paving Phase:			9.2
5 Demolition	concrete saw	1	85.4	Concrete Saw	22950	0.1		4.4	8	480	4
	excavator	3	75.9	Excavator	22950	0.1		-5.2	8	480	0
	dozer	2	80.0	Rubber Tired Dozer	22950	0.1		-1.1	8	480	2
								Total for 5 Demolition Phase:			4.4
6 Site Preparation	dozer	3	80.0	rubber tired dozer	22950	0.1		-1.1	8	480	4
	backhoe	4	75.8	tractor	22950	0.1		-5.2	8	480	1
								Total for 6 Site Preparation Phase:			5.5
7 Grading	excavator	2	75.9	Excavator	22950	0.1		-5.2	8	480	-2
	grader (passby)	1	78.5	Grader	22950	0.1		-2.5	8	480	-3
	dozer	1	80.0	Rubber Tired Dozers	22950	0.1		-1.1	8	480	-1
	scraper	2	84.4	Scrapers	22950	0.1		7.4	8	480	10
	backhoe	2	75.8	Tractor	22950	0.1		-5.2	8	480	-2
								Total for 7 Grading Phase:			11.3
8 Building Construction	crane	1	74.2	Crane	22950	0.1		-6.9	8	480	-7
	man lift	3	72.1	Forklift	22950	0.1		-9.0	8	480	-4
	generator	1	67.1	Generator Set	22950	0.1		-14.0	8	480	-14
	backhoe	3	75.8	Tractor	22950	0.1		-5.2	8	480	0
	welding machine	1	71.2	Welders	22950	0.1		-9.8	8	480	-10
								Total for 8 Building Construction Phase:			2.1
9 Paving	Paving - Asphalt (Paver + D	2	81.8	Pavers	22950	0.1		0.7	8	480	4
	Paving - Asphalt (Paver + N	2	82.8	Paving Equipment	22950	0.1		1.8	8	480	5
	compactor (roller)	2	75.4	Rollers	22950	0.1		-5.6	8	480	-3
								Total for 9 Paving Phase:			7.7
10 Architectural Coating	compressor	1	65.6	Air Compressor	22950	0.1		-15.4	8	480	-15
								Total for 10 Architectural Coating Phase:			0.0

Construction Activity	Equipment	Total Equipment Qty	Reference Level @ 50 ft. from FHWA RCNM 2 Table	Client Equipment Description, Data Source and/or Notes	Source to RSR Distance (ft.)	Temporary Barrier Insertion Loss (dB)	Additional Noise Reduction	Distance-Adjusted Leq	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 8-hour Leq
1. Linear, Grubbing & Land Clearing	dozer	2	80.0	Crawler Tractor	18400	0.1		5.4	8	480	8
	excavator	2	75.9	Excavator	18400	0.1		1.3	8	480	4
								Total for 1. Linear, Grubbing & Land Clearing Phase:			9.0
2 Linear, Grading & Excavation	dozer	2	80.0	Crawler Tractor	18400	0.1		5.4	8	480	8
	Excavator	6	75.9	Excavator	18400	0.1		1.3	8	480	9
	grader (passby)	2	78.5	Grader	18400	0.1		3.9	8	480	7
	compactor (roller)	4	75.4	Roller	18400	0.1		0.8	8	480	7
	dozer	2	80.0	Rubber Tired Loaders	18400	0.1		5.4	8	480	8
	Scraper	4	84.4	Scraper	18400	0.1		13.8	8	480	20
	backhoe	4	75.8	Tractor	18400	0.1		1.2	8	480	7
								Total for 2 Linear, Grading & Excavation Phase:			21.3
3 Linear, Drainage, Utilities, & Sub-Grade	compressor	2	65.6	Air Compressor	18400	0.1		-8.9	8	480	-6
	generator	2	67.1	Generator Set	18400	0.1		-7.5	8	480	-4
	grader (passby)	2	78.5	Grader	18400	0.1		3.9	8	480	7
	compactor (plate)	2	74.6	Plate Compactor	18400	0.1		0.1	8	480	3
	pump	2	72.8	Pump	18400	0.1		-1.8	8	480	1
	dozer	2	80.0	Rough Terrain Forklift	18400	0.1		5.4	8	480	8
	scraper	4	84.4	Scraper	18400	0.1		13.8	8	480	20
	backhoe	4	75.8	Tractor	18400	0.1		1.2	8	480	7
								Total for 3 Linear, Drainage, Utilities, & Sub-Grade Phase:			20.7
4 Linear, Paving	Paving - Asphalt (Paver + D	2	81.8	Paver	18400	0.1		7.2	8	480	10
	Paving - Asphalt (Paver + N	2	82.8	Paving Equipment	18400	0.1		8.3	8	480	11
	Compactor (Roller)	6	75.4	Roller	18400	0.1		0.8	8	480	9
	backhoe	4	75.8	Tractor	18400	0.1		1.2	8	480	7
								Total for 4 Linear, Paving Phase:			15.8
5 Demolition	concrete saw	1	85.4	Concrete Saw	18400	0.1		10.9	8	480	11
	excavator	3	75.9	Excavator	18400	0.1		1.3	8	480	6
	dozer	2	80.0	Rubber Tired Dozer	18400	0.1		5.4	8	480	8
								Total for 5 Demolition Phase:			16.9
6 Site Preparation	dozer	3	80.0	rubber tired dozer	18400	0.1		5.4	8	480	10
	backhoe	4	75.8	tractor	18400	0.1		1.2	8	480	7
								Total for 6 Site Preparation Phase:			12.8
7 Grading	excavator	2	75.9	Excavator	18400	0.1		1.3	8	480	4
	grader (passby)	1	78.5	Grader	18400	0.1		3.9	8	480	4
	dozer	1	80.0	Rubber Tired Dozers	18400	0.1		5.4	8	480	5
	scraper	2	84.4	Scrapers	18400	0.1		13.8	8	480	17
	backhoe	2	75.8	Tractor	18400	0.1		1.2	8	480	4
								Total for 7 Grading Phase:			17.8
8 Building Construction	crane	1	74.2	Crane	18400	0.1		-0.4	8	480	0
	man lift	3	72.1	Forklift	18400	0.1		-2.5	8	480	2
	generator	1	67.1	Generator Set	18400	0.1		-7.5	8	480	-7
	backhoe	3	75.8	Tractor	18400	0.1		1.2	8	480	6
	welding machine	1	71.2	Welders	18400	0.1		-3.4	8	480	-3
								Total for 8 Building Construction Phase:			8.8
9 Paving	Paving - Asphalt (Paver + D	2	81.8	Pavers	18400	0.1		7.2	8	480	10
	Paving - Asphalt (Paver + N	2	82.8	Paving Equipment	18400	0.1		8.3	8	480	11
	compactor (roller)	2	75.4	Rollers	18400	0.1		0.8	8	480	4
								Total for 9 Paving Phase:			14.2
10 Architectural Coating	compressor	1	65.6	Air Compressor	18400	0.1		-8.9	8	480	-9
								Total for 10 Architectural Coating Phase:			0.0

Construction Activity	Equipment	Total Equipment Qty	Reference Level @ 50 ft. from FHWA RCNM 2 Table	Client Equipment Description, Data Source and/or Notes	Source to NSR Distance (ft.)	*Temporary Barrier Insertion Loss (dB)*	*Additional Noise Reduction*	Distance-Adjusted Leq	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 8-hour Leq
8 Building Construction	crane	1	74.2	Crane	100	0.1		66.6	8	480	67
	man lift	3	72.1	Forklift	100	0.1		64.0	8	480	69
	generator	1	67.1	Generator Set	100	0.1		58.6	8	480	59
	backhoe	3	75.8	Tractor	100	0.1		67.4	8	480	72
	welding machine	1	71.2	Welders	100	0.1		62.2	8	480	62
								Total for 8 Building Construction Phase			**74.9**
10 Architectural Coating	compressor	1	65.6	Air Compressor	100	0.1		57.1	8	480	57
								Total for 10 Architectural Coating Phase			**57.1**

Construction Activity	Equipment	Total Equipment Qty	Reference Level @ 50 ft. from FHWA RCNM 2 Table	Client Equipment Description, Data Source and/or Notes	Source to RSR Distance (ft.)	Temporary Barrier Insertion Loss (dB)	Additional Noise Reduction	Distance-Adjusted Leq	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 1-hour Leq
1. Linear, Grubbing & Land Clearing	dozer	2	80.0	Crawler Tractor	300	0.1		59.5	8	480	63
	excavator	2	75.9	Excavator	300	0.1		55.9	8	480	59
								Total for 1. Linear, Grubbing & Land Clearing Phase:			64.4
2 Linear, Grading & Excavation	dozer	2	80.0	Crawler Tractor	300	0.1		59.9	8	480	63
	Excavator	6	75.9	Excavator	300	0.1		55.9	8	480	64
	grader (passby)	2	78.5	Grader	300	0.1		58.5	8	480	62
	compactor (roller)	4	75.4	Roller	300	0.1		55.3	8	480	61
	dozer	2	80.0	Rubber Tired Loaders	300	0.1		59.9	8	480	63
	Scraper	4	88.4	Scraper	300	0.1		68.6	8	480	75
	backhoe	4	75.8	Tractor	300	0.1		55.7	8	480	62
								Total for 2 Linear, Grading & Excavation Phase:			75.9
3 Linear, Drainage, Utilities, & Sub-Grade	cumpressor	2	65.6	Air Compressor	300	0.1		45.5	8	480	49
	generator	2	67.1	Generator Set	300	0.1		47.0	8	480	50
	grader (passby)	2	78.5	Grader	300	0.1		58.5	8	480	62
	compactor (plate)	2	74.6	Plate Compactor	300	0.1		54.3	8	480	57
	pump	2	72.8	Pump	300	0.1		52.6	8	480	56
	dozer	2	80.0	Rough Terrain Forklift	300	0.1		59.9	8	480	63
	scraper	4	88.4	Scraper	300	0.1		68.6	8	480	75
	backhoe	4	75.8	Tractor	300	0.1		55.7	8	480	62
								Total for 3 Linear, Drainage, Utilities, & Sub-Grade Phase:			75.4
4 Linear, Paving	Paving - Asphalt (Paver + D	2	81.8	Paver	300	0.1		61.7	8	480	65
	Paving - Asphalt (Paver + N	2	82.8	Paving Equipment	300	0.1		62.8	8	480	66
	Compactor (Roller)	6	75.4	Roller	300	0.1		55.3	8	480	63
	backhoe	4	75.8	Tractor	300	0.1		55.7	8	480	62
								Total for 4 Linear, Paving Phase:			70.1
5 Demolition	concrete saw	1	85.4	Concrete Saw	300	0.1		65.2	8	480	65
	excavator	3	75.9	Excavator	300	0.1		55.9	8	480	61
	dozer	2	80.0	Rubber Tired Dozer	300	0.1		59.9	8	480	63
								Total for 5 Demolition Phase:			65.2
6 Site Preparation	dozer	3	80.0	rubber tired dozer	300	0.1		59.9	8	480	65
	backhoe	4	75.8	tractor	300	0.1		55.7	8	480	62
								Total for 6 Site Preparation Phase:			66.5
7 Grading	excavator	2	75.9	Excavator	300	0.1		55.9	8	480	59
	grader (passby)	1	78.5	Grader	300	0.1		58.5	8	480	59
	dozer	1	80.0	Rubber Tired Dozers	300	0.1		59.9	8	480	60
	scraper	2	88.4	Scrapers	300	0.1		68.6	8	480	72
	backhoe	2	75.8	Tractor	300	0.1		55.7	8	480	59
								Total for 7 Grading Phase:			72.4
8 Building Construction	crane	1	74.2	Crane	300	0.1		54.3	8	480	54
	man lift	3	72.1	Forklift	300	0.1		52.1	8	480	57
	generator	1	67.1	Generator Set	300	0.1		47.0	8	480	47
	backhoe	3	75.8	Tractor	300	0.1		55.7	8	480	60
	welding machine	1	71.2	Welders	300	0.1		51.0	8	480	51
								Total for 8 Building Construction Phase:			63.1
9 Paving	Paving - Asphalt (Paver + D	2	81.8	Pavers	300	0.1		61.7	8	480	65
	Paving - Asphalt (Paver + N	2	82.8	Paving Equipment	300	0.1		62.8	8	480	66
	compactor (roller)	2	75.4	Rollers	300	0.1		55.3	8	480	58
								Total for 9 Paving Phase:			68.7
10 Architectural Coating	compressor	1	65.6	Air Compressor	300	0.1		45.5	8	480	46
								Total for 10 Architectural Coating Phase:			46.5

Construction Activity	Equipment	Total Equipment Qty	Reference Level @ 50 ft. from FHWA RCNM 2 Table	Client Equipment Description, Data Source and/or Notes	Source to NSR Distance (ft.)	*Temporary Barrier Insertion Loss (dB)*	*Additional Noise Reduction*	Distance-Adjusted Leq	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 8-hour Leq
1 Linear, Drainage, Utilities, & Sub-Grade	compressor	2	65.6	Air Compressor	200	0.1		49.5	8	480	53
	generator	2	67.1	Generator Set	200	0.1		51.0	8	480	54
	grader (passby)	2	76.5	Grader	200	0.1		62.6	8	480	66
	compactor (plate)	2	74.6	Plate Compactor	200	0.1		58.2	8	480	61
	pump	2	72.8	Pump	200	0.1		56.6	8	480	60
	dozer	2	80.0	Rough Terrain Forklift	200	0.1		64.0	8	480	67
	scraper	4	88.4	Scraper	200	0.1		72.7	8	480	79
	backhoe	4	75.8	Tractor	200	0.1		59.7	8	480	66
								Total for 1 Linear, Drainage, Utilities, & Sub-Grade Phase			**79.5**
2 Linear, Paving	Paving - Asphalt (Paver + D	2	81.8	Paver	150	0.1		68.8	8	480	72
	Paving - Asphalt (Paver + N	2	82.8	Paving Equipment	150	0.1		69.9	8	480	73
	Compactor (Roller)	6	75.4	Roller	150	0.1		62.3	8	480	70
	backhoe	4	75.8	Tractor	150	0.1		62.7	8	480	69
								Total for 2 Linear, Paving Phase			**77.2**
3 Demolition	concrete saw	3	85.4	Concrete Saw	150	0.1		72.0	8	480	77
	excavator	2	75.9	Excavator	150	0.1		63.1	8	480	66
	dozer	3	80.0	Rubber Tired Dozer	150	0.1		67.0	8	480	72
								Total for 3 Demolition Phase			**76.8**
4 Site Preparation	dozer	3	80.0	rubber tired dozer	150	0.1		67.0	8	480	72
	backhoe	4	75.8	tractor	150	0.1		62.7	8	480	69
								Total for 4 Site Preparation Phase			**73.5**
5 Grading	excavator	2	75.9	Excavator	150	0.1		63.1	8	480	66
	grader (passby)	1	76.5	Grader	150	0.1		65.7	8	480	66
	dozer	1	80.0	Rubber Tired Dozers	150	0.1		67.0	8	480	67
	scraper	2	88.4	Scrapers	150	0.1		75.9	8	480	79
	backhoe	2	75.8	Tractor	150	0.1		62.7	8	480	66
								Total for 5 Grading Phase			**79.7**
6 Building Construction	crane	1	74.2	Crane	150	0.1		61.6	8	480	62
	man lift	3	72.1	Forklift	150	0.1		59.2	8	480	64
	generator	1	67.1	Generator Set	150	0.1		54.0	8	480	54
	backhoe	3	75.8	Tractor	150	0.1		62.7	8	480	68
	welding machine	1	71.2	Welders	150	0.1		57.8	8	480	58
								Total for 6 Building Construction Phase			**70.2**
7 Paving	Paving - Asphalt (Paver + D	2	81.8	Pavers	150	0.1		68.8	8	480	72
	Paving - Asphalt (Paver + N	2	82.8	Paving Equipment	150	0.1		69.9	8	480	73
	compactor (roller)	2	75.4	Rollers	150	0.1		62.3	8	480	65
								Total for 7 Paving Phase			**75.8**
8 Architectural Coating	compressor	1	65.6	Air Compressor	150	0.1		52.5	8	480	53
								Total for 8 Architectural Coating Phase			**52.5**

Equipment	Total Equipment Qty	Reference Level @ 50 ft. from FHWA RCNM 2 Table	Client Equipment Description, Data Source and/or Notes	Source to NSR Distance (ft.)	Temporary Barrier Insertion Loss (dB)	Additional Noise Reduction	Distance-Adjusted Leq	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 8-hour Leq
dozer	2	80.0	Crawler Tractor	1200	0.1		46.4	8	480	49
excavator	2	75.9	Excavator	1200	0.1		42.4	8	480	45
							Total for 1, Linear, Grubbing & Land Clearing Phase:			50.9
dozer	2	80.0	Crawler Tractor	1200	0.1		46.4	8	480	49
Excavator	6	75.9	Excavator	1200	0.1		42.4	8	480	50
grader (passby)	2	78.5	Grader	1200	0.1		45.0	8	480	48
compactor (roller)	4	75.4	Roller	1200	0.1		41.9	8	480	48
dozer	2	80.0	Rubber Tired Loaders	1200	0.1		46.4	8	480	49
Scraper	4	88.4	Scraper	1200	0.1		54.9	8	480	61
backhoe	4	75.8	Tractor	1200	0.1		42.3	8	480	48
							Total for 2 Linear, Grading & Excavation Phase:			62.3
compressor	2	65.6	Air Compressor	1200	0.1		32.1	8	480	35
generator	2	67.1	Generator Set	1200	0.1		33.6	8	480	37
grader (passby)	2	78.5	Grader	1200	0.1		45.0	8	480	48
compactor (plate)	2	74.6	Plate Compactor	1200	0.1		41.1	8	480	44
pump	2	72.8	Pump	1200	0.1		39.2	8	480	42
dozer	2	80.0	Rough Terrain Forklift	1200	0.1		46.4	8	480	49
scraper	4	88.4	Scraper	1200	0.1		54.9	8	480	61
backhoe	4	75.8	Tractor	1200	0.1		42.3	8	480	48
							Total for 3 Linear, Drainage, Utilities, & Sub-Grade Phase:			61.8
Paving - Asphalt (Paver + C	2	81.8	Paver	1200	0.1		48.3	8	480	51
Paving - Asphalt (Paver + N	2	82.6	Paving Equipment	1200	0.1		49.1	8	480	52
Compactor (Roller)	6	75.4	Roller	1200	0.1		41.9	8	480	50
backhoe	4	75.8	Tractor	1200	0.1		42.3	8	480	48
							Total for 4 Linear, Paving Phase:			56.7
concrete saw	1	85.4	Concrete Saw	1200	0.1		51.9	8	480	52
excavator	3	75.9	Excavator	1200	0.1		42.4	8	480	47
dozer	2	80.0	Rubber Tired Dozer	1200	0.1		46.4	8	480	49
							Total for 5 Demolition Phase:			51.9
dozer	3	80.0	rubber tired dozer	1200	0.1		46.4	8	480	51
backhoe	4	75.8	tractor	1200	0.1		42.3	8	480	48
							Total for 6 Site Preparation Phase:			53.0
excavator	2	75.9	Excavator	1200	0.1		42.4	8	480	45
grader (passby)	1	78.5	Grader	1200	0.1		45.0	8	480	45
dozer	1	80.0	Rubber Tired Dozers	1200	0.1		46.4	8	480	46
scraper	2	88.4	Scrapers	1200	0.1		54.9	8	480	58
backhoe	2	75.8	Tractor	1200	0.1		42.3	8	480	45
							Total for 7 Grading Phase:			58.8
crane	1	74.2	Crane	1200	0.1		40.7	8	480	41
man lift	3	72.1	Forklift	1200	0.1		38.6	8	480	43
generator	1	67.1	Generator Set	1200	0.1		33.6	8	480	34
backhoe	3	75.8	Tractor	1200	0.1		42.3	8	480	47
welding machine	1	71.2	Welders	1200	0.1		37.6	8	480	38
							Total for 8 Building Construction Phase:			49.6
Paving - Asphalt (Paver + C	2	81.8	Pavers	1200	0.1		48.3	8	480	51
Paving - Asphalt (Paver + N	2	82.6	Paving Equipment	1200	0.1		49.1	8	480	52
compactor (roller)	2	75.4	Rollers	1200	0.1		41.9	8	480	45
							Total for 9 Paving Phase:			56.3
compressor	1	65.6	Air Compressor	1200	0.1		32.1	8	480	32
							Total for 10 Architectural Coating Phase:			32.1

APPENDIX D

PROJECT TRAFFIC NOISE MODELING DATA

Appendix D

Traffic Noise Model Calculations for Internal Roadways

Project: 18775Solomon Hills

Noise Level Descriptor: CNEL
Site Conditions: Hard
Traffic Input: ADT
Traffic K-Factor: 10

	Segment Description and Location			Input											Output				
						Distance to Directional Centerline, (feet)[4]		Traffic Distribution Characteristics						CNEL,	Distance to Contour, (feet)[3]				
Number	Name	From	To	ADT	Speed (mph)	Near	Far	% Auto	% Med	% Hvy	% Day	% Eve	% Night	(dBA)[5,6,7]	70 dBA	65 dBA	60 dBA	55 dBA
Internal Roadways With Full Project Buildout Conditions																			
1	Solomon Hills Parkway	Frontage Rd	Internal Connect	23300	30	48	72	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	67.5	33	105	331	1046
2	Solomon Hills Parkway	Internal Connector	Village Loop Rd	23460	30	48	72	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	67.5	33	105	333	1053
3	Solomon Hills Parkway	Village Core Collector (Area 2C	Village Core Collector (Area 6)	16020	30	48	72	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	65.9	23	72	227	719
4	Solomon Hills Parkway	Village Core Collector (Area 6)	Internal Connect	9520	30	48	72	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	63.6	14	43	135	427
5	Solomon Hills Parkway	Village Core Collector	Village Loop Rd	3160	30	48	72	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	58.8	4	14	45	142
6	Frontage Rd	Solomon Hills Parkway	Internal Connect	20010	30	48	72	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	66.8	28	90	284	898
7	Frontage Rd	Internal Connector	US 101 Southbound Ramp	11410	30	48	72	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	64.4	16	51	162	512
8	Village Loop Rd	Northern Loop Rd	Highway 135 Access	2770	30	24	36	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	61.3	4	12	39	124
9	Village Loop Rd	Highway 135 Access	Village Core Collector	1450	30	24	36	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	58.5	2	7	21	65
10	Village Loop Rd	Village Core Collector (Area 14	Solomon Hills Parkway	2020	30	24	36	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	59.9	3	9	29	91
11	Village Loop Rd	Solomon Hills Parkway (area 8	Village Core Collector (area 1)	540	25	24	36	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	52.5	1	2	5	17
12	Village Loop Rd	Village Core Collector (area 1)	Solomon Hills Parkway (area 2	7130	25	24	36	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	63.7	7	22	69	219
13	Village Loop Rd	Solomon Hills Parkway	Northern Loop Rd	4300	25	24	36	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	61.5	4	13	42	132
14	Village Core Collector	Solomon Hills Parkway (Area 2	Village Core Collector (area 13	6140	25	24	36	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	63.1	6	19	60	189
15	Village Core Collector	Village Loop Rd	Village Core Collector (area 13	2,410	25	24	36	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	59.0	2	7	23	74
16	Village Core Collector	Village Core Collector (area 13	Solomon Hills Parkway	3,730	25	24	36	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	60.9	4	11	36	115
17	Village Core Collector	Solomon Hills Parkway (Area 7	Village Loop Rd	5,790	25	24	36	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	62.8	6	18	56	178
18	Area 38 Village Core Collector	Northern Loop Rd	Northern Loop Rd	1,710	25	24	36	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	57.5	2	5	17	53
19	Northern Loop Rd	39-Solomon Hills Parkway	Solomon Hills Parkway	3,890	25	24	36	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	61.1	4	12	38	120
20	Northern Loop Rd	Area 27	frontage Rd	2,270	25	24	36	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	58.8	2	7	22	70
21	Northern Loop Rd	Area 22	Village Loop Rd	3,350	25	24	36	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	60.4	3	10	33	103
22	Internal Connector	Frontage Rd	Solomon Hills Parkway	1,350	25	24	36	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	56.5	1	4	13	42

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Appendix D
Traffic Noise Modeling Calculations - Summary

Project: **18775Solomon Hills Specific Plan**

Number	Name	Segment Description and Location From	To	Existing	Existing+project buildout	Δ Existing – Existing+project buildout	Cumulative	Cumulative + Project	Δ Cumulative – Cumulative + Project
Summary of Net Changes									
1	Main	West of US 101	0	69.3	69.8	0.5	69.7	70.2	0.4
2	Main	East of US 101	0	70.0	70.1	0.1	70.2	70.3	0.1
3	Stowell	West of US 101	0	68.1	68.3	0.2	68.3	68.5	0.2
4	Betteravia Road	West of US 101	0	70.7	71.2	0.4	71.1	71.5	0.4
5	Santa Maria Way	West of US 101	0	69.0	70.2	1.2	69.4	70.6	1.2
6	Foster Road	East of Bradley	0	63.1	63.1	0.0	63.3	63.3	0.0
7	Foster Road	West of Bradley	0	66.7	66.7	0.0	70.7	66.8	-3.9
8	Bradley Road	North of Foster	0	68.4	68.7	0.3	66.8	68.7	1.9
9	Bradley Road	Foster to UVP	0	68.3	68.6	0.3	68.4	68.7	0.3
10	Bradley Road	UVP to Clark	0	67.2	68.2	1.0	67.7	68.6	0.9
11	Bradley Road	South of Clark	0	67.1	67.4	0.3	67.6	67.9	0.3
12	Clark Ave	West of Bradley	0	67.1	67.6	0.5	67.5	67.9	0.5
13	Clark Ave	East of Bradley	0	68.1	69.5	1.3	68.3	69.6	1.3
14	Union Valley Parkway (UVP)	West of Bradley	0	68.9	69.1	0.2	69.2	69.4	0.2
15	Union Valley Parkway (UVP)	East of Bradley	0	69.5	70.1	0.7	70.2	70.8	0.6
16	Stillwell Road	North of Clark	0	59.1	60.3	1.2	59.6	60.6	1.1
17	Stillwell Road	South of Clark	0	61.3	61.7	0.4	62.1	62.4	0.3

Appendix D
Traffic Noise Model Calculations

Project: 18775Solomon Hills Specific Plan

Noise Level Descriptor: CNEL
Site Conditions: Hard
Traffic Input: ADT
Traffic K-Factor: 10

Segment Description and Location			Input										Output				
					Distance to Directional Centerline, (feet)[4]		Traffic Distribution Characteristics										
Number	Name	Segment	ADT	Speed (mph)	Near	Far	% Auto	% Med	% Hvy	% Day	% Eve	% Night	CNEL, (dBA)[5,6,7]	Distance to Contour, (feet)[3] 70 dBA	65 dBA	60 dBA	55 dBA
Existing Without Project Conditions																	
1	Main	West of US 101	17090	35	32	56	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	69.3	36	115	363	1147
2	Main	East of US 101	19840	35	32	56	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	70.0	42	133	421	1332
3	Stowell	West of US 101	12790	35	32	56	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	68.1	27	86	271	858
4	Betteravia Road	West of US 101	23630	35	32	56	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	70.7	50	159	502	1586
5	Santa Maria Way	West of US 101	15860	35	32	56	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	69.0	34	106	337	1064
6	Foster Road	East of Bradley	4040	35	32	56	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	63.1	9	27	86	271
7	Foster Road	West of Bradley	9330	35	32	56	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	66.7	20	63	198	626
8	Bradley Road	North of Foster	13820	35	32	56	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	68.4	29	93	293	928
9	Bradley Road	Foster to UVP	13610	35	32	56	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	68.3	29	91	289	913
10	Bradley Road	UVP to Clark	10420	35	32	56	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	67.2	22	70	221	699
11	Bradley Road	South of Clark	10280	35	32	56	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	67.1	22	69	218	690
12	Clark Ave	West of Bradley	10330	35	32	56	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	67.1	22	69	219	693
13	Clark Ave	East of Bradley	12970	35	32	56	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	68.1	28	87	275	870
14	Union Valley Parkway (UVP)	West of Bradley	15420	35	32	56	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	68.9	33	103	327	1035
15	Union Valley Parkway (UVP)	East of Bradley	17580	35	32	56	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	69.5	37	118	373	1180
16	Stillwell Road	North of Clark	1640	35	32	56	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	59.1	3	11	35	110
17	Stillwell Road	South of Clark	2720	35	32	56	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	61.3	6	18	58	183

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Appendix D

Traffic Noise Model Calculations

Project: 18775Solomon Hills Specific Plan

Noise Level Descriptor: CNEL
Site Conditions: Hard
Traffic Input: ADT
Traffic K-Factor: 10

	Segment Description and Location			Input											Output				
						Distance to Directional Centerline, (feet)[4]		Traffic Distribution Characteristics							Distance to Contour, (feet)[3]				
Number	Name	From	To	ADT	Speed (mph)	Near	Far	% Auto	% Med	% Hvy	% Day	% Eve	% Night	CNEL, (dBA)[5,6,7]	70 dBA	65 dBA	60 dBA	55 dBA
Existing With Project Buildout Traffic																			
1	Main	West of US 101		19080	35	32	56	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	69.8	40	128	405	1281
2	Main	East of US 101		20340	35	32	56	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	70.1	43	137	432	1365
3	Stowell	West of US 101		13500	35	32	56	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	68.3	29	91	287	906
4	Betteravia Road	West of US 101		26120	35	32	56	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	71.2	55	175	554	1753
5	Santa Maria Way	West of US 101		20850	35	32	56	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	70.2	44	140	443	1399
6	Foster Road	East of Bradley		4040	35	32	56	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	63.1	9	27	86	271
7	Foster Road	West of Bradley		9330	35	32	56	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	66.7	20	63	198	626
8	Bradley Road	North of Foster		14810	35	32	56	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	68.7	31	99	314	994
9	Bradley Road	Foster to UVP		14600	35	32	56	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	68.6	31	98	310	980
10	Bradley Road	UVP to Clark		13080	35	32	56	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	68.2	28	88	278	878
11	Bradley Road	South of Clark		11030	35	32	56	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	67.4	23	74	234	740
12	Clark Ave	West of Bradley		11570	35	32	56	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	67.6	25	78	246	777
13	Clark Ave	East of Bradley		17620	35	32	56	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	69.5	37	118	374	1183
14	Union Valley Parkway (UVP)	West of Bradley		16170	35	32	56	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	69.1	34	109	343	1085
15	Union Valley Parkway (UVP)	East of Bradley		20630	35	32	56	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	70.1	44	138	438	1385
16	Stillwell Road	North of Clark		2140	35	32	56	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	60.3	5	14	45	144
17	Stillwell Road	South of Clark		2970	35	32	56	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	61.7	6	20	63	199

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Appendix D

Traffic Noise Model Calculations

Project: 18775Solomon Hills Specific Plan

Noise Level Descriptor: CNEL
Site Conditions: Hard
Traffic Input: ADT
Traffic K-Factor: 10

	Segment Description and Location			Input											Output				
						Distance to Directional Centerline, (feet)[4]		Traffic Distribution Characteristics							Distance to Contour, (feet)[3]				
Number	Name	From	To	ADT	Speed (mph)	Near	Far	% Auto	% Med	% Hvy	% Day	% Eve	% Night	CNEL, (dBA)[5,6,7]	70 dBA	65 dBA	60 dBA	55 dBA
Year 2035 Cumulative Without Project Conditions																			
1	Main	West of US 101	0	18690	35	32	56	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	69.7	40	125	397	1254
2	Main	East of US 101	0	20770	35	32	56	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	70.2	44	139	441	1394
3	Stowell	West of US 101	0	13350	35	32	56	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	68.3	28	90	283	896
4	Betteravia Road	West of US 101	0	25520	35	32	56	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	71.1	54	171	542	1713
5	Santa Maria Way	West of US 101	0	17210	35	32	56	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	69.4	37	116	365	1155
6	Foster Road	East of Bradley	0	4220	35	32	56	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	63.3	9	28	90	283
7	Foster Road	West of Bradley	0	9540	35	32	56	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	70.7	58	184	583	1843
8	Bradley Road	North of Foster	0	13940	35	32	56	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	66.8	20	64	202	640
9	Bradley Road	Foster to UVP	0	13740	35	32	56	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	68.4	29	92	292	922
10	Bradley Road	UVP to Clark	0	11720	35	32	56	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	67.7	25	79	249	787
11	Bradley Road	South of Clark	0	11490	35	32	56	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	67.6	24	77	244	771
12	Clark Ave	West of Bradley	0	11120	35	32	56	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	67.5	24	75	236	746
13	Clark Ave	East of Bradley	0	13470	35	32	56	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	68.3	29	90	286	904
14	Union Valley Parkway (UVP)	West of Bradley	0	16630	35	32	56	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	69.2	35	112	353	1116
15	Union Valley Parkway (UVP)	East of Bradley	0	21040	35	32	56	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	70.2	45	141	447	1412
16	Stillwell Road	North of Clark	0	1810	35	32	56	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	59.6	4	12	38	121
17	Stillwell Road	South of Clark	0	3230	35	32	56	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	62.1	7	22	69	217

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Appendix D

Traffic Noise Model Calculations

Project: 18775Solomon Hills Specific Plan

Noise Level Descriptor: CNEL
Site Conditions: Hard
Traffic Input: ADT
Traffic K-Factor: 10

	Segment Description and Location			Input										Output				
						Distance to Directional Centerline, (feet)[4]		Traffic Distribution Characteristics						CNEL,	Distance to Contour, (feet)[3]			
Number	Name	From	To	ADT	Speed (mph)	Near	Far	% Auto	% Med	% Hvy	% Day	% Eve	% Night	(dBA)[5,6,7]	70 dBA	65 dBA	60 dBA	55 dBA
Year 2035 Cumulative Buildout With Project Conditions																		
1	Main	West of US 101	0	20680	35	32	56	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	70.2	44	139	439	1388
2	Main	East of US 101	0	21350	35	32	56	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	70.3	45	143	453	1433
3	Stowell	West of US 101	0	14060	35	32	56	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	68.5	30	94	298	944
4	Betteravia Road	West of US 101	0	28010	35	32	56	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	71.5	59	188	594	1880
5	Santa Maria Way	West of US 101	0	22690	35	32	56	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	70.6	48	152	482	1523
6	Foster Road	East of Bradley	0	4220	35	32	56	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	63.3	9	28	90	283
7	Foster Road	West of Bradley	0	9540	35	32	56	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	66.8	20	64	202	640
8	Bradley Road	North of Foster	0	14930	35	32	56	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	68.7	32	100	317	1002
9	Bradley Road	Foster to UVP	0	14730	35	32	56	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	68.7	31	99	313	989
10	Bradley Road	UVP to Clark	0	14380	35	32	56	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	68.6	31	97	305	965
11	Bradley Road	South of Clark	0	12240	35	32	56	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	67.9	26	82	260	821
12	Clark Ave	West of Bradley	0	12360	35	32	56	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	67.9	26	83	262	830
13	Clark Ave	East of Bradley	0	18120	35	32	56	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	69.6	38	122	385	1216
14	Union Valley Parkway (UVP)	West of Bradley	0	17380	35	32	56	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	69.4	37	117	369	1166
15	Union Valley Parkway (UVP)	East of Bradley	0	24090	35	32	56	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	70.8	51	162	511	1617
16	Stillwell Road	North of Clark	0	2310	35	32	56	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	60.6	5	16	49	155
17	Stillwell Road	South of Clark	0	3480	35	32	56	97.0%	2.0%	1.0%	80.0%	5.0%	15.0%	62.4	7	23	74	234

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Appendix D

Traffic Noise Modeling Calculations - References

Citation	Reference
1	Caltrans Tec CNEL
2	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-26), Pg 5-60.
3	Caltrans Technical Noise Supplement. 2009 (November). Equation (2-16), Pg 2-32.
4	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-11), Pg 5-47, 48.
5	Caltrans Technical Noise Supplement. 2009 (November). Equation (2-26), Pg 2-55, 56.
6	Caltrans Technical Noise Supplement. 2009 (November). Equation (2-27), Pg 2-57.
7	Caltrans Technical Noise Supplement. 2009 (November). Pg 2-53.
8	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-7), Pg 5-45.
9	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-8), Pg 5-45.
10	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-9), Pg 5-45.
11	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-13), Pg 5-49.
12	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-14), Pg 5-49.
13	Federal Highway Administration Traffic Noise Model Technical Manual. Report No. FHWA-PD-96-010. 1998 (January). Equation (16), Pg 67
14	Federal Highway Administration Traffic Noise Model Technical Manual. Report No. FHWA-PD-96-010. 1998 (January). Equation (20), Pg 69
15	Federal Highway Administration Traffic Noise Model Technical Manual. Report No. FHWA-PD-96-010. 1998 (January). Equation (18), Pg 69

TRAFFIC NOISE LEVELS AND NOISE CONTOUR BOUNDARY DISTANCES

Project Number: 18775
Project Name: Solomon Hills Specific Plan

DUDEK

Noise Model Assumptions and Background Data

Model Description: FHWA Highway Noise Prediction Model (FHWA-RD-77-108) with California Vehicle Noise (CALVENO) Emission Levels.
Traffic Data Source: Kimley Horn 2024, Caltrans 2018 & 2023
Community Noise Descriptor: CNEL

CNEL Contour Notes:
Distance is from the centerline of the highway segment to the receptor location.

24 Hour Traffic Distrbution Assumptions	Day	Evening	Night
Total ADT Volumes	77.70%	12.70%	9.60%
Medium Trucks	87.43%	5.05%	7.52%
Heavy Trucks	89.10%	2.64%	8.06%

Analysis Condition / Roadway Segment	Lanes	Median Width	ADT Volume	Design Speed (mph)	Vehicle Mix: Medium Trucks	Vehicle Mix: Heavy Trucks	CNEL at 50 Feet	Distance from Highway Centerline to Noise Contour Boundary: 70 CNEL	65 CNEL	60 CNEL
US Highway 101 - South of Betteravia										
Existing (2023)	4	15	54,000	65	1%	8%	75.0	108	232	500
Existing + Project Buildout	4	15	83,665	65	1%	8%	76.3	132	283	610
General Plan Buildout Horizon (2035)	4	15	57,435	65	1%	8%	75.3	113	243	524
2035 + Project	4	15	87,100	65	1%	8%	76.5	136	292	629

Caltrans Data Summary US Highway 101 South of Betteravia Road	AADT all Vehicles	Percent Autos	Percent Med. Trk.	Percent Heavy Tr.
2018 Truck Annual Average Daily Traffic on State Highways	52600	91	1	8
2023 Truck Annual Average Daily Traffic on State Highways	54000	91	1	8
AADT Increase Over 5-Year Period	1400			
Annual Growth Rate in AADT over 5-Year Period	**0.5%**			
AADT Growth Over 12-Year Period (2023 - 2035)	3435			

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19 July 2025
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Solomon Hills
RUN: Existing
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
50 Foot Sample Receiver	1	1	0.0	75.0	66	75.0	10	Snd Lvl	75.0	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction Min	Avg	Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

Dudek
JVL

19 July 2025
TNM 2.5

INPUT: ROADWAYS
PROJECT/CONTRACT: Solomon Hills
RUN: Existing

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA

Roadway		Points					Flow Control			Segment	
Name	Width	Name	No.	Coordinates (pavement) X	Y	Z	Control Device	Speed Constraint	Percent Vehicles Affected	Pvmt Type	On Struct?
	ft			ft	ft	ft		mph	%		
US 101 SB Lane 1	12.0	North End	1	56.0	200.0	0.00				Average	
		point2	2	56.0	100.0	0.00				Average	
		South End	3	56.0	0.0	0.00					
US 101 SB Lane 2	12.0	North End	4	68.0	200.0	0.00				Average	
		point5	5	68.0	100.0	0.00				Average	
		South End	6	68.0	0.0	0.00					
US 101 NB Lane 2	12.0	South End	7	150.0	0.0	0.00				Average	
		point8	8	150.0	100.0	0.00				Average	
		North End	9	150.0	200.0	0.00					
US 101 NB Lane 1	12.0	South End	10	162.0	0.0	0.00				Average	
		point11	11	162.0	100.0	0.00				Average	
		North End	12	162.0	200.0	0.00					

Dudek 19 July 2025
JVL TNM 2.5

INPUT: TRAFFIC FOR LAeq1h Volumes
PROJECT/CONTRACT: Solomon Hills
RUN: Existing

Roadway	Points											
Name	Name	No.	Segment									
			Autos		MTrucks		HTrucks		Buses		Motorcycles	
			V	S	V	S	V	S	V	S	V	S
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
US 101 SB Lane 1	North End Lar	1	1229	65	14	65	108	65	0	0	0	0
	point2	2	1229	65	14	65	108	65	0	0	0	0
	South End Lai	3										
US 101 SB Lane 2	North End Lar	4	1229	65	14	65	108	65	0	0	0	0
	point5	5	1229	65	14	65	108	65	0	0	0	0
	South End Lai	6										
US 101 NB Lane 2	South End Lai	7	1229	65	14	65	108	65	0	0	0	0
	point8	8	1229	65	14	65	108	65	0	0	0	0
	North End Lar	9										
US 101 NB Lane 1	South End Lai	10	1229	65	14	65	108	65	0	0	0	0
	point11	11	1229	65	14	65	108	65	0	0	0	0
	North End Lar	12										

Dudek
JVL

19 July 2025
TNM 2.5

INPUT: RECEIVERS
PROJECT/CONTRACT: Solomon Hills
RUN: Existing

Receiver Name	No.	#DUs	Coordinates (ground) X	Y	Z	Height above Ground	Input Sound Levels and Criteria: Existing LAeq1h	Impact Criteria LAeq1h	Impact Criteria Sub'l	NR Goal	Active in Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
50 Foot Sample Receiver	1	1	0.0	100.0	0.00	4.92	0.00	66	10.0	8.0	Y

Dudek
JVL

19 July 2025
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Solomon Hills
RUN: Existing + Project Buildout
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
50 Foot Sample Receiver	1	1	0.0	76.3	66	76.3	10	Snd Lvl	76.3	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction Min	Avg	Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

Dudek
JVL

19 July 2025
TNM 2.5

INPUT: ROADWAYS
PROJECT/CONTRACT: Solomon Hills
RUN: Existing + Project Buildout

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA

Roadway		Points					Flow Control			Segment	
Name	Width	Name	No.	Coordinates (pavement) X	Y	Z	Control Device	Speed Constraint	Percent Vehicles Affected	Pvmt Type	On Struct?
	ft			ft	ft	ft		mph	%		
US 101 SB Lane 1	12.0	North End	1	56.0	200.0	0.00				Average	
		point2	2	56.0	100.0	0.00				Average	
		South End	3	56.0	0.0	0.00					
US 101 SB Lane 2	12.0	North End	4	68.0	200.0	0.00				Average	
		point5	5	68.0	100.0	0.00				Average	
		South End	6	68.0	0.0	0.00					
US 101 NB Lane 2	12.0	South End	7	150.0	0.0	0.00				Average	
		point8	8	150.0	100.0	0.00				Average	
		North End	9	150.0	200.0	0.00					
US 101 NB Lane 1	12.0	South End	10	162.0	0.0	0.00				Average	
		point11	11	162.0	100.0	0.00				Average	
		North End	12	162.0	200.0	0.00					

Dudek 19 July 2025
JVL TNM 2.5

INPUT: TRAFFIC FOR LAeq1h Volumes
PROJECT/CONTRACT: Solomon Hills
RUN: Existing + Project Buildout

Roadway	Points											
Name	Name	No.	Segment									
			Autos		MTrucks		HTrucks		Buses		Motorcycles	
			V	S	V	S	V	S	V	S	V	S
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
US 101 SB Lane 1	North End Lar	1	1970	65	14	65	108	65	0	0	0	0
	point2	2	1970	65	14	65	108	65	0	0	0	0
	South End Lai	3										
US 101 SB Lane 2	North End Lar	4	1970	65	14	65	108	65	0	0	0	0
	point5	5	1970	65	14	65	108	65	0	0	0	0
	South End Lai	6										
US 101 NB Lane 2	South End Lai	7	1970	65	14	65	108	65	0	0	0	0
	point8	8	1970	65	14	65	108	65	0	0	0	0
	North End Lar	9										
US 101 NB Lane 1	South End Lai	10	1970	65	14	65	108	65	0	0	0	0
	point11	11	1970	65	14	65	108	65	0	0	0	0
	North End Lar	12										

Dudek 19 July 2025
JVL TNM 2.5

INPUT: RECEIVERS
PROJECT/CONTRACT: Solomon Hills
RUN: Existing + Project Buildout

Receiver Name	No.	#DUs	Coordinates (ground) X	Y	Z	Height above Ground	Input Sound Levels and Criteria: Existing LAeq1h	Impact Criteria LAeq1h	Impact Criteria Sub'l	NR Goal	Active in Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
50 Foot Sample Receiver	1	1	0.0	100.0	0.00	4.92	0.00	66	10.0	8.0	Y

Dudek
JVL

19 July 2025
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Solomon Hills
RUN: Year 2035
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
50 Foot Sample Receiver	1	1	0.0	75.3	66	75.3	10	Snd Lvl	75.3	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction Min	Avg	Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

Dudek 19 July 2025
JVL TNM 2.5

INPUT: ROADWAYS
PROJECT/CONTRACT: Solomon Hills
RUN: Year 2035

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA

Roadway		Points					Flow Control			Segment	
Name	Width	Name	No.	Coordinates (pavement) X	Y	Z	Control Device	Speed Constraint	Percent Vehicles Affected	Pvmt Type	On Struct?
	ft			ft	ft	ft		mph	%		
US 101 SB Lane 1	12.0	North End	1	56.0	200.0	0.00				Average	
		point2	2	56.0	100.0	0.00				Average	
		South End	3	56.0	0.0	0.00					
US 101 SB Lane 2	12.0	North End	4	68.0	200.0	0.00				Average	
		point5	5	68.0	100.0	0.00				Average	
		South End	6	68.0	0.0	0.00					
US 101 NB Lane 2	12.0	South End	7	150.0	0.0	0.00				Average	
		point8	8	150.0	100.0	0.00				Average	
		North End	9	150.0	200.0	0.00					
US 101 NB Lane 1	12.0	South End	10	162.0	0.0	0.00				Average	
		point11	11	162.0	100.0	0.00				Average	
		North End	12	162.0	200.0	0.00					

Dudek 19 July 2025
JVL TNM 2.5

INPUT: TRAFFIC FOR LAeq1h Volumes
PROJECT/CONTRACT: Solomon Hills
RUN: Year 2035

Roadway	Points											
Name	Name	No.	Segment									
			Autos		MTrucks		HTrucks		Buses		Motorcycles	
			V	S	V	S	V	S	V	S	V	S
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
US 101 SB Lane 1	North End Lar	1	1307	65	14	65	115	65	0	0	0	0
	point2	2	1307	65	14	65	115	65	0	0	0	0
	South End Lai	3										
US 101 SB Lane 2	North End Lar	4	1307	65	14	65	115	65	0	0	0	0
	point5	5	1307	65	14	65	115	65	0	0	0	0
	South End Lai	6										
US 101 NB Lane 2	South End Lai	7	1307	65	14	65	115	65	0	0	0	0
	point8	8	1307	65	14	65	115	65	0	0	0	0
	North End Lar	9										
US 101 NB Lane 1	South End Lai	10	1307	65	14	65	115	65	0	0	0	0
	point11	11	1307	65	14	65	115	65	0	0	0	0
	North End Lar	12										

Dudek
JVL

19 July 2025
TNM 2.5

INPUT: RECEIVERS
PROJECT/CONTRACT: Solomon Hills
RUN: Year 2035

Receiver Name	No.	#DUs	Coordinates (ground) X	Y	Z	Height above Ground	Input Sound Levels and Criteria: Existing LAeq1h	Impact Criteria LAeq1h	Impact Criteria Sub'l	NR Goal	Active in Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
50 Foot Sample Receiver	1	1	0.0	100.0	0.00	4.92	0.00	66	10.0	8.0	Y

Dudek
JVL

19 July 2025
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Solomon Hills
RUN: 2035 + Project Buildout
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
50 Foot Sample Receiver	1	1	0.0	76.5	66	76.5	10	Snd Lvl	76.5	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction Min	Avg	Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

Dudek
JVL

19 July 2025
TNM 2.5

INPUT: ROADWAYS
PROJECT/CONTRACT: Solomon Hills
RUN: 2035 + Project Buildout

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA

Roadway		Points					Flow Control			Segment	
Name	Width	Name	No.	Coordinates (pavement) X	Y	Z	Control Device	Speed Constraint	Percent Vehicles Affected	Pvmt Type	On Struct?
	ft			ft	ft	ft		mph	%		
US 101 SB Lane 1	12.0	North End	1	56.0	200.0	0.00				Average	
		point2	2	56.0	100.0	0.00				Average	
		South End	3	56.0	0.0	0.00					
US 101 SB Lane 2	12.0	North End	4	68.0	200.0	0.00				Average	
		point5	5	68.0	100.0	0.00				Average	
		South End	6	68.0	0.0	0.00					
US 101 NB Lane 2	12.0	South End	7	150.0	0.0	0.00				Average	
		point8	8	150.0	100.0	0.00				Average	
		North End	9	150.0	200.0	0.00					
US 101 NB Lane 1	12.0	South End	10	162.0	0.0	0.00				Average	
		point11	11	162.0	100.0	0.00				Average	
		North End	12	162.0	200.0	0.00					

Dudek
JVL

19 July 2025
TNM 2.5

INPUT: TRAFFIC FOR LAeq1h Volumes
PROJECT/CONTRACT: Solomon Hills
RUN: 2035 + Project Buildout

Roadway	Points		Segment									
Name	Name	No.	Autos		MTrucks		HTrucks		Buses		Motorcycles	
			V	S	V	S	V	S	V	S	V	S
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
US 101 SB Lane 1	North End Lar	1	2049	65	14	65	115	65	0	0	0	0
	point2	2	2049	65	14	65	115	65	0	0	0	0
	South End Lai	3										
US 101 SB Lane 2	North End Lar	4	2049	65	14	65	115	65	0	0	0	0
	point5	5	2049	65	14	65	115	65	0	0	0	0
	South End Lai	6										
US 101 NB Lane 2	South End Lai	7	2049	65	14	65	115	65	0	0	0	0
	point8	8	2049	65	14	65	115	65	0	0	0	0
	North End Lar	9										
US 101 NB Lane 1	South End Lai	10	2049	65	14	65	115	65	0	0	0	0
	point11	11	2049	65	14	65	115	65	0	0	0	0
	North End Lar	12										

Dudek
JVL

19 July 2025
TNM 2.5

INPUT: RECEIVERS
PROJECT/CONTRACT: Solomon Hills
RUN: 2035 + Project Buildout

Receiver Name	No.	#DUs	Coordinates (ground) X	Y	Z	Height above Ground	Input Sound Levels and Criteria: Existing LAeq1h	Impact Criteria LAeq1h	Impact Criteria Sub'l	NR Goal	Active in Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
50 Foot Sample Receiver	1	1	0.0	100.0	0.00	4.92	0.00	66	10.0	8.0	Y

APPENDIX E

NOISEPRO STATIONARY NOISE MODELING DATA

Technical Basis of Dudek's "NoisePro" Excel-based Outdoor Sound Propagation Prediction Model

In summary, the Microsoft Excel-based **NoisePro** outdoor sound propagation model developed by Dudek calculates the aggregate sound pressure level (SPL) received by each and every cell within a two-dimensional (2D) array (a product of X columns of cells by Y rows of cells). The quantity of this received SPL, in A-weighted decibels (dBA), is the logarithmic sum of acoustical contribution from each of "n" user-input sound emitting point sources located on the same 2D array, which may be written as follows:

$$SPL_{X,Y} = 10 * \log \sum_{i=1}^{n} 10^{0.1[L_i - A_i]}$$

where each individual source sound level (L_i) is attenuated by an algebraic sum of three attenuation factors ($A_i = A_{div} + A_{atm} + A_{gr}$) that are each dependent on the distance between the sound source position on the X by Y array and the receiving $SPL_{X,Y}$ position on a different position in the same 2D array of worksheet cells, where each cell is defined by the user as representing the center of a square area having equal sides of user-defined length in feet. The above expression is based on Equation 5 from the International Organization for Standardization (ISO) 9613-2 "Acoustics – Attenuation of sound during propagation outdoors – Part 2: General method of calculation", and the individual attenuation factors used by **NoisePro** emulate those in Equation 4 and may be summarized as follows:

- A_{div} = attenuation due to *geometrical divergence* (i.e., pure distance), equating to 20*LOG(d/d_{ref}); and where d is the horizontal distance between a source and a receiver position, while d_{ref} is the reference distance at which the sound source L_i is defined.
- A_{atm} = attenuation due to *atmospheric absorption*, which for 1,000 Hz (1 kHz) = 4.16*d/3280 and is derived from Equation 5.7 in Noise & Vibration Control Engineering (Beranek and Ver, 1992).
- A_{gr} = attenuation due to *ground effects*, appearing as Equation 10 in ISO 9613-2 and can be expressed with the following Excel formula:

  $$A_{gr} = \text{MAX}(0,4.8-[h_s+h_r]/d*[17+984/d])$$

  where h_s and h_r are the heights (in feet) of the sound source and receiver positions above grade, respectively. This means that for small distances, attenuation from ground effects will be small or essentially zero; and, even at great distances, the attenuation from ground effects is effectively capped at 4.8 dB.

The Excel workbook comprising **NoisePro** calculates $SPL_{X,Y}$ by using a coding loop to evaluate the acoustic contribution from each attenuated sound source (L_i - A_i) in sequence, and logarithmically adding the new evaluation to the previous total in a cumulative manner. When all sources have been evaluated, the loop terminates and yields an aggregate or log-summed total $SPL_{X,Y}$ value that is thus unique to a position in the 2D array of cells represented by X and Y, and can thus be "mapped". If the user has defined a particular cell in the X by Y array as a uniquely tagged Receiver, then the corresponding $SPL_{X,Y}$ value can be indexed and displayed accordingly.

The resulting output array of cells, each having an individually calculated $SPL_{X,Y}$ numerical value, is then filled with a color (from a user-defined palette) by application of a Conditional Formatting rules set (an Excel formatting feature) that compares the dB quantity with user-defined "high" and "low" dB ranges for each available color. Each colored cell can thus be likened to a "pixel" within a 2D array that forms a composite image representing—visually—the sound propagation from all modeled sound sources.

GRID CALCULATION WORKSHEET

Example Portion of Concluded Calculations Loop

	grid size (ft)
x	220
y	220
	rcvr plane height (ft)
z	5

Source	1
Source Tag	SHC21
Source X-coordinate	10080
Source Y-coordinate	1920
Source Z-coordinate	10
Source Reference SPL	81
Source Ref. Distance (ft.)	3.28

Grid Upper Left (C,R)

1 1

Grid Lower Right (C,R)

120 90

		Receiver Location			
Column	Row	X-coord	Y-coord	Z-coord	Cumulative SPL
1	1	160	160	5	9.2
1	2	160	320	5	9.4
1	3	160	480	5	9.6
1	4	160	640	5	9.8
1	5	160	800	5	10.0
1	6	160	960	5	10.2
1	7	160	1120	5	10.4
1	8	160	1280	5	10.6
1	9	160	1440	5	10.8
1	10	160	1600	5	11.0
1	11	160	1760	5	11.2
1	12	160	1920	5	11.4
1	13	160	2080	5	11.6
1	14	160	2240	5	11.8
1	15	160	2400	5	12.0
1	16	160	2560	5	12.2
1	17	160	2720	5	12.4
1	18	160	2880	5	12.7
1	19	160	3040	5	12.9
1	20	160	3200	5	13.1
1	21	160	3360	5	13.3
1	22	160	3520	5	13.5
1	23	160	3680	5	13.7
1	24	160	3840	5	13.9
1	25	160	4000	5	14.1
1	26	160	4160	5	14.4
1	27	160	4320	5	14.6
1	28	160	4480	5	14.8
1	29	160	4640	5	15.0

APPENDIX F

PROJECT DESCRIPTION INFORMATION

DUDEK

3760 STATE STREET, STE 101
SANTA BARBARA, CA 93101
805.963.0651

January 30, 2026

Mr. Peter Keisecker
Solstra Communities CA, LLC
1130 East Clark Ave, Suite 150 #286
Orcutt, CA 93455

Subject: Solomon Hills Specific Plan, Orcutt Area, Santa Barbara County
Noise Technical Report - ADDENDUM

Dear Mr. Keisecker:

Dudek has prepared this Addendum to our Noise Technical Report for Solomon Hills Specific Plan (July 2025) in response to comments on the report provided by Santa Barbara County's contracted EIR consultant (Rincon). The substantive comments on the Noise Technical Report are summarized below.

- References throughout the report direct the reader to detailed project descriptive information contained in Appendix F; however, Appendix F contained only blank pages.
- The project description for the report omitted the proposed water supply infrastructure including a new water line (from the Tanglewood Turnout of the Central Coast Water Authority system), two booster pump stations, and an on-site water storage tank.
- The project description for the report omitted a proposed on-site water reclamation facility.
- The project description for the report omitted potential large truck traffic related to oil well operations or abandonment.
- The assessment of construction noise impacts for occupied on-site residences did not employ the adopted County of Santa Barbara threshold of 65 dBA and instead used the FTA recommended threshold of 80 dBA.

This Addendum provides information and analysis to address the above omissions noted by Rincon. This Addendum should be considered in tandem with the Dudek 2025 Noise Technical Report as a comprehensive assessment of noise and vibration impacts of the Solomon Hills Specific Plan Project.

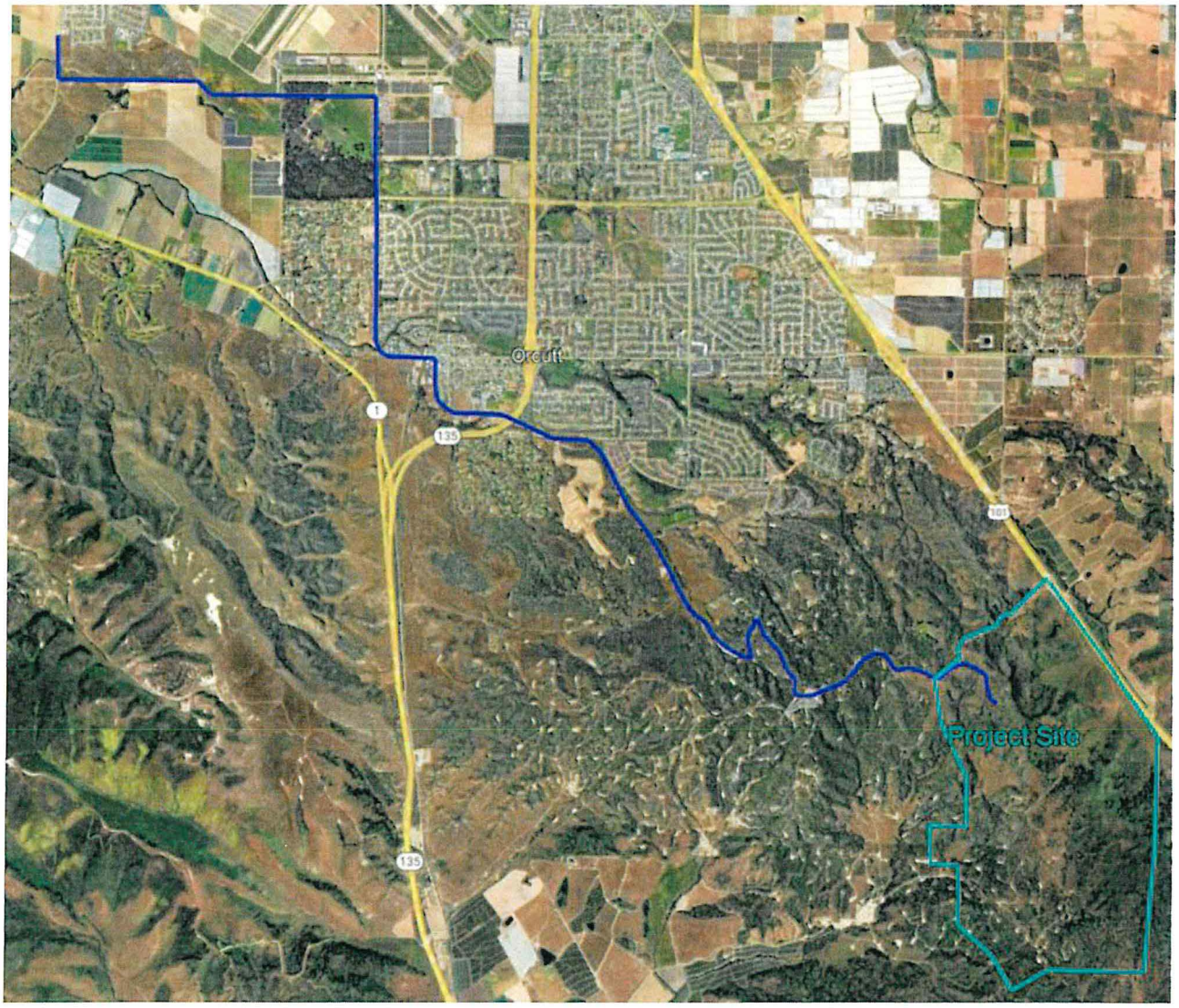
Appendix F – Detailed Project Descriptive Information

Due to a file compression error, the detailed Project Descriptive Information (Appendix F of the 2025 Dudek Report) contained blank pages. Attachment 1 to this Addendum includes the detailed Project Descriptive Information that was intended to comprise Appendix F.

Water Supply Infrastructure

Project Component Description

A new water supply line for the project is proposed to connect to the Tanglewood Turnout of the Central Coast Water Authority system. Figure A illustrates the high-level alignment of the proposed water supply line.



Legend: —— Proposed Water Pipeline Route

FIGURE A
Proposed Alignment of Project Water Supply Pipeline

The proposed water supply pipeline would primarily be installed within existing public road right-of-way (r-o-w). The pipeline would connect to the Tanglewood Turn-out within Black Road r-o-w, approximately 1,500 feet north of Dutard Street. **Segment 1** of the pipeline would proceed south along Black Road, then east within Dutard Street r-o-w to E Street, then follow existing dirt maintenance roads along the southern boundary of the Santa Maria Airport eastward to South Blosser Road. The closest existing residences along Segment 1 of the pipeline are 450 feet east of the Black Road portion and 1,100 feet north of the Dutard Street portion.

Segment 2 of the pipeline would proceed within South Blosser Road r-o-w (starting next to Airport Mobile Home Park) southward to W. Clarke Avenue, then east within W. Clark Avenue r-o-w to South Broadway Street/W. Rice Ranch Road, then south and east within W Rice Road r-o-w and E Rice Road r-o-w to Orcutt Hill Road. Existing residences are adjacent to the r-o-w for most of the streets in Segment 2, as close as approximately 75 feet from the pipeline alignment. One of

two proposed booster pumping stations would also be located within Segment 2, along the south side of W. Clark Avenue, west of Marcum Street. The booster pump station would be no closer than approximately 100 feet from existing residences on the north side of W. Clark Avenue.

Segment 3 of the pipeline would proceed from the E. Rice Ranch/Orcutt Hill Road intersection east and south within the Orcutt Hill r-o-w to a proposed water storage tank location within the northwestern portion of the project site. There are existing residences within approximately 75 feet of the initial 2,500 feet of this segment, for the remaining portion of Segment 3, there are no residences within 500 feet of the pipeline alignment. The second proposed booster pump station is proposed adjacent to the east side of Orcutt Hill Road, approximately 8,000 feet (1.5 miles) from the E. Rice Ranch/Orcutt Hill Road intersection. The closest existing residences to the second booster pump station are approximately 4,800 feet to the north (0.9 miles). The water storage tank would be constructed within the project site with no existing residences closer than 6,340 feet (1.2 miles) from the water tank site.

Construction Noise Assessment - Water Supply Infrastructure

Installation of the proposed water supply pipeline is anticipated to involve one backhoe and one dump truck. The backhoe would excavate an open trench for the pipeline, lay sections of the pipeline in place, and backfill the trench. The dump truck would haul off excavated material not suitable as trench backfill and deliver appropriate trench backfill materials. The two booster pump stations would involve excavation of an area large enough to accommodate a pre-fabricated concrete vault for the pump equipment and valves, and backfilling around the vault; this construction would also be accomplished with a single backhoe and dump truck (with a single flatbed truck delivery of the vault and pump equipment). The on-site water storage tank construction could be accomplished with equipment already included in the grading sub-phase of Phase 1.

A Microsoft Excel–based noise prediction model emulating and using reference data from the FHWA RCNM was used to estimate average construction noise levels at the nearest noise-sensitive land uses to the water pipeline alignment. Aggregate noise emission from Project construction activities was predicted for the existing residences closest to segments of the pipeline, and also for selected distances that define zones in which some construction noise controls may be necessary. Dudek compared predicted construction noise levels at the closest off-site residences against the Santa Barbara County Environmental Thresholds Manual daytime limit of 65 dBA L_{eq}. The summary results of the construction noise assessment are provided in Table A (refer to Attachment 3 for the RCNM worksheets).

Table A. Water Pipeline Construction Noise Levels at Closest Residences

Construction Activity	Construction Noise Level $L_{eq\ 1\ hr}$ (dBA)			
	75 Feet Distance (Closest Residence)	125 Feet Distance	150 Feet Distance	SB County Significance Level
Off-site Water Pipeline	**73**	**67**	65	65

Source: Dudek (Attachment 3)
Notes: dBA = A-weighted decibel; $L_{eq\ 1hr}$ = one-hour average noise level; **Bolded** values exceed the 65 dBA L_{eq} significance level.

As indicated in Table A, construction noise levels from combined operation of a backhoe and dump truck would exceed the Santa Barbara County construction noise threshold of 65 dBA L_{eq} at existing residences that are closer than 150 feet from the water pipeline alignment. In **Segment 1,** there are no residences closer than 450 feet from the alignment, and therefore construction noise impacts for this segment would be less than significant. In **Segment 2** and **Segment 3** existing residences are as close as 75 feet from certain portions of the pipeline alignment, and therefore construction of these pipeline segments could result in **potentially significant short-term construction noise impacts.**

Noise controls to effectively reduce construction noise levels to comply with the 65 dBA L_{eq} limit include the following.

Table B. Construction Noise Controls for Water Pipeline

Construction Zone Separation Distance From Residences	Controls
75 feet – 125 feet	Erect and maintain a 6.5 foot temporary noise barrier between equipment and the closest residences.
126 feet – 150 feet	Prohibit dump truck idling, require shut-off during filling or unloading by backhoe.
Greater than 150 feet	No controls necessary.

Table C summarizes water pipeline construction noise levels for residences within the specified distances, assuming the above noise controls are implemented (refer to Attachment 3 for the RCNM worksheets).

Table C. Water Pipeline Construction Noise Levels at Closest Residences - Mitigated

Construction Activity	Construction Noise Level $L_{eq\ 1\ hr}$ (dBA)			
	75 Feet Distance (Closest Residence)	125 Feet Distance	150 Feet Distance	SB County Significance Level
Off-site Water Pipeline	65	65	65	65

Source: Dudek (Attachment 3)
Notes: dBA = A-weighted decibel; $L_{eq\ 1hr}$ = one-hour average noise level.

As indicated in Table C, with implementation of identified controls, required as a mitigation measure, construction noise impacts for the proposed water supply pipeline and booster pump stations would be **less than significant.** The water tank would be constructed within the project site, prior to the construction of any project homes; therefore, water tank construction would have no noise impacts for future project residents. There are no existing off-site residences closer than 6,340 feet (1.2 miles) from the water tank site, and therefore water tank construction would also result in **less than significant noise impacts for existing off-site residences.**

Mitigation Measures

Construction of the proposed water supply pipeline could result in potentially significant noise exposure impacts for residences closer than 150 feet from the pipeline (i.e., construction noise exposure levels that exceed the Santa Barbara County daytime construction threshold of 65 dBA L_{eq}). The following mitigation measure is required to reduce noise exposure from pipeline construction (refer to Attachment 3 for worksheets that evaluate mitigation effectiveness).

MM NOI -1 For pipeline construction where existing residences exist within 75 – 125 feet from the water pipeline construction zone, a temporary noise barrier at least 6.5 feet in height shall be erected and maintained between the construction equipment and adjacent residences. For pipeline construction where existing residences exist within 126 – 150 feet from the water pipeline construction zone, only one piece of construction equipment shall be allowed to operate at a time; dump truck idling shall be prohibited during filling or unloading by the backhoe.

Operational Noise Assessment – Water Supply Infrastructure

Water pumps for the two booster stations are anticipated to be installed in underground vaults with no audible noise above ground. The on-site water tank location would be no closer than 750 feet from the closest future on-site residences (located in PA 64). RCNM indicates a sound level of 73 dBA L_{eq} at 50 feet for a generic water pump employed at construction sites. Using this reference sound level, a permanent outdoor pump used to fill the water storage tank would produce a sound level of 44 dBA L_{eq} at the closest on-site residences. As such, operational noise associated with water supply infrastructure would be well below the 65 dBA L_{eq} threshold at existing offsite residences, and at future Project residences, and would thus result in **less than significant noise impacts.**

On-Site Water Reclamation Facility

Project Component Description

The project proposes to construct a public water reclamation facility (also called a water recycling facility) to be dedicated to the Laguna County Sanitation District composed of a geosynthetic lined basin of 39.5 acre-feet capacity (occupying approximately 7.5 acres) for recycled water storage during periods of wet weather, and a 24-acre spray field to the west. Water in the basin will be used for irrigation purposes; water will be delivered to the basin via an extension of the recycled water distribution system located within the Specific Plan boundary. A recycled water pump station will be installed immediately adjacent to the basin to deliver stored water either to the spray field or returned to the recycled water distribution system for irrigation in other recycled water use areas of the Specific Plan and Newlove Park. Figure B illustrates the location of the Water Reclamation Facility (WRF) in relation to adjacent planning areas of the Specific Plan.

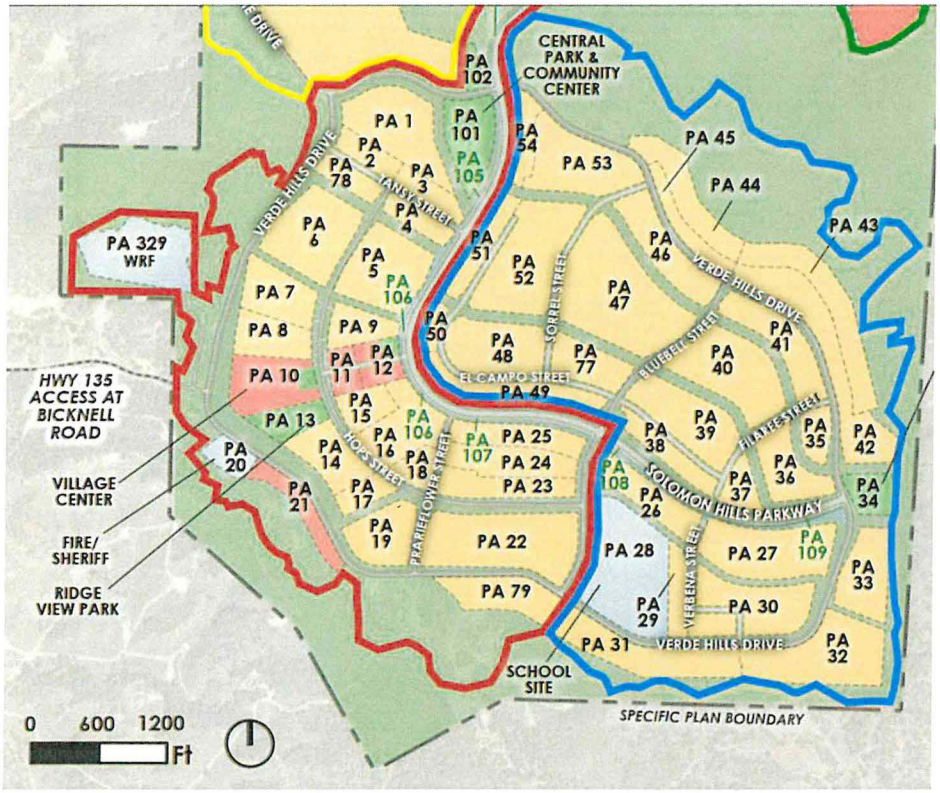


FIGURE B
Location of the Water Reclamation Facility (WRF)

The WRF would be located no closer than approximately 450 feet from the closest future project residences (in PA6, PA7 and PA8). The WRF location is also in a natural bowl area surrounded by hills or ridges. For comparison, the elevation difference between the WRF location and the closest future residences (in PA6, PA7 and PA8) is approximately 75 feet, with the residences located on the opposite side of a ridge feature (with crest elevation approximately 5 feet higher than home locations) from the WRF location.

Construction Noise Assessment - Water Reclamation Facility

The WRF would be constructed as part of Phase 1 of the Specific Plan, prior to any future project residences being occupied. WRF construction would therefore have no noise impacts upon future project residents. With respect to construction noise impacts at existing off-site residences, the grading for the WRF was included in the overall earthwork volumes and construction equipment inventory for the construction noise assessment of Phase 1 (Sub-phase 1 – Linear Grub, Clearing and Sub-phase 2 – Linear Grading) of the Specific Plan (refer to Page 20 of the Dudek July 2025 Noise Technical Report). Installation of the spray irrigation lines and water pump station were also included (Sub-phase 3 – Linear Drainage). As concluded in the Dudek July 2025 Noise Technical Report (Page 22), construction noise at existing off-site noise-sensitive receivers would result in **less than significant noise impacts.**

Operational Noise Assessment - Water Reclamation Facility

The WRF would be located no closer than approximately 450 feet from the closest future project residences (in PA6, PA7 and PA8). Noise generation from the WRF would be associated with the water pump station and, to a lesser degree, the water sprinklers/sprayers in the spray field. For an EIR addressing facility upgrades, Dudek conducted sound level measurements of an operational wastewater treatment plant (with multiple pump stations and open air water clarifiers). A comprehensive wastewater treatment plant (WWTP) has many more noise sources than the proposed WRF but measured operational sound levels for a WWTP would be very conservative to address potential WRF sound generation. For the WWTP, Dudek measured a sound level of 53 dBA L_{eq} at 100 feet (*Climate Resilient Santa Cruz: Graham Hill Water Treatment Plant Facility Improvements Project EIR, 2023*). Using this reference sound level, the WRF would produce a sound level of 40 dBA L_{eq} at the closest on-site residences. Additional sound attenuation would also be provided by the ridge between the WRF and closest on-site residences. The closest existing off-site residences are not closer than 11,350 feet (2.15 miles). Using the WWTP reference sound level, the WRF would produce a sound level of 12 dBA L_{eq} at the closest off-site residences. As such, operational noise associated with the water reclamation facility would be well below the 65 dBA L_{eq} threshold at existing offsite residences, and at future Project residences, and would thus result in **less than significant noise impacts.**

Large Truck Traffic Related to Oil Well Operations or Abandonment

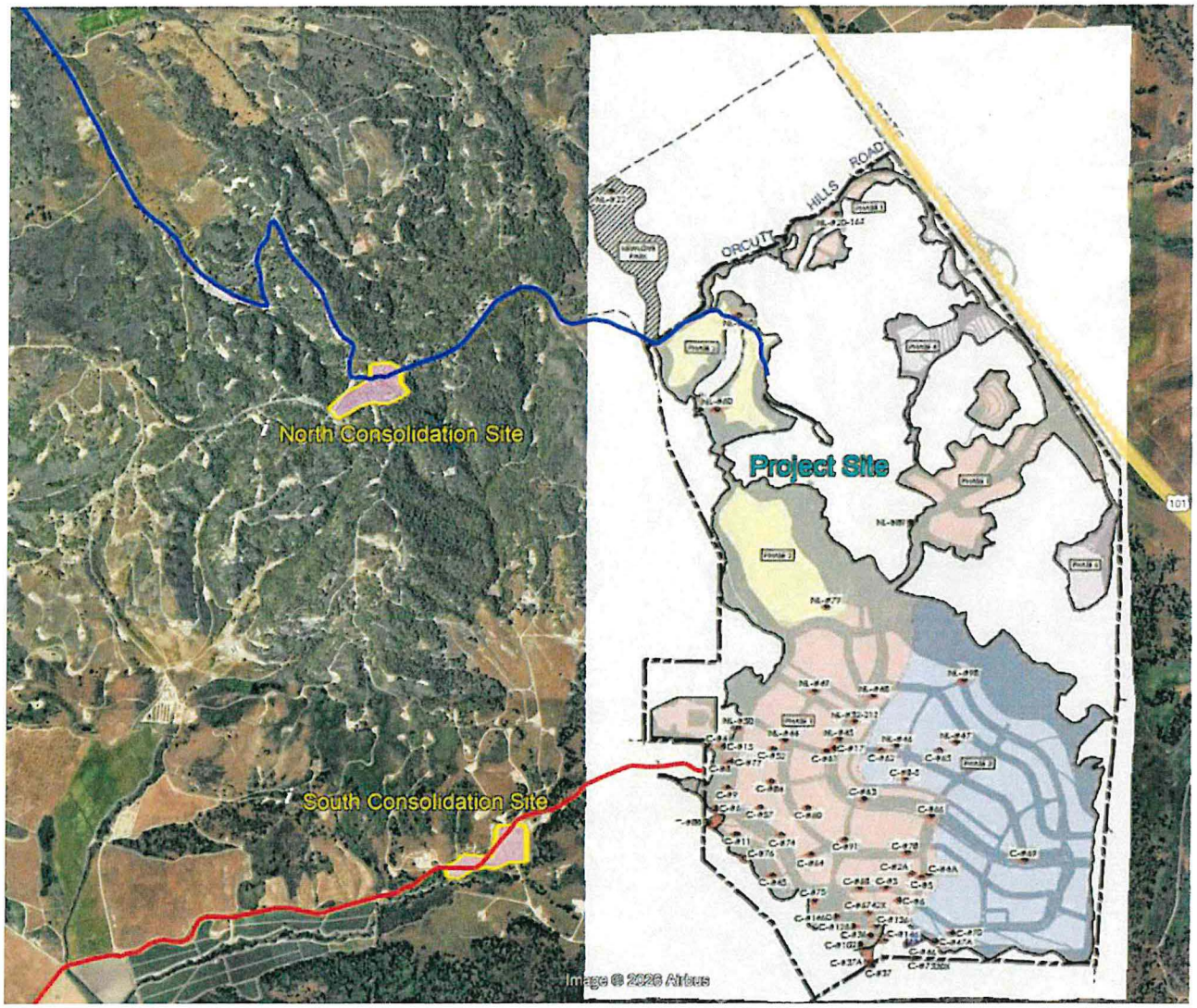
Project Component Description

There are 60 existing oil wells within the Specific Plan Area and an additional 5 oil wells adjacent to the Specific Plan Area that the project would affect. Namely, the project would abandon or re-abandon all these oil wells. 34 of the affected wells are currently active, 4 are idle, 25 are plugged, and 2 were cancelled (drilling was initiated but was discontinued due to lack of encountered oil).

Operational Noise Assessment - Large Truck Traffic for Active Oil Wells Within the Specific Plan Area

Oil wells within and adjacent to the Specific Plan Area are each connected to pipelines that convey oil pumped from the wells to consolidation sites west of the Specific Plan Area. Oil is accumulated in tanks at the consolidation sites until there is enough for a tanker truck to transport the oil to a refinery. Oil wells in approximately the northern 1/3 of the

Specific Plan Area pipe oil to the north consolidation site, wells in approximately the southern 2/3 of the Specific Plan Area pipe oil to the south consolidation site. Figure C illustrates the oil consolidation sites as well as existing roads used to access the consolidation sites by oil tanker trucks.



Legend: Orcutt Hill Road Truck Route
Bicknell Road Truck Route

FIGURE C
Oil Consolidation Sites Serving Wells in The Specific Plan Vicinity

As shown on Figure C, while Orcutt Hill Road and Bicknell Road currently provide access to the Specific Plan Area, oil tanker trucks do not enter the Specific Plan Area but instead travel only as far as the consolidation sites, and then reverse travel direction to SR 135, where they can use the California state highway system to reach their refinery destinations. Consequently, on-going oil well operations within the Specific Plan Area would not involve on-site large truck activities, and there would be **no operations-related heavy truck noise impacts for future Specific Plan residents.**

Given operation of a decreasing number of wells within the Specific Plan Area (which would occur via systematic abandonment of wells, discussed in the next sub-section), project contributions to tanker truck volumes on these roads outside the Specific Plan Area would decrease under Specific Plan implementation. However, with oil extraction continuing on remaining portions of the oil field west of the Specific Plan area, this project-related reduction in tanker truck trips may be negligible compared to baseline truck volumes. Nonetheless, heavy truck trips associated with on-going oil well operations within the Specific Plan Area would result in **noise impacts that are less than significant for existing off-site residences.**

Construction Noise Assessment - Large Truck Traffic for Oil Well Abandonment in the Specific Plan Area

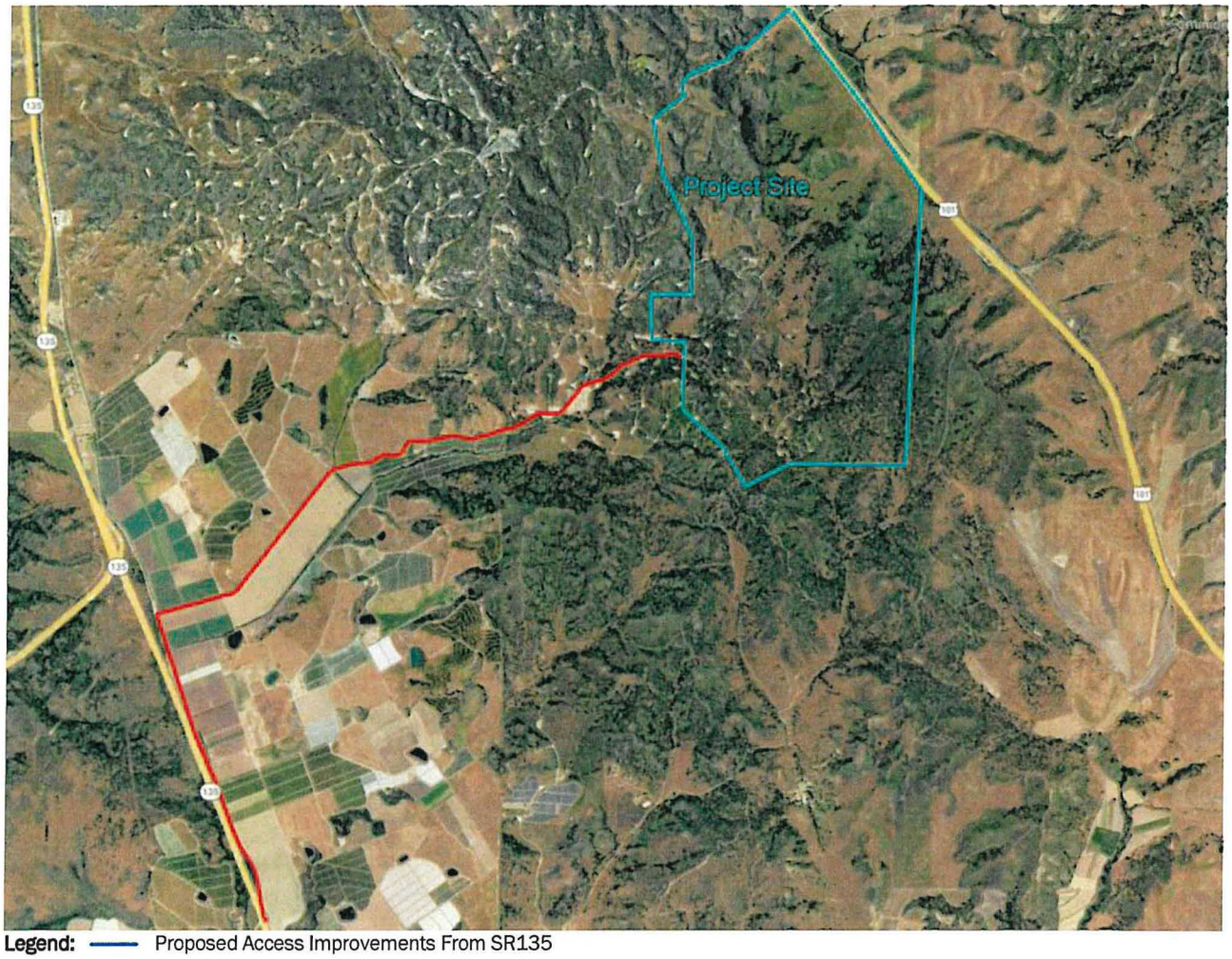
Attachment 2 provides maps indicating the location of existing oil wells within the Specific Plan Area, in addition to the location of 5 nearby wells outside the Specific Plan Area, that would each be abandoned via implementation of the project. As detailed in Attachment 2, 50 of the total 65 wells would be abandoned during Phase 1 grading operations. Mass grading would be completed before any residential construction would commence for Phase 1, which means abandonment of the majority of the wells (77%) would be completely abandoned before any residents are present within the Specific Plan Area.

Again referring to information in Attachment 2, three existing oil wells are located within Phase 2 of the Specific Plan. The status for each of these wells is"plugged". Plugging involves the placement of concrete in the metal well casing so that oil cannot seep into areas surrounding the well casing. This is an acceptable method for well abandonment, but if the ground level is proposed to be lowered by project earthwork in the area of a plugged well, the casing may need to be cut off lower, and the concrete seal tested for integrity. A cutting torch, transported on a medium duty truck, would be the only additional equipment necessary (above and beyond equipment already on-site for earthwork) for cutting off sections of well casings. One heavy truck trip might be required to haul off the cut casings. Phase 2 of the Specific Plan Area can be accessed via Orcutt Ridge Road. Therefore, the limited number of heavy truck trips to haul off sections of well casings (if needed) would not have to traverse Phase 1 portions of the site that may contain occupied residences. Phase 2 well abandonment activity would therefore **have less than significant impacts on potentially occupied residences in Phase 1.**

The remaining 12 existing wells are located within Phase 3 of the Specific Plan. Five of these wells are abandoned or cancelled (refer to Attachment C), two are idle, and five are active. The five wells that are abandoned or cancelled would result in approximately 5 total heavy truck trips to potentially haul off cut casing sections. The idle and active wells (7 combined) would require a drill-type rig to remove the well head, pump tubing, and pump. The drill rig could move from well to well performing sequential abandonment, rather than making a round-trip to the site for each well. Up to two heavy truck trips per well could be necessary to haul off the dismantled well equipment. And one trip by a cement mixer truck would be necessary for the well plugging of the 7 idle or active wells. Consequently, approximately 27 heavy truck trips over an abandonment period of 3-4 weeks could be associated with Specific Plan Phase 3 oil well abandonment activities. This number of trips would only marginally increase heavy truck traffic associated with grubbing, clearing, and grading for Phase 3. With construction of Bicknell Road improvements in Phase 1, these heavy trucks could use Verde Hills Drive through mostly commercial and public institution areas of Phase 1 to reach the Bicknell Road entrance to the Specific Plan Area. Given the low overall number of anticipated heavy truck trips during oil well abandonment activities in Phase 3, these truck trips would **have less than significant impacts on potentially occupied residences in Phase 1 or Phase 2.**

In reviewing impacts to off-site existing residences from oil well abandonment activities, with improvements to Bicknell Road constructed early in Phase 1, most heavy truck trips associated with abandonment activities for Phase 1 and Phase

3 would be anticipated to use this shorter, less windy route to SR 135 (as compared to Orcutt Ridge Road). Figure D illustrates the alignment of Bicknell Road improvements from the Specific Plan to Graciosa Road and SR135.



Legend: —— Proposed Access Improvements From SR135

FIGURE D

Proposed Alignment of Project Improvements for Bicknell Road and Graciosa Road

There are no existing residences along the route depicted in Figure D Consequently, the addition of heavy truck traffic along Bicknell Road and Graciosa Road associated with oil well abandonment would result in **less than significant impacts on existing off-site residences in the Specific Plan vicinity.**

Construction Noise Impacts for Occupied On-site Residences

Construction noise impacts upon occupied project residences are often treated differently than for existing off-site residences, because disclosures can be included with sales of the project residences, setting expectations with respect to potential noise from construction of later project phases. In our 2025 Solomon Hills Noise Technical Report, we applied the recommended FTA construction noise threshold of 80 dBA L_{eq} for occupied project residences, rather than the Santa Barbara County daytime construction threshold of 65 dBA L_{eq}. The additional analysis below, including mitigation, is provided if Santa Barbara County enforces the 65 dBA L_{eq} construction noise limit at occupied project residences.

Major earthwork, drainage facilities, roadway layout, and utility installation would be completed in Development Phase 1 before residential construction is started, But there may be some early construction residences occupied while the last residences are being constructed. The construction noise of Phase 1 Development for occupied residences focuses on residential building construction, using minimum separation distance of 100 feet (as represented by road right-of-way). Any of the construction activities in Development Phase 2, 3 or 4 could be conducted with some of the on-site residences occupied. Because Phase 1 involves the major infrastructure and is the most extensive land area, an occupied residence in Phase 1 would be the closest noise-sensitive receptor for construction under the other Development Phases. The same excel-based RCNM workbook was used to assess construction noise from each development phase upon the closest anticipated occupied residence of Development Phase 1. Table D provides a summary of construction noise model results for Phase 1, at the anticipated minimum separation distance of 100 feet between construction and an occupied Phase 1 residence. Table D also presents the construction noise levels at 250 feet, the separation distance identified to reduce construction noise levels to the Santa Barbara County 65 dBA L_{eq} limit. Finally, Table D presents the results of applying construction noise mitigation measures for the closest anticipated residences to construction (100 feet minimum).

Table D. Construction Noise Levels at Occupied Project Residences for Phase 1

Sub-Phase	Construction Noise Level $L_{eq\ 8\text{-}hr\ /\ 1\ hr}$ (dBA)		
	Phase 1 100 Feet	Phase 1 250 Feet	Phase 1 100 Feet Mitigated
(1) Linear Grub, Clearing	n/a	n/a	n/a
(2) Linear Grading	n/a	n/a	n/a
(3) Linear Drainage, Utils	n/a	n/a	n/a
(4) Linear Paving	n/a	n/a	n/a
(5) Demolition	n/a	n/a	n/a
(6) Site Prep	n/a	n/a	n/a
(7) Grading	n/a	n/a	n/a
(8) Building Construct	**75**	65	63
(9) Paving	n/a	n/a	n/a
(10) Architectural Coating	57	47	43

Source: Dudek (Attachment 3)
Notes: dBA = A-weighted decibel; $L_{eq\ 1hr}$ = one-hour average noise level; **Bolded** values exceed the 65 dBA L_{eq} significance level.

Assuming construction activity intensity is similar across the 8-hour construction day, the L_{eq} value for an 8-hour averaging period would be equal to the $L_{eq\ 1hr}$ value for any given hour within the 8-hour construction window (hence the labeling of $L_{eq\ 8\text{-}hr\ /\ 1\ hr}$ in the results columns of Table D). As reported in Table D, Phase 1 construction noise levels at the minimum anticipated construction separation distance of 100 feet would exceed the County 65 dBA L_{eq} significance threshold, **resulting in a potentially significant construction noise impact** for which mitigation would be required. As also reported in Table D, observance of a minimum separation distance of 250 feet between Phase 1 construction activities and any occupied residence would achieve compliance with the 65 dBA L_{eq} threshold, avoiding a significant construction noise impact. Finally, Table D presents the results of erecting and maintaining a temporary noise barrier between the construction zone and residences as close as 100 feet away. The 10-foot high

temporary noise barrier would be a required mitigation measure for construction activities of Phase 1 that are conducted within 250 feet of an occupied residence.

Table E provides a summary of construction noise model results for Phase 2, at the anticipated minimum separation distance of 300 feet between construction and an occupied Phase 1 residence. Table E also presents the construction noise levels at 900 feet, the separation distance identified to reduce construction noise levels to the Santa Barbara County 65 dBA L_{eq} limit. Finally, Table E presents the results of applying construction noise mitigation measures for the closest anticipated residences to construction (300 feet minimum).

Table E. Construction Noise Levels at Occupied Project Residences for Phase 2

Sub-Phase	Construction Noise Level $L_{eq\ 8\text{-}hr\ /\ 1\ hr}$ (dBA)		
	Phase 2 300 Feet	Phase 2 900 Feet	Phase 2 300 Feet Mitigated
(1) Linear Grub, Clearing	64	54	51
(2) Linear Grading	**76**	65	65
(3) Linear Drainage, Utils	**75**	65	65
(4) Linear Paving	**70**	59	57
(5) Demolition	65	55	52
(6) Site Prep	**66**	56	53
(7) Grading	**72**	62	62
(8) Building Construct	63	52	50
(9) Paving	**69**	58	55
(10) Architectural Coating	45	35	32

Source: Dudek (Attachment 3)
Notes: dBA = A-weighted decibel; $L_{eq\ 1hr}$ = one-hour average noise level; **Bolded** values exceed the 65 dBA L_{eq} significance level.

As reported in Table E, Phase 2 construction noise levels at the minimum anticipated construction separation distance of 300 feet would exceed the County 65 dBA L_{eq} significance threshold, **resulting in a potentially significant construction noise impact** for which mitigation would be required. As also reported in Table E, observance of a minimum separation distance of 900 feet between Phase 2 construction activities and any occupied residence would achieve compliance with the 65 dBA L_{eq} threshold, avoiding a significant construction noise impact; ; the only Phase 1 residences within 250 feet of Phase 2 would be located within PA1, PA2, PA3 and PA78. Finally, Table E presents the results of erecting and maintaining a temporary noise barrier between the construction zone and residences as close as 300 feet away. The 12-foot high temporary noise barrier would be a required mitigation measure for construction activities of Phase 2 that are conducted within 900 feet of an occupied residence.

Table F provides a summary of construction noise model results for Phase 3, at the anticipated minimum separation distance of 150 feet between construction and an occupied Phase 1 residence. Table F also presents the construction noise levels at 900 feet, the separation distance identified to reduce construction noise levels to the Santa Barbara County 65 dBA L_{eq} limit. Finally, Table F presents the results of applying construction noise mitigation measures for the closest anticipated residences to construction (150 feet minimum).

Table F. Construction Noise Levels at Occupied Project Residences for Phase 3

Sub-Phase	Construction Noise Level $L_{eq\ 8\text{-}hr\ /\ 1\ hr}$ (dBA)		
	Phase 1 150 Feet	Phase 1 900 Feet	Phase 1 150 Feet Mitigated
(1) Linear Drainage, Utils	**79**	65	65
(2) Linear Paving	**77**	59	63
(3) Demolition	**77**	59	63
(4) Site Prep	**73**	56	60
(5) Grading	**80**	62	65
(6) Building Construct	**70**	52	57
(7) Paving	**76**	58	62
(8) Architectural Coating	52	35	39

Source: Dudek (Attachment 3)
Notes: dBA = A-weighted decibel; $L_{eq\ 1hr}$ = one-hour average noise level; **Bolded** values exceed the 65 dBA L_{eq} significance level.

As reported in Table F, Phase 3 construction noise levels at the minimum anticipated construction separation distance of 150 feet would exceed the County 65 dBA L_{eq} significance threshold, **resulting in a potentially significant construction noise impact** for which mitigation would be required. As also reported in Table F, observance of a minimum separation distance of 900 feet between Phase 3 construction activities and any occupied residence would achieve compliance with the 65 dBA L_{eq} threshold, avoiding a significant construction noise impact. Finally, Table F presents the results of erecting and maintaining a temporary noise barrier between the construction zone and residences as close as 150 feet away, in combination with limiting the number of scrapers that can be simultaneously operated. The 12-foot high temporary noise barrier and limitation on scraper quantity would be a required mitigation measure for construction activities of Phase 3 that are conducted within 900 feet of an occupied residence.

Table G provides a summary of construction noise model results for Phase 4, at the anticipated minimum separation distance of 1,200 feet between construction and an occupied Phase 1 residence. As reported in Table G, Phase 4 construction noise levels even at the minimum anticipated construction separation distance of 1,200 feet would not exceed the County 65 dBA L_{eq} significance threshold. Consequently, Phase 4 construction would result **in less than significant short-term noise impacts for future occupied residences** of the Specific Plan. As such, no mitigation would be required for Phase 4 construction activities.

Table G. Construction Noise Levels at Occupied Project Residences for Phase 4

Sub-Phase	Construction Noise Level $L_{eq\ 8\text{-}hr\ /\ 1\ hr}$ (dBA)
	Phase 4 1,200 Feet
(1) Linear Grub, Clearing	51
(2) Linear Grading	62
(3) Linear Drainage, Utils	62
(4) Linear Paving	57
(5) Demolition	52
(6) Site Prep	53
(7) Grading	59
(8) Building Construct	50
(9) Paving	55
(10) Architectural Coating	32

Source: Dudek (Attachment 3)
Notes: dBA = A-weighted decibel; $L_{eq\ 1hr}$ = one-hour average noise level.

Mitigation Measures

Construction activities in Phase 1, Phase 2, and Phase 3 of the Specific Plan could result in potentially significant noise exposure impacts for future occupied project residences (i.e., construction noise exposure levels that exceed the Santa Barbara County daytime construction threshold of 65 dBA L_{eq}). The following mitigation measures are required to reduce noise exposure for future occupied project residences from later phases of project construction (refer to Attachment 3 for worksheets that evaluate mitigation effectiveness).

MM NOI -2 For Phase 1 construction activities conducted within 250 feet of an occupied project residence, a temporary noise barrier at least 10 feet in height shall be erected and maintained between the construction equipment and adjacent occupied residences.

MM NOI -3 For Phase 2 construction activities conducted within 900 feet of an occupied project residence (which would include some residences in only PA1, PA2, PA3 and PA78), a temporary noise barrier at least 12 feet in height shall be erected and maintained between the construction equipment and adjacent occupied residences.

MM NOI -4 For Phase 3 construction activities conducted within 900 feet of an occupied project residence, a temporary noise barrier at least 12 feet in height shall be erected and maintained between the construction equipment and adjacent occupied residences. In addition, no more than 2 scrapers shall be allowed to operate simultaneously during Sub-phase 1: Linear, Drainage, Utilities, & Sub-Grade and no more than 1 scraper shall be allowed to operate at any one time during Sub-phase 5: Grading.

MM NOI -5 For all Phases of Specific Plan construction, noise-generating activities conducted within 900 feet of an occupied project residence shall be prohibited between the hours of 5:00 p,m, and 8:00 a.m. Monday through Friday, or at any time on Saturday, Sunday, or Federal Holidays.

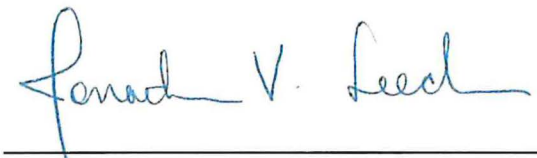
Closing Remarks

The preceding Addendum content has been developed in direct response to address the omissions in our 2025 report as noted by Rincon. We trust Santa Barbara County, and their contracted EIR consultant will find this Addendum, considered in tandem with the Dudek 2025 Noise Technical Report, provide a comprehensive assessment of noise and vibration impacts of the Solomon Hills Specific Plan Project.

Should you have any questions regarding this Addendum to the Dudek 2025 Noise Technical Report for Solomon Hills, please contact me at jleech@dudek.com.

Respectfully submitted,

DUDEK



JONATHAN V. LEECH, INCE
Senior Environmental Specialist / Acoustician

Att.: 1. – Detailed Project Descriptive Information (Missing Content from Appendix F of Dudek 2025 Noise Report)
2. – Oil Well Abandonment Plan
3. - Construction Noise Worksheets

ATTACHMENT 1

Detailed Project Descriptive Information

(Missing Content from Appendix F of Dudek 2025 Noise Report)

solomon hills

Solomon Hills Project Description – November 26, 2025

Project Introduction

The Santa Barbara County Planning Commission unanimously voted to accept a General Plan Amendment and Rezone application for processing on March 8, 2023. This application acceptance allowed the applicant to further study the Project more closely to demonstrate how the area is suitable for development. Extensive resource and infrastructure studies have been conducted to establish a new urban area with access, utilities and other public services largely outside of public viewsheds. Based on the outcome of these studies and adherence to the County's Comprehensive Plan, the Project is designed to provide a mix of much needed attainable housing in a new well-designed community, inclusive of new parks, open space and new habitat conservation and restoration areas.

Project Description Summary

The Solomon Hills Project is a mix of proposed land uses designed to create a sustainable, resilient and healthy environment for its residents. The Project establishes a holistic framework for Smart Growth with a redevelopment of private lands historically used for grazing and oil and gas production. The proposed Solomon Hills Specific Plan includes the design and implementation of a central village closely surrounded by several neighborhoods, office and commercial space, a TK-8 school, fire/sheriff station, parks, open space and public trails to allow walking and biking as an easy alternative to vehicle transport.

The Project's proposed Specific Plan allows for a balance of land uses primarily serving working families allowing 4,000 single and multi-family residential units, 650,000 square feet of commercial retail and office use and space, 29.8-acres of public and institutional uses and space, and 1,020.3-acres of recreational and open space uses. Critical infrastructure includes water supply and a water reclamation facility, interchange improvements along Hwy 101, and secondary access to and from Hwy 135 and several active and passive parks and public trails. Public benefits include Affordable housing near commercial and transportation access points, utility and access improvements that minimize traffic impacts to neighboring properties, new public trail access into the Orcutt Hills, recreational improvements and public access to the Newlove Picnic Grounds and the preservation of open space ridgelines and valleys for habitat protection. The Project also includes the abandonment or re-abandonment of 65 oil wells and the remediation of all oilfield features and operations within proximity to the Project's development. The Project is designed to be built in four (4) buildout phases over a fourteen-year period for the orderly delivery of the Project. Phased grading, access, utility, horizontal and public improvements are scheduled ahead of and to align with the same buildout phases.

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Project Description

1. **Project Subdivision Area**[1]. The Project Area is located adjacent to and west of Highway 101, south of Orcutt by 0.7 miles, east of Highway 135 by 2 miles and north of Los Alamos by 6 miles. It encompasses portions of 3 legal lots owned by Solstra Inc., including APN's 101-020-041, 043, 085, 086, and 087 totaling 4,195.2 acres. It is currently zoned AG-II-100 with a Land Use Designation of Agricultural Commercial (AC). The Vesting Tentative Tract Map and Conveyance Map Subdivision Areas are as follows:

1.1 **Specific Plan Area**: 1615.6 acres proposed to be designated as the Solomon Hills Specific Plan (SHSP) Land Use Designation and various new proposed zone districts made up of 161 large lot Planning Areas as follows:

- 1.1.1 66 lots for residential uses totaling 473.9 acres.
- 1.1.2 9 lots for commercial uses totaling 38.3 acres.
- 1.1.3 1 lot for a public school totaling 16.4 acres.
- 1.1.4 1 lot for a public fire/police station totaling 2.2 acres.
- 1.1.5 1 lot for a HOA maintained fitness center totaling 3 acres
- 1.1.6 9 lots for HOA maintained parks totaling 21.6 acres.
- 1.1.7 8 lots for HOA maintained roads and parkways totaling 93.1 acres.
- 1.1.8 1 Caltrans ROW lot totaling 6.9 acres
- 1.1.9 8 lots for HOA maintained storm water basins totaling 32.6 acres.
- 1.1.10 9 lots for HOA maintained open space totaling 599.9 acres with future public trails.
- 1.1.11 44 lots for HOA maintained slopes totaling 311 acres.
- 1.1.12 1 lot for the existing Mount Solomon communications facilities totaling 1.4 acres.
- 1.1.13 1 lot for public water storage tanks totaling 0.9 acres.
- 1.1.14 1 lot for the public water reclamation facility totaling 14.2 acres
- 1.1.15 1 lot for the public sewer lift station totaling 0.1 acre.

1.2 Remainder Lot Areas

- 1.2.1 1 lot under the AG-2 zone district totaling 1599.28 acres.
- 1.2.2 1 lot under the AG-2 zone district totaling 692.92 acres.
- 1.2.3 1 lot within the Orcutt Community Plan boundary and under the AG-2 zone district totaling 287.4 acres.

1.3 **Other Areas for Access and Utility Improvements**[2]

- 1.3.1 1 ~10-acre proposed future easement or right of way area for Primary Access improvements along the east side of Highway 101 on APN 101-020-013
- 1.3.2 A 200-foot wide existing easement area for Secondary access improvements on APN 101-060-069) between the existing Solomon Summit interchange and the southeastern boundary of the Specific Plan pursuant to Document 94-045049, recorded with the County of Santa Barbara on May 27, 1994.
- 1.3.3 A 30-foot wide existing easement area for private access improvements on APN 101-080-089 between the southwestern boundary of the Remainder Lot 2 to Graciosa Road pursuant to Document 2013-0053905 recorded with the County of Santa Barbara on August 8, 2013

[1] Refer to Project Map Exhibit A

[2] Please Refer to Section 6 for a more detailed description of the Project's access, utility improvements and activities.

1.3.4 1 existing public right of way area for public access improvements along Graciosa Road to Highway 135.

1.3.5 1 combination of easements and rights of way for underground water line connection improvements from the Tanglewood Turnout to the northwestern boundary of the Specific Plan along with two booster pump station improvements on APN's 105-0330-001 and 101-020-077.

1.3.6 1 combination of easements and rights of way for underground telecommunications and gas connection improvements along Orcutt Hill Road to the northwestern boundary of the Specific Plan.

1.3.7 1 existing PG&E right of way area for overhead electrical lines commencing at the PG&E Divide substation east to the northwestern boundary of the Specific Plan

3

2. **Project Setting**. Topography in the Project Area, and its surrounds, ranges from relatively broad and flat alluvial valleys with side slopes (5% to 30%) to narrow canyons with steep side slopes (45 to 100%) and fairly rugged terrain. The valleys and adjacent slopes provide a development area not substantially publicly visible. Chaparral and grasses cover most of the Project Area and scattered groves of oak trees occur locally. Numerous roads and pads associated with previous and current oil explorations and production exist in the Project Area. The majority of these features are located on the southern and western portions of the Specific Plan Area. Cattle grazing also currently occurs in certain portions of the Project Area.

3. **History**. The Project Area and immediate surrounds have a rich history of hard-working families exploring and producing oil. In the early 1900s there were approximately 1,000 residents living in Solomon Hills with several company towns with a post office, grocery stores, schoolhouses, workshops and garages, and other supporting businesses. In the 1930s, the oil companies closed the towns and moved many of these buildings and services to Old Town Orcutt.

4. **Project Objectives**[4]. The Project's primary and underlying purpose is to create a new community with a range of housing types, and a mix of commercial, office, public, quasi-public, recreational and open space uses. The Project's general objectives are as follows:

4.1 To maximize the opportunity to redevelop the Specific Plan Area from historic oil and gas operations to a vibrant new community to provide Santa Barbara County with significant new housing stock at densities that utilize and support the associated school, commercial, office, and public and open space uses.

4.2 To create a safe, walkable and bikeable community with cutting-edge sustainability, other design features and a balance of critical uses (residential, commercial, public/institutional) to support a healthy lifestyle for residents by promoting walking, biking and other alternative transportation, water and energy savings, safe alternative transit features such as extensive separated bike lanes and walkways, and fire-hardening and other design features which reduce wildfire risks.

4.3 To deliver approximately 4,000 new housing units for all segments of the population, particularly to address the current affordability gap for working families while promoting a strong job/housing balance with approximately 125,000 square feet of commercial retail and 525,000 square feet of commercial office.

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[4] The general Project Objectives are subject to further clarification based on pending resource and constraints studies and Project refinement.

4.4 To facilitate the remediation oil and gas activity in the Specific Plan Area to promote consistency with California's 'managed decline' of fossil fuel extraction through the creation of a significant new community in the County.

4.5 To cluster development with sufficient density and scale to designate substantial areas of open space and for habitat conservation, while also allowing for the creation of significant recreational amenities such as parks and recreation centers and a robust multi-modal paved and unpaved trail system to allow for walking, hiking, and cycling throughout the community, fostering an active and healthy outdoor-oriented lifestyle for residents.

5. **Legislative Acts & Project Characteristics**

5.1 **Comprehensive Plan Amendment** (GPA). This component of the Project includes a proposed new land use designation within a 1616-acre portion of the Project to facilitate rezoning the same 1616-acre Specific Plan Boundary from its current designation of Agricultural Commercial (AC) to the Solomon Hills Specific Plan (SHSP) land use designation. Allowable land uses include a mix of residential densities, totaling 4,000 units, commercial, public/institutional, parks and open space. The Project includes a new Urban/Rural Boundary line totaling 1616-acres, distinct and separate from other Urban/Rural Boundaries nearby.

5.2 **Rezone** (RZ). In conjunction with the GPA, the applicant proposes to rezone a portion of the Project within the 1616-acre Specific Plan Boundary from its current Agricultural II (AG-2) zone district to a mix of zone districts described in the SHSP.

5.3 **Specific Plan** (SPP). Pursuant to Government Code Sections 65450–65457, the Solomon Hills Specific Plan (SHSP) proposes a new land uses and zone districts with associated goals, policies, and development standards to guide future development within the proposed Specific Plan boundary. The SHSP also includes a Phasing Plan and funding mechanisms for circulation, utilities, infrastructure and public services. Where necessary, the Specific Plan includes references back to the County's Land Use & Development Code for mandatory uses and procedures.

5.3.1 Zone districts are proposed as follows:

5.3.1.1 The SH-RSF1 zone district allows for single-family homes on lots ranging between 6,000 and 14,250 square feet.

5.3.1.2 The SH-RSF2 zone district allows for single-family homes on lots ranging between 3,600 and 6,000 square feet.

5.3.1.3 The SH-RSF3 zone district allows single family homes, duplexes, or triplexes on lots ranging in size between 2,600 to 3,600 square feet.

5.3.1.4 The SH-RSF4 zone district allows for single-family homes or duplexes on lots ranging between 3,000 and 6,000 square feet. These units would be subject to age qualification requirements.

5.3.1.5 The SH-RMF1 zone district allows for multi-family development. Minimum residential lot size is 1,350-2,000 square feet.

5.3.1.6 The SH-RMF2 zone district allows for multi-family development. The 400 dwelling units in this zone district would be available to income qualifying households at a variety of deed-restricted levels of affordability.

5.3.1.7 The SH-C1 zone district is allows for the provision of goods and services to meet the daily needs of residents such as small grocery, drug store, medical-urgent care, mail center, day care, food services, and other uses to meet the daily needs of the community. Limited Mixed-Use residential uses are allowed according to the existing defined Mixed Use standards and through the Specific Plan density transfer program.

5.3.1.8 The SH-C2 zone district allows limited commercial uses that primarily serve residents and businesses of Solomon Hills such as a winery, hotel and daycare.

5.3.1.9 The SH-O1 zone district allows for small office, co-working opportunities, or flexible office uses that meet the business needs of the community, as well as larger operations in the medical and technical research arenas, along with ancillary commercial uses that support the offices.

5.3.1.10 The SH-O2 zone district allows office uses for companies in a campus-style setting where there are ancillary commercial uses that support office users.

5.3.1.11 The SH-PI zone district allows for public uses that serve the community at-large, such as a fire station/sheriff substation, water reclamation facility, and public TK-8 school.

5.3.1.12 The SH-REC zone district allows a variety of indoor and outdoor facilities that will meet the health and wellness needs of the community.

5.3.1.13 The SH-PP zone district allows separated multi-use paths and sidewalks, activity nodes with restrooms and other structures/facilities, play structures, and amenities like public art.

5.3.1.14 The SH-OS zone district allows improvements and uses such as hiking and mountain biking trails, trailheads, limited grazing for fire suppression, and limited infrastructure to support the community.

5.3.2 Phasing. The Specific Plan includes a Phasing Plan for improvements that follows the orderly implementation of the Project into four (4) geographic phases that are aligned with the boundaries for each Vesting Final Tract Map (VFTM Phase). To ensure the orderly timing of improvements and to allow residential Planning Areas to be built out of sequential phases, the phasing and timing of Project improvements are also tied to total unit count in the Project (aka "Unit Equivalency"), regardless of which phase the residential Planning Areas are located[5]. Please refer to the attached Phasing Table. .

5.3.3 Parks and Open Space. The Specific Plan provides for 71.2 acres of parks (not including Newlove Park Improvements and public trails outside of the Specific Plan Boundary).

5.3.4 Objective Design Standards. The purpose of the Objective Design Standards and Design Guidelines is to ensure future buildout of the community area and individual zone districts is consistent with the vision and character of the Solomon Hills Specific Plan Area. Objective design standards are mandatory items or features that are required to be incorporated into plan preparation. All projects will be evaluated on their adherence to the objective design requirements. Design guidelines are not mandatory; rather they give direction in the plan preparation process to encourage the highest level of quality in design, and they supplement the objective design standards in this document. The Specific Plan also establishes an administrative process to ensure adherence with these Objective Design Standards and Design Guidelines. This includes a Master Architecture Review Committee to implement the standards. As part of the duties of the Solomon Hills Homeowner's Association they will appoint the Architecture Review Committee. The Objective Design Standards, the Design Guidelines and the proposed administrative process were reviewed by the North County Board of Architectural review on XX-XX-XXXX..

5.3.5 Circulation. The proposed street system is comprised of a network of private [6]streets designed to accommodate vehicle trips by residents and visitors. A variety of street

[5] For example, prior to the 2001'st residential occupancy (Certificate of Occupancy, or 'CO'), the Project must deliver 15,000 square feet of retail space; and, prior to the 3001'st residential occupancy (CO), the Fire Station/Sheriff's Substation must be delivered

[6] All streets and infrastructure within the Subdivision Area are proposed to be maintained by the Homeowner's Association.

widths and designs within the Specific Plan Boundary accommodate a range of physical conditions and anticipated traffic volumes. Descriptions and street sections for each street classification are found in the Specific Plan. Circulation within the Specific Plan provides access for pedestrians, bicycles, automobiles, and transit through a network that employs "complete street" principles. "Complete street" principles enhance mobility of all modes of travel including cars, buses, bicycles, and pedestrians. The Solomon Hills Master Circulation Plan creates walkable and bikeable streets with connections between neighborhoods, neighborhood amenities, parks, open spaces, and commercial/retail destinations. Roadways in the Specific Plan Area include traffic calming and beautification elements such as tree-lined streets, landscaped parkways, and medians.

5.3.6 Water Supply and Infrastructure. The Project is proposed to be primarily served by imported water supplies. Solstra has secured a water supply agreement for 1,274 AFY from Cadiz and is actively negotiating with a third-party supplier for up to 1,400 AFY of additional water, primarily sourced from the State Water Project (SWP). In parallel, Solstra is pursuing a purchase agreement with Montecito Water District for 1,400 AF of its SWP Table A allocation, which includes conveyance capacity in the Coastal Branch. To enhance long-term reliability, Solstra is also exploring groundwater banking opportunities for both Cadiz and SWP supplies. While not all proposed sources originate from the SWP system, delivery of Cadiz and third-party water will require exchange agreements with SWP contractors to deliver water to the Coastal Branch. The contracted and proposed supplies are expected to meet or exceed the Project's buildout annual demand. The Project's water supply is considered feasible if sufficient supply volume or banking capacity is secured to ensure reliability across all hydrologic year types, and if the necessary agreements with CCWA are executed to deliver water through the Coastal Branch to the Tanglewood Turnout. The proposed infrastructure to convey imported supplies, including the transmission main, pump stations, and storage facilities, meets standard engineering design criteria. During planned or unplanned outages of the Coastal Branch, the Project's demand will be met through local groundwater from the Santa Maria Basin. The Project anticipates creating a net positive contribution to the groundwater basin by percolating treated effluent and creating new return flows from importing water to the Project and potentially to GSWC's Orcutt System. Finally, the Project remains open to a potential supply agreement with the City of Santa Maria, which would provide access to another local water system and further diversify the Project's supply portfolio.

5.3.7 Water Reclamation Facility. The wastewater flow capacity of Gallons per day is calculated at 526,330 GPD for the project. The project's Water Reclamation Facility (WRF) is proposed on a 10-acre site located at the southwest boundary of the proposed development area. A gravity sewer collection system will convey the majority of sewage flows to the WRF. A small, residential subarea in the northeast area of the proposed development lies at a lower elevation and will be served by a sewage lift station. The proposed onsite wastewater treatment system for the project consists of a packaged membrane bioreactor (MBR) system capable of producing Title 22 disinfected tertiary recycled water for maximal reuse potential. Recycled water produced at the Water Reclamation Facility (WRF) will be beneficially reused for landscape irrigation within the Project and when required in certain wet months will be temporarily stored in a series of basins within the Specific Plan (and one off-site basin, subject to separate

entitlement[7]). The WRF will be constructed in phases. The developer proposes to build the plant and then dedicate the plant to Laguna County Sanitation District (LCSD). The project area will need to annex into the LCSD service area via a LAFCO action.

5.3.8 Fire Protection. The applicant has conducted an analysis of the project's exposure to risk of a fire and developed a Fire Protection Plan (FPP) to minimize risk which includes a variety of site and regional factors including flame lengths adjacent to development areas as the basis for assessing wildfire risk to planned development areas. The results of the wildfire risk assessment are intended to site-specific, code exceeding wildfire risk mitigation. The FPP employs a systematic, project-wide approach that includes defensible space in three zones, clustered development, integrated fuel breaks, an HOA assessment to fund common area maintenance, underground on-site utilities, construction and dedication of New Joint-Use Fire and Sheriff Building, adaptive vegetation management for fire hazard mitigation and a wildfire evacuation routes. Sheriff. A Sheriff substation is proposed within the Fire Station building on Planning Area 20.

5.3.9 TK-8 School. The Project includes the development of a new TK-8 school that will be owned and operated by the Orcutt Union School District. The school is proposed on 16.4-acres (PA 28) and will include dual use play areas for residents of Solomon Hills during off-school hours. The development of the school is proposed for phase 3 of the project. The developer proposes to build the school and then dedicate it to the school district. The school district will design the school, and the development will be processed through the CA Department of Education in lieu of a DVP with the County. A pedestrian bridge is proposed across the street adjoining the school site to allow a safe crossing for the residents in the development thus encouraging walking.

5.3.10 Public Transit. A public and private transit stop, along with an optional park & ride lot is proposed to be located at the Welcome Home Center once all residential units are constructed. Transit stops are also proposed at the Village Center and School.

5.3.11 Storm Water. The post-developed conditions of the Specific Plan Area will discharge from the site such that post-developed peak runoff flows are equal to or less than pre-development peak flows for all regulated storm events. Runoff from the identified watershed areas, or drainage management areas (DMAs), will be designed so that the community discharge flow patterns closely match the watershed's historical drainage patterns. Proposed storm drainage facilities will be designed to meet County of Santa Barbara Flood Control Project Clean Water requirements, and Central Coast Regional Water Quality Control Board for post construction standards. Stormwater runoff quality will be addressed for the construction and post-construction phases of the Specific Plan Area. Temporary sediment control will be implemented during construction and stormwater Pollution Prevention Plan (SWPPP) will be prepared for each grading project over one (1) acre in area of ground disturbance in accordance with State Water Resources Control Board (SWRCB) requirements. Construction phase impacts will be addressed by the implementation of Best Management Practices (BMPs). Operations and maintenance will be carried out by the developer's contractor during construction who will be responsible for implementing BMPs established in the County Code. Large portions of the site will remain undisturbed or be restored. For the developed areas, storm water quality will be addressed by incorporating Best Management Practices

[7] See Section 5.8 below.

(BMP's) and Low Impact Development (LID) measures into the site design that will reduce runoff volume, enhance infrastructure, and improve ground water quality.

5.3.12 Solid Waste, Recycling, and Green Waste. These facilities will be designed during the post entitlement review of each Planning Area and in compliance with the service provider's standards at the time of the Planning Area Development Plan applications to the County.

5.3.13 Broadband. The Project will incentivize work from home by incorporating "Smart Growth" development features which set demand for reliable high-speed internet and cellular services. The Project will include high quality 'small cell' wireless services including 5G, without new 'macro' tower facilities.

5.3.14 Electricity . The project has been designed to be an all-electric project with minor exceptions for commercial or public uses. The electrical demand and supply has been evaluated by PG&E. The electrical supply will be conveyed by PG&E, using Central Coast Community Energy, a community choice aggregation supplier which provides 100% renewable energy. The Vesting Tentative Map indicates the approximate location of the utility easements. The backbone electrical infrastructure will be constructed by the applicant in conjunction with PG&E. The electrical supply will be stubbed to each Planning Areas facilitating the extension of service into each planning area. All new Planning Area utility lines are proposed to be underground to support fire prevention and resiliency of the local electrical grid, or as otherwise dictated by PG&E.

5.3.15 Natural Gas. The State of California is transitioning toward carbon neutrality by 2035, therefore the Project does not propose any natural gas service in the residential units. However, provisions within the Tentative Map have been made to provide for gas service to the commercial and intuitional land uses.

5.3.16 Solar, Batteries and EV Charging. The Specific Plan will incorporate photovoltaic panels on all homes and will include on-site battery storage in key common area facilities. Photovoltaic panels and battery storage will also be provided at all commercial buildings, the public TK-8 school, the community center, the neighborhood fitness center, and all other structures where such provisions are required by the Building Code in place at the time of building permit approval.

5.4 **Vesting Master Tentative Tract Map** (VTTM). A Vesting Master Tentative Tract Map will create separate large lots and delineate access and utility routes. Each large lot will have a unique identifier Planning Area that will be incorporated into the land use matrix within the SHSP. The VTTM identifies four (4) tract phases, each of which will be separately and sequentially submitted in a Final Map form along with Public Improvement plans and bonds for approval and recordation pursuant to existing County procedures. The estimated preliminary earthwork quantities are 23,969,000 cubic yards of cut and 19,989,900 cubic yards of fill which includes shrinkage. The earthwork includes cut and fill volumes so that all dirt will be balanced on-site. Approximate grading quantities for each phase are included in the Specific Plan Phasing Chart (Chapter 8).

5.4.1 Improvements associated with the VTTM, such as paving, curbs and gutters, sidewalks, street trees, street name signs, stop signs, street lighting, and fire hydrants are proposed to be constructed by the applicant and maintained by the proposed Home Owners Association.

5.4.2 The source of domestic water supply is proposed under the water supply agreement between Cadiz, Inc. and Solstra Communities California, LLC. The method of providing an adequate water supply is proposed under the request to Golden State Water Company (GSW Job #159xxxxx). A water quality report will be provided at a later date to the County Environmental Health Services Heath Officer.

5.4.3 The method of sewage disposal is proposed to be constructed by the Applicant and offered to the Laguna County Sanitation District pursuant to the Memorandum of Understanding (MOU) and Exclusive Negotiating Agreement (ENA) between the Laguna County Sanitation District and the Applicant.

5.4.4 Utility routes for electricity, telecommunications and gas are depicted in part in the VTTM and are within exiting public rights of way or PG&E easement areas. Please refer to the attached 'Will Serve' letters from Southern California Gas dated May 23, 2025, Frontier dated July 3, 2025, the Preliminary Energy Study Plan by PG&E dated April, 2025 and the MOU between the applicant and Laguna County Sanitation District.

5.4.5 Drainage and flood control easements and facilities are included in the VTTM.

5.4.6 An exception to the subdivision regulations for lot width relate directly to subsequent subdivisions proposed in the Specific Plan. Subsequent subdivisions will comply with the County's subdivision requirements. Please refer to General Note 10 on the VTTM.

5.5 **Conveyance Map**. A Conveyance Map which shall be recorded immediately after the Entitlements are approved by the Board of Supervisors and prior to recorded phased Final Maps for the Project. The Conveyance Map, once recorded, is only for financing purposes and does not allow any development..

5.6 **Development Plan** (DVP). The DVP scope of work entails grading and associated restoration generally aligned with the four (4) Final Tract Phases. Two small areas of engineered fill are proposed to be placed out of phase, during corresponding Tract grading such that all grading is balanced on site. Engineered fill volumes are noted on the Preliminary Grading and Drainage Plans along with erosion control. Vegetation and tree removal, and corresponding restoration will occur during each of the four (4) phases.,

5.7 **Conditional Use Permit** (Newlove Recreation). The Project includes an application for a Major Conditional Use Permit on property zoned Agriculture (AG-II-100) in compliance with Section 35.21.030 and 35.82.060 of the County Land Use and Development Code, to allow for Sports and Recreational Facility improvements to the existing Newlove Picnic Grounds to be completed in Phase 3. The existing park is within the Orcutt Community Plan boundary and is a private facility which allows for the public to reserve the park on a case by case event. It is comprised of maintained open area with trails and informal parking that includes a baseball/softball diamond, horseshoe pits, picnic tables with barbeque stands and enclosed restroom facilities, along with an existing septic system. Access to the grounds is from Orcutt Hills Road along a 22-foot wide paved and gravel private road. Proposed improvements within the proposed 31 acre footprint include a regional trail segment and trailhead; multi-use fields with overlay dimensions that can accommodate adult soccer, football and U12 soccer; pickleball courts; a playground; a recreational lawn; improved parking spaces for 114 vehicles, an unimproved parking area for overflow parking; fencing and signage; utility connections for sewer and water; vegetation and tree removal; access improvements with retaining walls to allow for two-way vehicle and bicycle traffic and a sidewalk for pedestrians; secondary emergency access and landscape plantings and irrigation. The improved facility will be private and will continue to allow for public access on a case by case reservation system, managed by the Master HOA associated with the SHSP, and open from sunrise to sunset. The Project includes 57,930 cubic yards of cut and 48,158 cubic yards of fill and 140 cubic yards of net export, along with storm water improvements.

5.8 **Conditional Use Permit** (Newlove Wet Weather Basin Improvements). The Project includes the request of an approval of a Major Conditional Use Permit on property zoned Agriculture (AG-II-100) in compliance with Section 35.21.030 and 35.82.060 of the County Land Use and Development Code, for a public facility to be dedicated to the Laguna County Sanitation District for a public

operation and maintenance through both an easement and a maintenance agreement. The basin will provide 39.5 acre-feet of recycled water storage during periods of wet weather when recycled water demand is low. The proposed basin has a footprint, including a perimeter access road of approximately 7.5 acres and a depth of 20 feet. Construction of this basin is projected to commence when 80% of buildout wastewater flow is achieved (i.e. approximately 0.42 mgd) in the assumed 14-year buildout timeline and therefore, the construction of the basin would start approximately in year nine. Water will be delivered to the basin via an extension of the recycled water distribution system. Recycled water will be temporarily held in the basin until irrigation demand increases. A recycled water pump station will be installed immediately adjacent to the basin with a triplex pumping system capable of delivering 800 gallons per minute back to the recycled water distribution system serving the Solomon Hills development and Newlove Park. The wet well of the pump station will be hydraulically connected to the lined basin via a buried pipe and intake system and will have a depth of approximately 20 feet. The footprint of the pump station is approximately 1,000 square feet with access provided via the storage basin perimeter access road. A 24-acre spray field will be designated west of and adjacent to this effluent storage basin and maintained through a maintenance agreement between the Applicant and the Laguna County Sanitation District. = The Project includes 136,450 cubic yards of cut, 11,610 cubic yards of fill and 122,520 cubic yards of export.

5.9 **Ordinance Amendment** (ORD). A new Ordinance for a Twenty-Five Year Development Agreement to govern topics such as vesting of entitlements, phasing of construction for various facilities and other improvements, public benefits and a new fee structure.

5.10 **Road Naming** (RDN). Road Naming for all new private roads associated with the Project.

5.11 **Government Code Consistency** (GOV). A Government Code Section 65402 Consistency Determination.

5.12 **MCUP** water line.[8] ()

6. **Offsite Infrastructure, Utilities and Access Improvements and Activities Outside of the Specific Plan Boundary**. The final proposed size, location, and alignment of off-site water supply, recycled water, wastewater, telecommunications, gas and energy infrastructure and access shall be subject to review and approval by the County's Public Works Department, Caltrans, Laguna County Sanitation District, the water purveyor and relevant other utility providers, during review of the Project's Vesting Final Map Clearance processes, Certificates of Compliance for improvements within Remainder Lots and corresponding Zoning Clearances conditioned by the Development Plan The term 'offsite' herein refers to improvements or activities related to the Project that are outside of the Specific Plan Boundary. Existing zoning and land use designations will remain on all offsite and remainder areas and all improvements or activities, along with remaining oil and gas operations that will continue with sufficient buffers, and shall be governed by in part by the Orcutt Community Plan and the Land Use & Development Code. Offsite areas are intentionally not included in the new Urban boundary so that a rural buffer remains which removes the potential for development expansion. Improvements are proposed to be approved in conjunction with the recordation of the Phased Vesting Final Maps and Certificates of Compliance including zoning clearances conditioned by the Development Plan and building or grading permits by Phase.

6.1 **Primary & Secondary Access Improvements.**

6.1.1 Primary access improvements include a new Highway 101 interchange approximately 2.3 miles south of the existing Clark Avenue interchange with construction of an overpass over Hwy 101 for both north and southbound ingress/egress along with

[8] To be filed post Water Feasibility Study release by GSWC.

acceleration and deceleration improvements within the existing Caltrans ROW, and, 1 ~10-acre proposed easement area for public Hwy Interchange and Landscape Improvements to the east of the existing Caltrans ROW.

6.1.2 Secondary Solomon Summit Improvements include public improvements to the existing Solomon Summit Interchange within the Caltrans Right of Way consisting of road and landscape improvements, and private access and landscape frontage improvements within a 200-foot wide existing easement area (Union Oil) that parallels the west side of Hwy 101 from the southeastern border of the VTTM boundary to the Solomon Summit interchange.

6.1.3 Secondary Bicknell Road Improvements include connecting the western edge of the Specific Plan boundary west along Bicknell Road (private) to Graciosa Road (public) to San Antonio Road. This scope of work includes road access and landscape improvements along Bicknell Road within an existing 30-foot wide private roadway easement (Premiere Agricultural Properties), public access and landscape improvements within Graciosa Road (public) to San Antonio Road @ Hwy 135 and public improvements to the Hwy 135/San Antonio Road intersection within the Caltrans right of way.

6.2 Utility Improvements

6.2.1 Water Line improvements the proposed underground Water Line Alignment Project from the Tanglewood Turnout to the Specific Plan boundary, to also include:

6.2.1.1 1 Water Pump Station improvement on APN 105-330-001 (Orcutt Fee).

6.2.1.2 1 Water Pump Station and Tank Improvements on APN 101-020-077 (PCEC).

6.2.2 Electrical improvements include overhead electrical lines within an existing easement on Lot 2 commencing at the western edge of Lot 2 and ending at the Specific Plan Boundary and overhead electrical lines within an existing right of way on APN 101-020-080 commencing at the Divide Substation and ending at the western edge of Lot 2.

6.2.3 Natural Gas improvements include the proposed underground natural gas line extension commencing from Rice Ranch Road/Orcutt Hills Road to the Specific Plan boundary generally following Orcutt Hill Road and within an existing right of way (public).

6.2.4 Telecommunications improvements include the proposed underground telecommunications utilities from Rice Ranch Road/Orcutt Hills Road to the Specific Plan boundary generally following Orcutt Hill Road and within an existing right of way (public).

6.2.5 Effluent Utility Improvements include (Newlove Basin and Spray Fields – 25CUP-00006) one public recycled water public facility to be dedicated to the Laguna County Sanitation District to include a basin for 39.5 acre-feet of recycled water storage during periods of wet weather of approximately 7.5 acres and a 24-acre spray field west of and adjacent to water storage basin.

6.3 **Habitat Protection includes**: one 298-acre conservation easement for CTS and Western Spadefoot Toad for compensatory mitigation on Lot 2 and one 208-acre conservation easement for CTS and Western Spadefoot Toad for compensatory mitigation on Lot 3, 264.4 acres of oak woodland creation or enhancement on Lots 1, 2 and 3.

6.4 **Recreational Improvements** (Newlove Picnic Grounds – 25CUP-00006) improvements to the existing Newlove Picnic Grounds for rural recreational uses include the dedication of a 31-acre public access easement, and public trail segment, multi-use fields for soccer; pickleball courts; a playground; a recreational lawn; improved parking spaces and an unimproved parking area for overflow parking; fencing and signage; utility connections for sewer and water; vegetation and tree removal; access improvements with retaining walls to allow for two-way vehicle and bicycle

traffic and a sidewalk for pedestrians; secondary emergency access improvements and landscape plantings and irrigation.

7. Oilfield Closure. To prepare the site for redevelopment, all oil and gas extraction activities within the Specific Plan boundary and in the immediate vicinity of the offsite access improvements along Bicknell road will be permanently abandoned prior to grading operations of the first phase of development. This scope of work includes abandonment or re-abandonment of 65 oil and gas wells and removal of infrastructure including pipelines, equipment, tanks, and ancillary equipment. All aspects of future remediation are included in the Project's Workplan for Supplemental Site Investigation and Feasibility Study for Soil Remediation (Waterstone, August, 2025). The Feasibility Study for Soil Remediation and a comprehensive site wide supplemental Phase 2 site investigation will be implemented and used to update the Draft Remedial Action Plan (RAP) dated June 27, 2024 to be reviewed and approved by the County of Santa Barbara Environmental Health Services Site Mitigation Unit (EHS or SMU) to identify the appropriate remedial alternative and to establish the Remedial Action Objectives, including remediation to residential or commercial standards, relative to future land uses found in the Specific Plan. Solstra entered into a Remedial Action Agreement under EHS's Voluntary Remediation Oversight Program for regulatory oversight of site investigation and remediation activities in January 2025. As such, EHS will approve future testing protocols and Remedial Action Objectives prior to grading. To provide the required access to former well sites the Project has been designed with access standards so that the well sites are within a street, parks or open space and dirt access roads pursuant to the County's Petroleum Code, including Subsection Sec. 25-21. (Spacing and location) for reduced buffer distances to newly abandoned or re-abandoned well heads. The Vesting Tentative Map includes well access and no-development buffer zones that shall allow for a minimum 20-feet around each well head feature. Subsequent entitlements pursued for the development of the Planning Areas will show easement or lot boundaries around the oil wells with the same access and buffer zones.

8. Resources, Constraints and Avoidance of Potential Impacts. TBD.

Solomon Hills Phasing Table

Homes / Facilities / Grading / Remediation / Habitat Restoration / Unit Equivalency

	Phase 1	Phase 2	Phase 3	Phase 4
SPECIFIC PLAN BOUNDARY				
RESIDENTIAL UNITS				
Residential Market Rate	1,202	134	1,463	76
Residential Active Adult	130	595		
Residential Inclusionary	135	70	145	50
Residential Total	1,467	799	1,608	126
RESIDENTIAL PLANNING AREAS				
Residential Market Rate	2, 3, 4, 5, 6, 7, 9, 13, 16, 17, 18, 19, 22, 23, 24, 25, 55, 57, 58, 59, 60, 61, 66, 67, 68, 69, 70, 71, 78	63, 64, 65	26, 27, 29, 30, 31, 32, 33, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 77	75
Residential Active Adult	1	62		
Residential Inclusionary	8, 14, 15	8, 14, 15	8, 14, 15	8, 14, 15
COMMERCIAL RETAIL				
Commercial Retail Square Feet	10,000	15,000	30,000	70,000
Commercial Retail Planning Area	12	12	10	10, 72, 73
Unit Equivalency	1,000 Unit CofO	2,000 Unit CofO	3,000 Unit CofO	4,000 Unit CofO
COMMERCIAL OFFICE				
Commercial Office Square Feet	5,000	25,000	130,000	365,000
Commercial Office Planning Area	11, 56	11, 21	11, 21, 74	74, 76
Unit Equivalency	1,000 Unit CofO	2,000 Unit CofO	3,000 Unit CofO	4,000 Unit CofO
RESIDENTIAL POPULATION (Est)	4,150	1,899	4,647	364
PARKS (HOA MAINTAINED)				
Park Name	Hllcrest and Central Park	Ridgeview	Park at School	Fitness Center / Pool
Park Planning Area	80, 81	79	28	34
Unit Equivalency	250 Unit CofO	2,000 Unit CofO	3,000 Unit CofO	3,000 Unit CofO
FIRE / SHERIFF STATION				
Facility	Temporary Facility		Final Facility	
Planning Area	20		20	
Unit Equivalency	1st Unit CofO		3,000 Unit CofO	
WATER RECLAMATION FACILITY				
Facility	Site Complete and Main Facility	Expansion Facility	Expansion Facility	Expansion Facility
Planning Area	99	99	99	99
Unit Equivalency	1st Unit CofO	2,000 Unit CofO	3,000 Unit CofO	4,000 Unit CofO
TK-8 SCHOOL				
Student Generation (Est)	429	66	516	40
Facility			Dedication Land - Facility OUSD Complete	
Planning Area			28	
Unit Equivalency			3,000 Unit CofO	

Solomon Hills Phasing Table

Homes / Facilities / Grading / Remediation / Habitat Restoration / Unit Equivalency

	Phase 1	Phase 2	Phase 3	Phase 4
SPECIFIC PLAN BOUNDARY				
PUBLIC TRAILS				
Facility	Access to Newlove Park from Orcutt Trail System	Trails with Public Access from Newlove Park Entrance/Orcutt Hill Road to Welcome Home Center		Trails with Public Access from Welcome Home Center at Solomon Hills Parkway to Southern Specific Plan Boundary Near Hwy 101
Planning Area	CUP Newlove Park	Solomon Hills Specific Plan Open Space Area		Solomon Hills Specific Plan Open Space Area
Unit Equivalency	1st Unit CofO	2,000 Unit CofO		4,000 Unit CofO
GRADING (VTTM No. 14,909)				
Grading Volume Cubic Yards	11.4 Million	3.9 Million	7.8 Million	0.8 Million
Grading Impacts Acreage	418.5 (plus 9.8 Eng Fill)	158.3 (less 5.8 Eng Fill)	312.7 (plus 7.1 Eng Fill)	52.3 (less 11.1 Eng Fill)
Planning Areas	1, 2, 3, 4, 5, 6, 7, 9, 13, 16, 17, 18, 19, 22, 23, 24, 25, 55, 57, 58, 59, 60, 61, 66, 67, 68, 69, 70, 71, 78 / 8, 14, 15 / 11, 12, 56 / 80, 81 / 20, 99 / Open Space	62, 63, 64, 65 / 21 / 79	26, 27, 29, 30, 31, 32, 33, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 77 / 10 / 74 / 28	34 / 72, 73 / 74, 76 / 75
WELL ABANDONMENT / REMEDIATION				
Oil Wells / Soil / Pipes / Other	50	3	12	0
Unit Equivalency	Prior to Grading Permit Phase 1	Prior to Grading Permit Phase 2	Prior to Grading Phase 3	
OAK TREE / HABITAT RESORATION				
Planting/Preservation/Enhancement	7,826	1,076	5,228	76
Restoration Acres	371	54	243	7
Unit Equivalency				
PHASE DURATION (Est)	5.2	2.9	5.7	0.3

Date: November 24, 2025

Solomon Hills Phasing Plan

Streets and Utilities

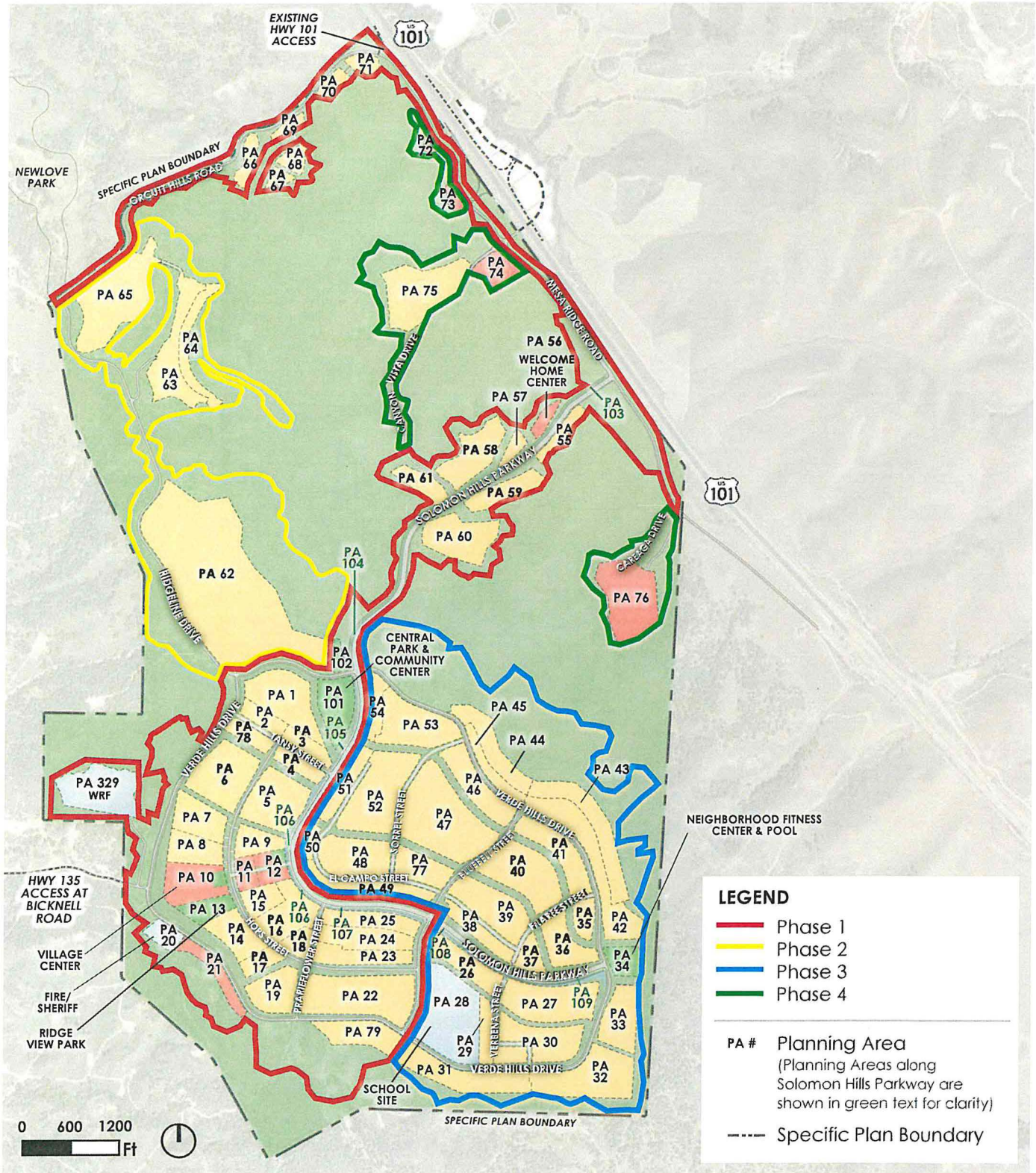
	Phase 1	Phase 2	Phase 3	Phase 4
SPECIFIC PLAN BOUNDARY ROADS				
Unit Equivalency (Streets, Roads, Parkway	1st Unit CofO (Paved and Operational)	1st Unit CofO (Paved and Operational)	1st Unit CofO (Paved and Operational)	1st Unit CofO (Paved and Operational)
Solomon Hills Parkway	One Lane Each Way from Mesa Ridge Road to Bluebell Street		Two Lanes Each Way Mesa Ridge Road to Bluebell Street	Two Lanes Each Way Bluebell Street to Verde Hills Drive
Orcutt Hill Road	Highway 101 to Newlove Park Entrance			
Mesa Ridge Road	Orcutt Hill Road to Southern SP Boundary		Orcutt Hill Road to Southern SP Boundary	
Verde Hills Drive	Solomon Hills Parkway to Bluebell Street		Bluebell Street to Solomon Hills Parkway (south) and from Solomon Hills Parkway to Solomon Hills Parkway (north)	
Ridgeline Drive		Orcutt Hill Road to Verde Hills Drive		
Canyon Vista Drive		Solomon Hills Parkway to north extents of PA 61		Mesa Ridge Road to PA 61
Tansy Street	Solomon Hills Parkway to Verde Hills Drive (west)		Solomon Hills Parkway to El Campo Street	
Hops Street	Tansy Street to Bluebell Street			
Prarieflower Street	Solomon Hills Parkway to Verde Hills Drive (west)			
El Campo Street			Tansy Street to Filaree Street	
Sorrel Street			Verde Hills Drive (east) to El Campo	
Bluebell Street	Verde Hills Drive (west) to Solomon Hills Parkway		Verde Hills Drive (east) to Solomon Hills Parkway	
Filaree Street			Verde Hills Drive (east) to PA 37/38	
Verbena Street			Verde Hills Drive (west) to PA 26/27	
Careaga Road				Mesa Ridge Road to PA 76
Planning Area Roads	Completed per DVP's in Each Phase	Completed per DVP's in Each Phase	Completed per DVP's in Each Phase	Completed per DVP's in Each Phase
OFF-SITE ACCESS ROADS TO SPECIFIC PLAN BOUNDARY				
Highway 101 (New Interchange)	Completed (If Existing Solomon Summitt Interchange not Available)	Completed (If Existing Solomon Summitt Interchange Available for Phase 1)		
Highway 101 (Solomon Summitt)	Mesa Ridge Road Completed to Existing Solomon Summitt Interchange (If Available)			
Highway 135	Bicknell Road to Graciosa Road to Existing San Antonio Interchange			

Solomon Hills Phasing Plan

Streets and Utilities

	Phase 1	Phase 2	Phase 3	Phase 4
OFF-SITE UTILITIES TO SPECIFIC PLAN BOUNDARY				
Unit Equivalency (Utilities)	**1st Unit CofO**			
Main Potable Water Line	**Tanglewood to Specific Plan Boundary**			
Gas	**Rice Ranch Road to Orcutt Hill Road to SP Boundary**			
Broadband	**Rice Ranch Road to Orcutt Hill Road to SP Boundary**			
Electrical	**Divide Substation at Highway 135 through existing or upgraded towers and lines to SP Boundary**			
Recycled Water	**Water Reclamation Plant in SP Boundary**			

Date: November 2025


EXISTING HWY 101 ACCESS
US 101
NEWLOVE PARK
SPECIFIC PLAN BOUNDARY
ORCUTT HILLS ROAD
PA 65
PA 64
PA 63
PA 62
PA 66
PA 67
PA 68
PA 69
PA 70
PA 71
PA 72
PA 73
PA 74
PA 75
PA 76
CANYON VISTA DRIVE
MESA RIDGE ROAD
PA 56
WELCOME HOME CENTER
PA 57
PA 103
PA 55
PA 58
PA 61
PA 59
SOLOMON HILLS PARKWAY
PA 60
CARRIAGE DRIVE
HIDDEN HILL DRIVE
PA 104
CENTRAL PARK & COMMUNITY CENTER
PA 102
PA 101
PA 105
PA 1
PA 2
PA 3
PA 4
PA 78
PA 6
PA 5
PA 106
PA 7
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PA 52
PA 53
PA 54
PA 77
PA 109
VERDE HILLS DRIVE
ANITA STREET
NORRIS STREET
EL CAMPO STREET
HOPE STREET
PRAIRIE FLOWER STREET
VERBENA STREET
PA 329 WRF
HWY 135 ACCESS AT BICKNELL ROAD
VILLAGE CENTER
FIRE/ SHERIFF
RIDGE VIEW PARK
SCHOOL SITE
NEIGHBORHOOD FITNESS CENTER & POOL
SPECIFIC PLAN BOUNDARY
0 600 1200
Ft
LEGEND
Phase 1
Phase 2
Phase 3
Phase 4
PA # Planning Area
(Planning Areas along Solomon Hills Parkway are shown in green text for clarity)
Specific Plan Boundary

ATTACHMENT 2

Oil Well Abandonment Plan

SHEET 1 OF 3

SOLOMON HILLS WELL MAP

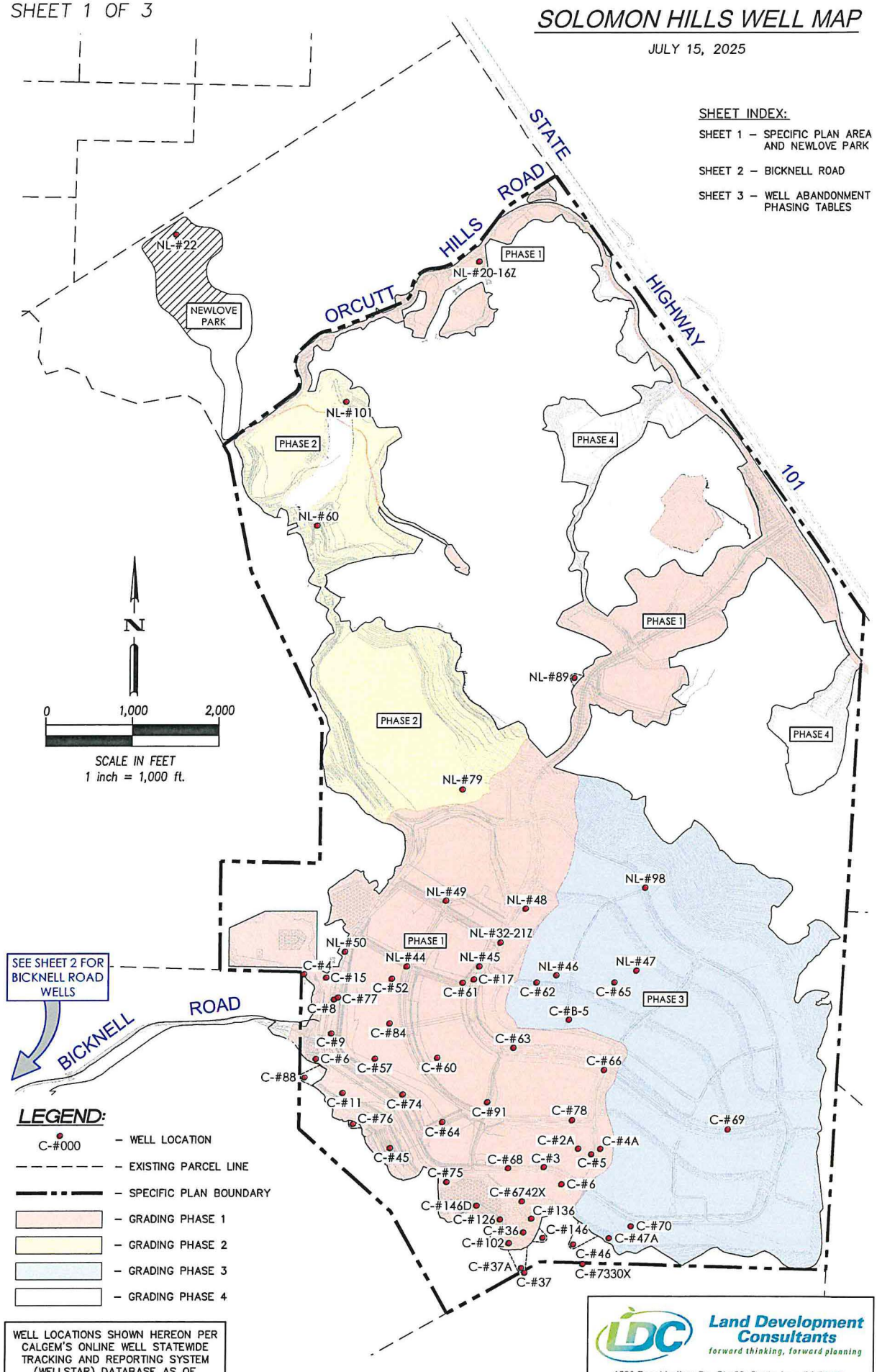
JULY 15, 2025

SHEET INDEX:

SHEET 1 – SPECIFIC PLAN AREA AND NEWLOVE PARK

SHEET 2 – BICKNELL ROAD

SHEET 3 – WELL ABANDONMENT PHASING TABLES



LEGEND:

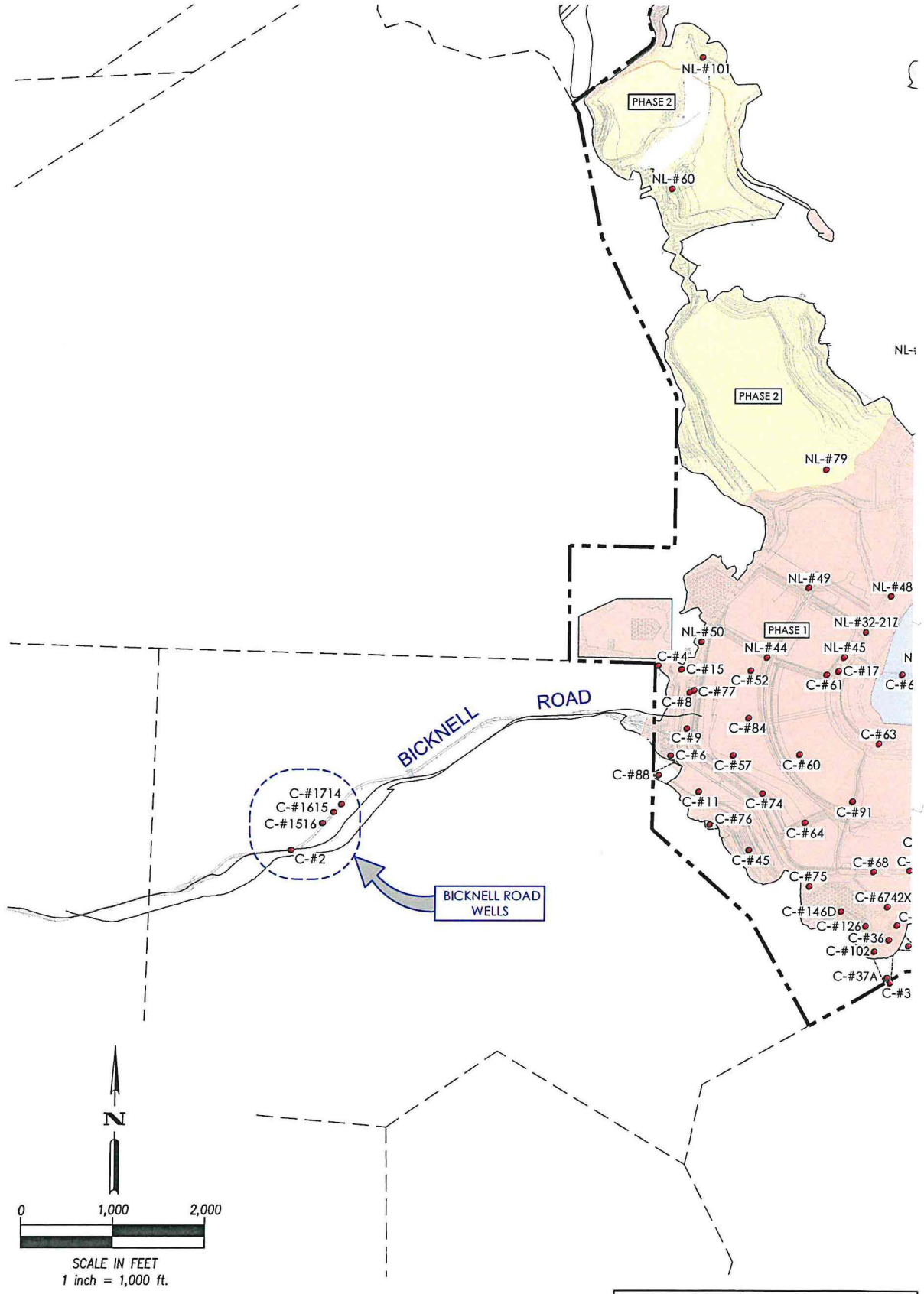
- C-#000 – WELL LOCATION
- – EXISTING PARCEL LINE
- – SPECIFIC PLAN BOUNDARY
- – GRADING PHASE 1
- – GRADING PHASE 2
- – GRADING PHASE 3
- – GRADING PHASE 4

WELL LOCATIONS SHOWN HEREON PER CALGEM'S ONLINE WELL STATEWIDE TRACKING AND REPORTING SYSTEM (WELLSTAR) DATABASE AS OF JULY 15, 2025.

Land Development Consultants
forward thinking, forward planning
1520 Brookhollow Dr., Ste 33, Santa Ana, CA 92705
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SOLOMON HILLS WELL MAP

JULY 15, 2025



WELL LOCATIONS SHOWN HEREON PER CALGEM'S ONLINE WELL STATEWIDE TRACKING AND REPORTING SYSTEM (WELLSTAR) DATABASE AS OF JULY 15, 2025.

LEGEND:

C-#000 – WELL LOCATION

– – – – – – – – – EXISTING PARCEL LINE

———— · ———— – SPECIFIC PLAN BOUNDARY

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SOLOMON HILLS WELL MAP

JULY 15, 2025

PHASE 1 SPECIFIC PLAN BOUNDARY

#	LEASE NAME	WELL #	API #	STATUS
1	CAREAGA	C-#2A	0408322208	ACTIVE
2	CAREAGA	C-#3	0408322209	PLUGGED
3	CAREAGA	C-#4	0408302040	ACTIVE
4	CAREAGA	C-#4A	0408322210	ACTIVE
5	CAREAGA	C-#5	0408322211	PLUGGED
6	CAREAGA	C-#6	0408302042	ACTIVE
7	CAREAGA	C-#6	0408322220	ACTIVE
8	CAREAGA	C-#8	0408302044	PLUGGED
9	CAREAGA	C-#9	0408302045	PLUGGED
10	CAREAGA	C-#11	0408302047	ACTIVE
11	CAREAGA	C-#15	0408302051	PLUGGED
12	CAREAGA	C-#17	0408302053	CANCELED
13	CAREAGA	C-#36	0408320677	ACTIVE
14	CAREAGA	C-#37A	0408321259	PLUGGED
15	CAREAGA	C-#45	0408302079	ACTIVE
16	CAREAGA	C-#52	0408302086	ACTIVE
17	CAREAGA	C-#57	0408302091	ACTIVE
18	CAREAGA	C-#60	0408302094	ACTIVE
19	CAREAGA	C-#61	0408302095	ACTIVE
20	CAREAGA	C-#63	0408302097	ACTIVE
21	CAREAGA	C-#64	0408302098	ACTIVE
22	CAREAGA	C-#66	0408302100	ACTIVE
23	CAREAGA	C-#68	0408302102	PLUGGED
24	CAREAGA	C-#74	0408302107	ACTIVE
25	CAREAGA	C-#75	0408302108	ACTIVE
26	CAREAGA	C-#76	0408302109	ACTIVE
27	CAREAGA	C-#77	0408302110	ACTIVE
28	CAREAGA	C-#78	0408302111	ACTIVE
29	CAREAGA	C-#84	0408302117	ACTIVE
30	CAREAGA	C-#88	0408302120	ACTIVE
31	CAREAGA	C-#91	0408302123	ACTIVE
32	CAREAGA	C-#102	0408322215	PLUGGED
33	CAREAGA	C-#126	0408322108	ACTIVE
34	CAREAGA	C-#136	0408321379	ACTIVE
35	CAREAGA	C-#146	0408321957	PLUGGED
36	CAREAGA	C-#146D	0408322196	ACTIVE
37	CAREAGA	C-#6742X	0408322214	ACTIVE
38	NEWLOVE	NL-#20-16Z	0408322439	PLUGGED
39	NEWLOVE	NL-#32-21Z	0408322428	PLUGGED
40	NEWLOVE	NL-#44	0408302299	PLUGGED
41	NEWLOVE	NL-#45	0408302300	PLUGGED
42	NEWLOVE	NL-#48	0408302303	ACTIVE
43	NEWLOVE	NL-#49	0408302304	PLUGGED
44	NEWLOVE	NL-#50	0408302305	PLUGGED
45	NEWLOVE	NL-#89	0408302331	PLUGGED

PHASE 1 OFFSITES - Newlove Park & Bicknell Road

#	LEASE NAME	WELL #	API #	STATUS
46	CAREAGA-Bicknell	C-#2	0408322348	PLUGGED
47	CAREAGA-Bicknell	C-#1516	0408322646	IDLE
48	CAREAGA-Bicknell	C-#1615	0408322654	IDLE
49	CAREAGA-Bicknell	C-#1714	0408322651	ACTIVE
50	NEWLOVE-Park	NL-#22	0408302281	PLUGGED

PHASE 2 - SPECIFIC PLAN BOUNDARY

#	LEASE NAME	WELL #	API #	STATUS
51	NEWLOVE	NL-#60	0408302313	PLUGGED
52	NEWLOVE	NL-#79	0408302324	PLUGGED
53	NEWLOVE	NL-#101	0408302341	PLUGGED

PHASE 3 - SPECIFIC PLAN BOUNDARY

#	LEASE NAME	WELL #	API #	STATUS
54	CAREAGA	C-#B-5	0408320317	IDLE
55	CAREAGA	C-#37	0708321204	ACTIVE
56	CAREAGA	C-#46	0408321223	ACTIVE
57	CAREAGA	C-#47A	0408321822	IDLE
58	CAREAGA	C-#62	0408302096	ACTIVE
59	CAREAGA	C-#65	0408302099	PLUGGED
60	CAREAGA	C-#69	0408302103	PLUGGED
61	CAREAGA	C-#70	0408302104	PLUGGED
62	CAREAGA	C-#7330X	0408322474	ACTIVE
63	NEWLOVE	NL-#46	0408302301	ACTIVE
64	NEWLOVE	NL-#47	0408302302	CANCELED
65	NEWLOVE	NL-#98	0408302339	PLUGGED

PHASE 4 - SPECIFIC PLAN BOUNDARY

NO WELLS

WELL DATA SHOWN HEREON PER CALGEM'S ONLINE WELL STATEWIDE TRACKING AND REPORTING SYSTEM (WELLSTAR) DATABASE AS OF JULY 15, 2025.

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ATTACHMENT 3

Construction Noise Worksheets

To User: bordered cells are inputs, unbordered cells have formulae

0 = temporary barrier (TB) of input height inserted between source and receptor

Analysis Type	Nearest		
Source to barrier distance	10	noise level limit for construction phase at residential land use, per County guidance =	65
Receiver to barrier distance	100	allowable hours over which Leq is to be averaged =	8
Receiver height	5		

Construction Activity	Equipment	Total Equipment Qty	Reference Level @ 50 ft. from FHWA RCNM 2 Table	Client Equipment Description, Data Source and/or Notes	Source to NSR Distance (ft.)	*Temporary Barrier Insertion Loss (dB)*	*Additional Noise Reduction*	Distance-Adjusted Leq	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 8-hour Leq
8 Building Construction	crane	1	74.2	Crane	100	0.1		66.6	8	480	67
	man lift	3	72.1	Forklift	100	0.1		64.0	8	480	69
	generator	1	67.1	Generator Set	100	0.1		58.6	8	480	59
	backhoe	3	75.8	Tractor	100	0.1		67.4	8	480	72
	welding machine	1	71.2	Welders	100	0.1		62.2	8	480	62
								Total for 8 Building Construction Phase			74.0
10 Architectural Coating	compressor	1	65.6	Air Compressor	100	0.1		57.1	8	480	57
								Total for 10 Architectural Coating Phase			57.1

To User: bordered cells are inputs, unbordered cells have formulae

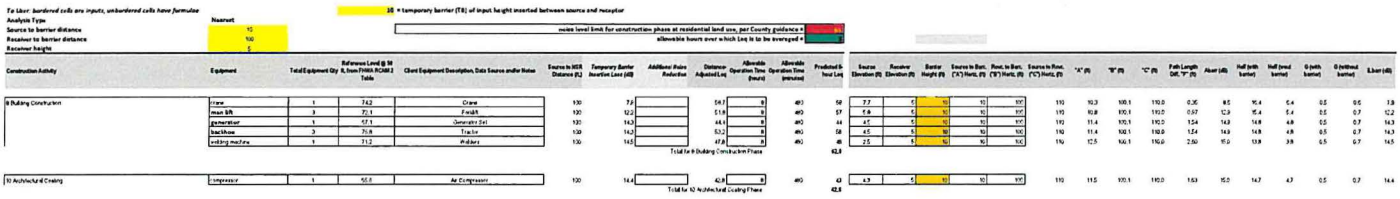
0 = temporary barrier (TB) of input height inserted between source and receptor

Analysis Type	Nearest
Source to barrier distance	10
Receiver to barrier distance	250
Receiver height	5

noise level limit for construction phase at residential land use, per County guidance = 65

allowable hours over which Leq is to be averaged = 8

Construction Activity	Equipment	Total Equipment Qty	Reference Level @ 50 ft. from FHWA RCNM 2 Table	Client Equipment Description, Data Source and/or Notes	Source to NSR Distance (ft.)	*Temporary Barrier Insertion Loss (dB)*	*Additional Noise Reduction*	Distance-Adjusted Leq	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 8-hour Leq
8 Building Construction	crane	1	74.2	Crane	250	0.1		56.2	8	480	56
	man lift	3	72.1	Forklift	250	0.1		53.9	8	480	59
	generator	1	67.1	Generator Set	250	0.1		48.8	8	480	49
	backhoe	3	75.8	Tractor	250	0.1		57.5	8	480	62
	welding machine	1	71.2	Welders	250	0.1		52.7	8	480	53
								Total for 8 Building Construction Phase			**64.9**
10 Architectural Coating	compressor	1	65.6	Air Compressor	250	0.1		47.3	8	480	47
								Total for 10 Architectural Coating Phase			**47.3**



To User: bordered cells are inputs, unbordered cells have formulae																											
Analysis Type	Nearest																										
Source to barrier distance	10																										
Receiver to barrier distance	100																										
Receiver height	5																										
Construction Activity	Equipment	Total Equipment Qty	Reference Level @ 50 ft. from FHWA RCNM 2 Table	Client Equipment Description, Data Source and/or Notes	Source to NSR Distance (ft.)	Temporary Barrier Insertion Loss (dB)	Additional Noise Reduction	Distance-Adjusted Leq	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 8-hour Leq	Source Elevation (ft)	Receiver Elevation (ft)	Barrier Height (ft)	Source to Barr. ("A") Horiz. (ft)	Rec. to Barr. ("B") Horiz. (ft)	Source to Rec. ("C") Horiz. (ft)	"A" (ft)	"B" (ft)	"C" (ft)	Path Length Diff. "P" (ft)	Aatm (dB)	Hef (with barrier)	Hef (no barrier)	G (with barrier)	G (without barrier)	Lhour (dB)
9 Building Construction	crane	1	74.2	Crane	100	7.9		66.3	8	480	58	7.7	5	10	10	105	110	10.3	100.1	110.0	0.35	8.5	15.4	6.4	0.5	0.5	7.9
	man lift	3	71.1	Forklift	100	12.3		51.8	8	480	57	6.8	5	10	10	105	110	10.8	100.1	110.0	0.67	12.9	15.4	5.4	0.5	0.7	12.2
	generator	1	67.1	Generator Set	100	14.3		44.8	8	480	44	4.5	5	10	10	105	110	11.4	100.1	110.0	1.54	14.9	14.8	4.8	0.5	0.7	14.3
	backhoe	3	71.8	Tractor	100	14.3		53.2	8	480	58	4.5	5	10	10	105	110	11.4	100.1	110.0	1.54	14.9	14.8	4.8	0.5	0.7	14.3
	welding machine	1	71.2	Welders	100	14.5		47.8	8	480	48	2.5	5	10	10	105	110	12.5	100.1	110.0	2.50	15.0	13.8	3.8	0.5	0.7	14.5
									Total for 9 Building Construction Phase		62.3																
10 Architectural Coating	compressor	1	55.8	Air Compressor	100	14.4		42.8	8	480	43	4.3	5	10	10	105	110	11.5	100.1	110.0	1.53	15.0	14.7	4.7	0.5	0.7	14.4
									Total for 10 Architectural Coating Phase		42.8																

To User: bordered cells are inputs, unbordered cells have formulae

0 = temporary barrier (TB) of input height inserted between source and receptor

Analysis Type	Nearest		
Source to barrier distance	10	noise level limit for construction phase at residential land use, per County guidance =	75
Receiver to barrier distance	300	allowable hours over which Leq is to be averaged =	8
Receiver height	5		

Construction Activity	Equipment	Total Equipment Qty	Reference Level @ 50 ft, from FHWA RCNM 2 Table	Client Equipment Description, Data Source and/or Notes	Source to NSR Distance (ft.)	Temporary Barrier Insertion Loss (dB)	Additional Noise Reduction	Distance-Adjusted Leq	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 8-hour Leq
1. Linear, Grubbing & Land Clearing	dozer	2	82.0	Crawler Tractor	300	0.1		58.9	8	480	63
	excavator	2	75.9	Excavator	300	0.1		55.9	8	480	59
								Total for 1. Linear, Grubbing & Land Clearing Phase:			64.4
2 Linear, Grading & Excavation	dozer	2	82.0	Crawler Tractor	300	0.1		58.9	8	480	63
	Excavator	6	75.9	Excavator	300	0.1		55.9	8	480	64
	grader (passby)	2	78.5	Grader	300	0.1		58.5	8	480	62
	compactor (roller)	4	75.4	Roller	300	0.1		55.3	8	480	61
	dozer	2	82.0	Rubber Tired Loaders	300	0.1		58.9	8	480	63
	Scraper	4	88.4	Scraper	300	0.1		64.6	8	480	75
	backhoe	4	75.8	Tractor	300	0.1		55.7	8	480	62
								Total for 2 Linear, Grading & Excavation Phase:			75.3
3 Linear, Drainage, Utilities, & Sub-Grade	compressor	2	65.6	Air Compressor	300	0.1		45.5	8	480	49
	generator	2	67.1	Generator Set	300	0.1		47.0	8	480	50
	grader (passby)	2	78.5	Grader	300	0.1		58.5	8	480	62
	compactor (plate)	2	74.5	Plate Compactor	300	0.1		54.3	8	480	57
	pump	2	72.6	Pump	300	0.1		52.4	8	480	56
	dozer	2	82.0	Rough Terrain Forklift	300	0.1		58.9	8	480	63
	scraper	4	88.4	Scraper	300	0.1		64.6	8	480	75
	backhoe	4	75.8	Tractor	300	0.1		55.7	8	480	62
								Total for 3 Linear, Drainage, Utilities, & Sub-Grade Phase:			71.4
4 Linear, Paving	Paving - Asphalt (Paver + D	2	81.8	Paver	300	0.1		61.7	8	480	65
	Paving - Asphalt (Paver + R	2	82.8	Paving Equipment	300	0.1		62.8	8	480	66
	Compactor (Roller)	6	75.4	Roller	300	0.1		55.3	8	480	63
	backhoe	4	75.8	Tractor	300	0.1		55.7	8	480	62
								Total for 4 Linear, Paving Phase:			70.1
5 Demolition	concrete saw	1	85.4	Concrete Saw	300	0.1		65.2	8	480	65
	excavator	3	75.9	Excavator	300	0.1		55.9	8	480	61
	dozer	2	82.0	Rubber Tired Dozer	300	0.1		58.9	8	480	63
								Total for 5 Demolition Phase:			66.2
6 Site Preparation	dozer	3	82.0	rubber tired dozer	300	0.1		58.9	8	480	65
	backhoe	4	75.8	tractor	300	0.1		55.7	8	480	62
								Total for 6 Site Preparation Phase:			66.8
7 Grading	excavator	2	75.9	Excavator	300	0.1		55.9	8	480	59
	grader (passby)	1	78.5	Grader	300	0.1		58.5	8	480	59
	dozer	1	82.0	Rubber Tired Dozers	300	0.1		58.9	8	480	60
	scraper	2	88.4	Scrapers	300	0.1		64.6	8	480	72
	backhoe	2	75.8	Tractor	300	0.1		55.7	8	480	59
								Total for 7 Grading Phase:			72.4
8 Building Construction	crane	1	74.2	Crane	300	0.1		54.3	8	480	54
	man lift	3	72.1	Forklift	300	0.1		52.1	8	480	57
	generator	1	67.1	Generator Set	300	0.1		47.0	8	480	47
	backhoe	3	75.8	Tractor	300	0.1		55.7	8	480	60
	welding machine	1	71.2	Welders	300	0.1		51.0	8	480	51
								Total for 8 Building Construction Phase:			63.1
9 Paving	Paving - Asphalt (Paver + D	2	81.8	Pavers	300	0.1		61.7	8	480	65
	Paving - Asphalt (Paver + R	2	82.8	Paving Equipment	300	0.1		62.8	8	480	66
	compactor (roller)	2	75.4	Rollers	300	0.1		55.3	8	480	58
								Total for 9 Paving Phase:			68.7
10 Architectural Coating	compressor	1	65.6	Air Compressor	300	0.1		45.5	8	480	46
								Total for 10 Architectural Coating Phase:			46.5

To User: bordered cells are inputs, unbordered cells have formulae

0 = temporary barrier (TB) of input height inserted between source and receptor

Analysis Type	Nearest		
Source to barrier distance	10	noise level limit for construction phase at residential land use, per County guidance =	65
Receiver to barrier distance	300	allowable hours over which Leq is to be averaged =	8
Receiver height	5		

Construction Activity	Equipment	Total Equipment Qty	Reference Level @ 50 ft, from FHWA RCNM 2 Table	Client Equipment Description, Data Source and/or Notes	Source to NSR Distance (ft.)	Temporary Barrier Insertion Loss (dB)	Additional Noise Reduction	Distance-Adjusted Leq	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 8-hour Leq
1. Linear, Grubbing & Land Clearing	dozer	2	80.0	Crawler Tractor	900	0.1		45.3	8	480	52
	excavator	2	75.9	Excavator	900	0.1		45.2	8	480	48
								Total for 1, Linear, Grubbing & Land Clearing Phase:			53.7
2 Linear, Grading & Excavation	dozer	2	80.0	Crawler Tractor	900	0.1		45.3	8	480	52
	Excavator	6	75.9	Excavator	900	0.1		45.2	8	480	53
	grader (passby)	2	78.5	Grader	900	0.1		47.8	8	480	51
	compactor (roller)	4	75.4	Roller	900	0.1		44.7	8	480	51
	dozer	2	80.0	Rubber Tired Loaders	900	0.1		48.3	8	480	52
	Scraper	4	88.4	Scraper	900	0.1		57.8	8	480	64
	backhoe	4	75.8	Tractor	900	0.1		45.1	8	480	51
								Total for 2 Linear, Grading & Excavation Phase:			65.3
3 Linear, Drainage, Utilities, & Sub-Grade	compressor	2	65.6	Air Compressor	900	0.1		35.0	8	480	39
	generator	2	67.1	Generator Set	900	0.1		36.4	8	480	39
	grader (passby)	2	78.5	Grader	900	0.1		47.8	8	480	51
	compactor (plate)	2	74.6	Plate Compactor	900	0.1		43.9	8	480	47
	pump	2	72.8	Pump	900	0.1		42.1	8	480	45
	dozer	2	80.0	Rough Terrain Forklift	900	0.1		48.3	8	480	52
	scraper	4	88.4	Scraper	900	0.1		57.8	8	480	64
	backhoe	4	75.8	Tractor	900	0.1		45.1	8	480	51
								Total for 3 Linear, Drainage, Utilities, & Sub-Grade Phase:			64.7
4 Linear, Paving	Paving - Asphalt (Paver + D	2	81.8	Paver	900	0.1		51.1	8	480	54
	Paving - Asphalt (Paver + N	2	82.8	Paving Equipment	900	0.1		52.2	8	480	55
	Compactor (Roller)	6	75.4	Roller	900	0.1		44.7	8	480	53
	backhoe	4	75.8	Tractor	900	0.1		45.1	8	480	51
								Total for 4 Linear, Paving Phase:			59.5
5 Demolition	concrete saw	1	85.4	Concrete Saw	900	0.1		54.7	8	480	55
	excavator	3	75.9	Excavator	900	0.1		45.2	8	480	50
	dozer	2	80.0	Rubber Tired Dozer	900	0.1		49.3	8	480	52
								Total for 5 Demolition Phase:			54.7
6 Site Preparation	dozer	3	80.0	rubber tired dozer	900	0.1		48.3	8	480	54
	backhoe	4	75.8	tractor	900	0.1		45.1	8	480	51
								Total for 6 Site Preparation Phase:			56.9
7 Grading	excavator	2	75.9	Excavator	900	0.1		45.2	8	480	48
	grader (passby)	1	78.5	Grader	900	0.1		47.8	8	480	48
	dozer	1	80.0	Rubber Tired Dozers	900	0.1		48.3	8	480	49
	scraper	2	88.4	Scrapers	900	0.1		57.8	8	480	61
	backhoe	2	75.8	Tractor	900	0.1		45.1	8	480	48
								Total for 7 Grading Phase:			61.7
8 Building Construction	crane	1	74.2	Crane	900	0.1		43.6	8	480	44
	man lift	3	72.1	Forklift	900	0.1		41.4	8	480	46
	generator	1	67.1	Generator Set	900	0.1		36.4	8	480	36
	backhoe	3	75.8	Tractor	900	0.1		45.1	8	480	50
	welding machine	1	71.2	Welders	900	0.1		40.5	8	480	40
								Total for 8 Building Construction Phase:			52.8
9 Paving	Paving - Asphalt (Paver + D	2	81.8	Pavers	900	0.1		51.1	8	480	54
	Paving - Asphalt (Paver + N	2	82.8	Paving Equipment	900	0.1		52.2	8	480	55
	compactor (roller)	2	75.4	Rollers	900	0.1		44.7	8	480	48
								Total for 9 Paving Phase:			56.1
10 Architectural Coating	compressor	1	65.6	Air Compressor	900	0.1		35.9	8	480	35
								Total for 10 Architectural Coating Phase:			35.9

To User: bordered cells are inputs, unbordered cells have formulae

Analysis Type: Nearest
Source to barrier distance: 15
Receiver to barrier distance: 300
Receiver height: 5

12 = temporary barrier (TB) of input height inserted between source and receptor

noise level limit for construction phase at residential land use, per County guidance =
allowable hours over which Leq is to be averaged =

Construction Activity	Equipment	Total Equipment Qty	Reference Level @ 50 ft, from FHWA RCNM 2 Table	Client Equipment Description, Data Source and/or Notes	Source to NSR Distance (L)	Temporary Barrier Insertion Loss (dB)	Additional Noise Reduction	Distance-Adjusted Leq	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 8-hour Leq	Source Elevation (ft)	Receiver Elevation (ft)	Barrier Height (ft)	Source to Barr. ("A") Horiz. (ft)	Rcvr. to Barr. ("B") Horiz. (ft)	Source to Rcvr. ("C") Horiz. (ft)	"A" (ft)	"B" (ft)	"C" (ft)	Path Length Diff. "P" (ft)	Abar (dB)	Helf (with barrier)	Helf (w/out barrier)	G (with barrier)	G (without barrier)	L8ref (dB)
1 Linear, Grubbing & Land Clearing	dozer	3	80.9	Loader Tractor	300	13.2		46.7	8	480	50	5.3	5	17	10	300	310	12.0	300.1	310.0	2.12	15.0	17.2	5.2	0.4	0.7	13.3
	excavator	2	75.9	Excavator	300	13.2		42.6	8	480	45	5.3	5	17	10	300	310	11.8	300.1	310.0	1.84	15.0	17.0	5.0	0.4	0.7	13.3
				Total for 1 Linear, Grubbing & Land Clearing Phase							51.1																
2 Linear, Grading & Excavation	dozer	3	80.9	Loader Tractor	300	13.2		46.7	8	480	50	5.3	5	17	10	300	310	12.0	300.1	310.0	2.12	15.0	17.2	5.2	0.4	0.7	13.3
	Excavator	4	75.9	Excavator	300	13.2		42.6	8	480	50	5.2	5	17	10	300	310	11.8	300.1	310.0	1.84	15.0	17.0	5.0	0.4	0.7	13.3
	grader (possibly)	2	78.5	Grader	300	13.2		45.3	8	480	48	5.0	5	17	10	300	310	11.7	300.1	310.0	1.74	15.0	17.1	5.1	0.4	0.7	13.3
	Compactor (roller)	4	73.4	Roller	300	13.2		42.0	8	480	46	4.4	5	17	10	300	310	12.6	300.1	310.0	2.54	15.0	16.7	4.7	0.5	0.7	13.4
	dozer	3	80.9	Rubber Tired Loaders	300	13.2		46.7	8	480	50	5.3	5	17	10	300	310	12.0	300.1	310.0	2.12	15.0	17.2	5.2	0.4	0.7	13.3
	Scraper	4	84.4	Scraper	300	16.5		50.1	8	480	54	8.0	5	17	10	300	310	10.8	300.1	310.0	0.94	12.2	18.5	6.3	0.4	0.6	12.5
	backhoe	4	75.8	Tractor	300	13.2		42.5	8	480	49	4.5	5	17	10	300	310	12.5	300.1	310.0	2.50	15.0	16.9	4.9	0.5	0.7	13.3
				Total for 2 Linear, Grading & Excavation Phase							64.9																
3 Linear, Drainage, Utilities, & Sub-Grade	compressor	2	55.8	Air Compressor	300	13.4		30.2	8	480	35	4.3	5	17	10	300	310	12.6	300.1	310.0	2.70	15.0	16.7	4.7	0.5	0.7	13.4
	generator	2	57.1	Generator Set	300	13.2		33.0	8	480	37	4.5	5	17	10	300	310	12.5	300.1	310.0	2.58	15.0	16.8	4.8	0.5	0.7	13.3
	grader (possibly)	2	78.5	Grader	300	13.2		45.3	8	480	48	5.0	5	17	10	300	310	11.7	300.1	310.0	1.74	15.0	17.1	5.1	0.4	0.7	13.3
	compactor (plate)	2	74.8	Plate Compactor	300	13.8		43.8	8	480	46	1.0	5	11	10	300	310	14.9	300.1	310.0	4.90	15.0	19.0	3.9	0.5	0.7	13.8
	pump	2	77.4	Pump	300	13.4		44.3	8	480	47	3.8	5	17	10	300	310	12.9	300.1	310.0	3.01	15.0	16.4	4.4	0.5	0.7	13.4
	dozer	2	80.9	Rough Terrain Forklift	300	13.2		46.7	8	480	50	5.3	5	17	10	300	310	12.0	300.1	310.0	2.12	15.0	17.2	5.2	0.4	0.7	13.3
	Scraper	4	84.4	Scraper	300	16.5		50.1	8	480	54	8.0	5	17	10	300	310	10.8	300.1	310.0	0.94	12.2	18.5	6.3	0.4	0.6	12.5
	backhoe	4	75.8	Tractor	300	13.2		42.5	8	480	49	4.5	5	17	10	300	310	12.5	300.1	310.0	2.50	15.0	16.9	4.9	0.5	0.7	13.3
				Total for 3 Linear, Drainage, Utilities, & Sub-Grade Phase							64.7																
4 Linear, Paving	Paving - Asphalt (Paver + R	2	81.8	Paver	300	13.2		46.2	8	480	51	5.0	5	17	10	300	310	12.2	300.1	310.0	2.29	15.0	17.0	5.0	0.4	0.7	13.3
	Paving - Asphalt (Paver + R	2	82.8	Paving Equipment	300	13.2		46.8	8	480	53	5.5	5	17	10	300	310	11.9	300.1	310.0	2.01	15.0	17.3	5.3	0.4	0.7	13.3
	Compactor (Roller)	6	73.4	Roller	300	13.4		42.0	8	480	50	4.4	5	17	10	300	310	12.6	300.1	310.0	2.54	15.0	16.7	4.7	0.5	0.7	13.4
	backhoe	4	75.8	Tractor	300	13.2		42.5	8	480	49	4.5	5	17	10	300	310	12.5	300.1	310.0	2.50	15.0	16.9	4.9	0.5	0.7	13.3
				Total for 4 Linear, Paving Phase							54.3																
5 Demolition	concrete saw	1	89.6	Concrete Saw	300	13.8		51.8	8	480	52	2.2	5	17	10	300	310	14.0	300.1	310.0	4.07	15.0	15.6	3.6	0.5	0.7	13.8
	excavator	3	77.7	Excavator	300	13.2		44.6	8	480	47	4.2	5	17	10	300	310	11.8	300.1	310.0	1.84	15.0	17.0	5.0	0.4	0.7	13.3
	dozer	2	80.9	Rubber Tired Dozer	300	13.2		46.7	8	480	50	5.3	5	17	10	300	310	12.0	300.1	310.0	2.12	15.0	17.2	5.2	0.4	0.7	13.3
				Total for 5 Demolition Phase							51.8																
6 Site Preparation	dozer	3	80.9	rubber tired dozer	300	13.2		46.7	8	480	51	5.3	5	17	10	300	310	12.0	300.1	310.0	2.12	15.0	17.2	5.2	0.4	0.7	13.3
	backhoe	4	75.8	tractor	300	13.2		42.5	8	480	49	4.5	5	17	10	300	310	12.5	300.1	310.0	2.50	15.0	16.9	4.9	0.5	0.7	13.3
				Total for 6 Site Preparation Phase							53.2																
7 Grading	excavator	2	75.9	Excavator	300	13.2		42.6	8	480	45	5.2	5	17	10	300	310	11.8	300.1	310.0	1.84	15.0	17.0	5.0	0.4	0.7	13.3
	grader (possibly)	1	78.5	Grader	300	13.2		45.3	8	480	46	5.0	5	17	10	300	310	11.7	300.1	310.0	1.74	15.0	17.1	5.1	0.4	0.7	13.3
	dozer	1	80.9	Rubber Tired Dozers	300	13.2		46.7	8	480	47	5.3	5	17	10	300	310	12.0	300.1	310.0	2.12	15.0	17.2	5.2	0.4	0.7	13.3
	scraper	2	84.4	Scrapers	300	16.5		50.1	8	480	51	8.0	5	17	10	300	310	10.8	300.1	310.0	0.94	12.2	18.5	6.3	0.4	0.6	12.5
	backhoe	2	75.8	Tractor	300	13.2		42.5	8	480	45	4.5	5	17	10	300	310	12.5	300.1	310.0	2.50	15.0	16.9	4.9	0.5	0.7	13.3
				Total for 7 Grading Phase							51.8																
8 Building Construction	crane	1	74.2	Crane	300	11.1		43.0	8	480	45	7.7	5	17	10	300	310	10.9	300.1	310.0	0.95	12.8	18.4	5.4	0.4	0.6	11.1
	man lift	3	72.1	Forklift	300	13.2		39.8	8	480	44	6.8	5	17	10	300	310	11.9	300.1	310.0	1.85	15.0	17.4	5.4	0.4	0.7	13.3
	generator	1	57.1	Generator Set	300	13.2		33.0	8	480	34	4.5	5	17	10	300	310	12.5	300.1	310.0	2.58	15.0	16.8	4.8	0.5	0.7	13.3
	backhoe	3	75.8	Tractor	300	13.2		42.5	8	480	47	4.5	5	17	10	300	310	12.5	300.1	310.0	2.50	15.0	16.9	4.9	0.5	0.7	13.3
	welding machine	1	71.2	Welders	300	10.5		37.6	8	480	39	2.5	5	17	10	300	310	13.8	300.1	310.0	3.95	15.0	15.9	3.9	0.5	0.7	13.5
				Total for 8 Building Construction Phase							50.2																
9 Paving	Paving - Asphalt (Paver + R	2	81.8	Pavers	300	13.2		46.8	8	480	51	5.0	5	17	10	300	310	12.2	300.1	310.0	2.29	15.0	17.0	5.0	0.4	0.7	13.3
	Paving - Asphalt (Paver + R	2	82.8	Paving Equipment	300	13.2		46.8	8	480	53	5.5	5	17	10	300	310	11.9	300.1	310.0	2.01	15.0	17.3	5.3	0.4	0.7	13.3
	compactor (roller)	2	73.4	Rollers	300	13.4		42.0	8	480	45	4.4	5	17	10	300	310	12.6	300.1	310.0	2.54	15.0	16.7	4.7	0.5	0.7	13.4
				Total for 9 Paving Phase							55.5																
10 Architectural Coating	compressor	1	55.8	Air Compressors	300	13.4		30.2	8	480	32	4.3	5	17	10	300	310	12.6	300.1	310.0	2.70	15.0	16.7	4.7	0.5	0.7	13.4
				Total for 10 Architectural Coating Phase							32.2																

To User: bordered cells are inputs, unbordered cells have formulae

0 = temporary barrier (TB) of input height inserted between source and receptor

Analysis Type	Nearest
Source to barrier distance	10
Receiver to barrier distance	150
Receiver height	5

noise level limit for construction phase at residential land use, per County guidance = 65

allowable hours over which Leq is to be averaged = 8

Construction Activity	Equipment	Total Equipment Qty	Reference Level @ 50 ft. from FHWA RCNM 2 Table	Client Equipment Description, Data Source and/or Notes	Source to NSR Distance (ft.)	Temporary Barrier Insertion Loss (dB)	Additional Noise Reduction	Distance-Adjusted Leq	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 8-hour Leq
1 Linear, Drainage, Utilities, & Sub-Grade	compressor	2	65.6	Air Compressor	200	0.1		49.5	8	480	53
	generator	2	67.1	Generator Set	200	0.1		51.0	8	480	54
	grader (passby)	2	78.5	Grader	200	0.1		62.6	8	480	66
	compactor (plate)	2	74.6	Plate Compactor	200	0.1		58.2	8	480	61
	pump	2	72.8	Pump	200	0.1		56.6	8	480	60
	dozer	2	80.0	Rough Terrain Forklift	200	0.1		64.0	8	480	67
	scraper	4	88.4	Scraper	200	0.1		72.7	8	480	79
	backhoe	4	75.8	Tractor	200	0.1		59.7	8	480	66
								Total for 1 Linear, Drainage, Utilities, & Sub-Grade Phase:			79.5
2 Linear, Paving	Paving - Asphalt (Paver + D	2	81.8	Paver	150	0.1		68.6	8	480	72
	Paving - Asphalt (Paver + M	2	82.8	Paving Equipment	150	0.1		69.9	8	480	73
	Compactor (Roller)	6	75.4	Roller	150	0.1		62.3	8	480	70
	backhoe	4	75.8	Tractor	150	0.1		62.7	8	480	69
								Total for 2 Linear, Paving Phase:			77.2
3 Demolition	concrete saw	3	85.4	Concrete Saw	150	0.1		72.0	8	480	77
	excavator	2	75.9	Excavator	150	0.1		63.1	8	480	66
	dozer	3	80.0	Rubber Tired Dozer	150	0.1		67.0	8	480	72
								Total for 3 Demolition Phase:			75.8
4 Site Preparation	dozer	3	80.0	rubber tired dozer	150	0.1		67.0	8	480	72
	backhoe	4	75.8	tractor	150	0.1		62.7	8	480	69
								Total for 4 Site Preparation Phase:			73.3
5 Grading	excavator	2	75.9	Excavator	150	0.1		63.1	8	480	66
	grader (passby)	1	78.5	Grader	150	0.1		65.7	8	480	66
	dozer	1	80.0	Rubber Tired Dozers	150	0.1		67.0	8	480	67
	scraper	2	88.4	Scrapers	150	0.1		75.9	8	480	79
	backhoe	2	75.8	Tractor	150	0.1		62.7	8	480	66
								Total for 5 Grading Phase:			78.7
6 Building Construction	crane	1	74.2	Crane	150	0.1		61.6	8	480	62
	man lift	3	72.1	Forklift	150	0.1		59.2	8	480	64
	generator	1	67.1	Generator Set	150	0.1		54.0	8	480	54
	backhoe	3	75.8	Tractor	150	0.1		62.7	8	480	68
	welding machine	1	71.2	Welders	150	0.1		57.8	8	480	58
								Total for 6 Building Construction Phase:			78.2
7 Paving	Paving - Asphalt (Paver + D	2	81.8	Pavers	150	0.1		68.6	8	480	72
	Paving - Asphalt (Paver + M	2	82.8	Paving Equipment	150	0.1		69.9	8	480	73
	compactor (roller)	2	75.4	Rollers	150	0.1		62.3	8	480	65
								Total for 7 Paving Phase:			75.8
8 Architectural Coating	compressor	1	65.6	Air Compressor	150	0.1		52.5	8	480	53
								Total for 8 Architectural Coating Phase:			52.5

To User: bordered cells are inputs, unbordered cells have formulae

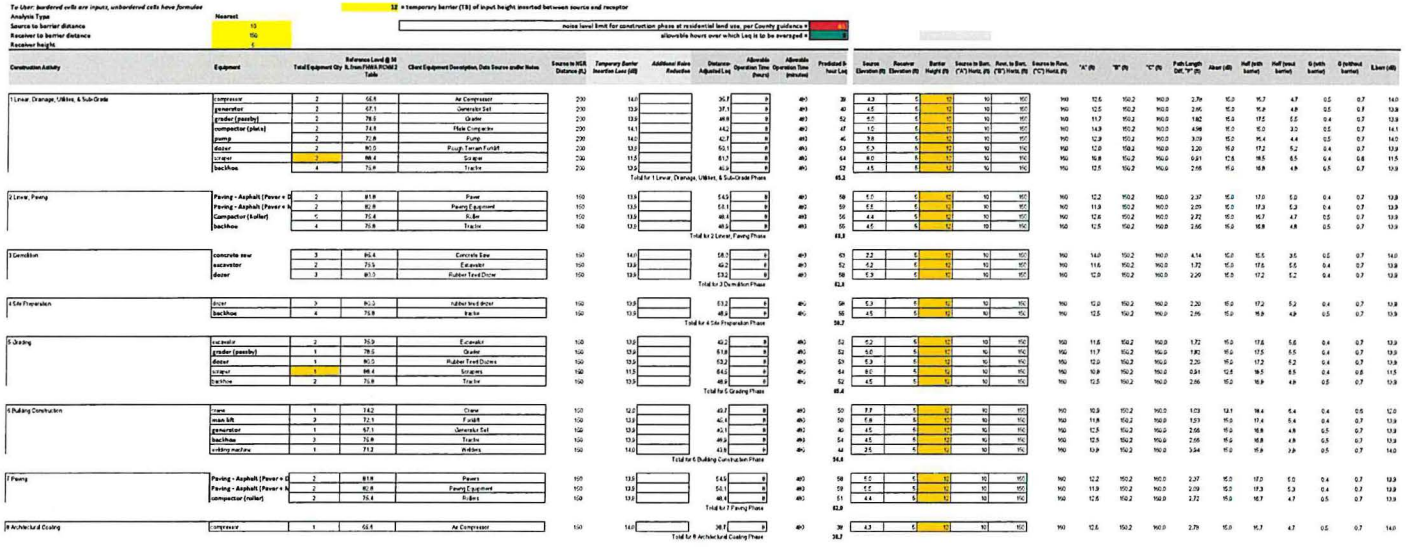
0 = temporary barrier (TB) of input height inserted between source and receptor

Analysis Type	Nearest
Source to barrier distance	10
Receiver to barrier distance	150
Receiver height	5

noise level limit for construction phase at residential land use, per County guidance = 65

allowable hours over which Leq is to be averaged = 8

Construction Activity	Equipment	Total Equipment Qty	Reference Level @ 50 ft. from FHWA RCNM 2 Table	Client Equipment Description, Data Source and/or Notes	Source to NSR Distance (ft.)	Temporary Barrier Insertion Loss (dB)	Additional Noise Reduction	Distance-Adjusted Leq	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 8-hour Leq
1 Linear, Drainage, Utilities, & Sub-Grade	compressor	2	65.6	Air Compressor	900	0.1		35.0	8	480	38
	generator	2	67.1	Generator Set	900	0.1		36.4	8	480	39
	grader (passby)	2	78.5	Grader	900	0.1		47.9	8	480	51
	compactor (plate)	2	74.6	Plate Compactor	900	0.1		43.9	8	480	47
	pump	2	72.8	Pump	900	0.1		42.1	8	480	45
	dozer	2	80.0	Rough Terrain Forklift	900	0.1		49.3	8	480	52
	scraper	4	88.4	Scraper	900	0.1		57.8	8	480	64
	backhoe	4	75.8	Tractor	900	0.1		45.1	8	480	51
								Total for 1 Linear, Drainage, Utilities, & Sub-Grade Phase:			64.7
2 Linear, Paving	Paving - Asphalt (Paver + D	2	81.8	Paver	900	0.1		51.1	8	480	54
	Paving - Asphalt (Paver + M	2	82.8	Paving Equipment	900	0.1		52.2	8	480	55
	Compactor (Roller)	6	75.4	Roller	900	0.1		44.7	8	480	53
	backhoe	4	75.8	Tractor	900	0.1		45.1	8	480	51
								Total for 2 Linear, Paving Phase:			59.5
3 Demolition	concrete saw	3	85.4	Concrete Saw	900	0.1		54.7	8	480	59
	excavator	2	75.9	Excavator	900	0.1		45.2	8	480	48
	dozer	3	80.0	Rubber Tired Dozer	900	0.1		49.3	8	480	54
								Total for 3 Demolition Phase:			59.5
4 Site Preparation	dozer	3	80.0	rubber tired dozer	900	0.1		49.3	8	480	54
	backhoe	4	75.8	tractor	900	0.1		45.1	8	480	51
								Total for 4 Site Preparation Phase:			55.9
5 Grading	excavator	2	75.9	Excavator	900	0.1		45.2	8	480	48
	grader (passby)	1	78.5	Grader	900	0.1		47.9	8	480	48
	dozer	1	80.0	Rubber Tired Dozers	900	0.1		49.3	8	480	49
	scraper	2	88.4	Scrapers	900	0.1		57.8	8	480	61
	backhoe	2	75.8	Tractor	900	0.1		45.1	8	480	48
								Total for 5 Grading Phase:			61.7
6 Building Construction	crane	1	74.2	Crane	900	0.1		43.6	8	480	44
	man lift	3	72.1	Forklift	900	0.1		41.4	8	480	46
	generator	1	67.1	Generator Set	900	0.1		36.4	8	480	36
	backhoe	3	75.8	Tractor	900	0.1		45.1	8	480	50
	welding machine	1	71.2	Welders	900	0.1		40.5	8	480	40
								Total for 6 Building Construction Phase:			52.5
7 Paving	Paving - Asphalt (Paver + D	2	81.8	Pavers	900	0.1		51.1	8	480	54
	Paving - Asphalt (Paver + M	2	82.8	Paving Equipment	900	0.1		52.2	8	480	55
	compactor (roller)	2	75.4	Rollers	900	0.1		44.7	8	480	48
								Total for 7 Paving Phase:			58.1
8 Architectural Coating	compressor	1	65.6	Air Compressor	900	0.1		35.0	8	480	35
								Total for 8 Architectural Coating Phase:			35.0



Construction Activity	Equipment	Total Equipment Qty	Reference Level @ 50 ft, from FHWA RCNM 2 Table	Client Equipment Description, Data Source and/or Notes	Source to NSR Distance (ft.)	Temporary Barrier Insertion Loss (dB)	Additional Noise Reduction	Distance-Adjusted Leq	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 8-hour Leq	Source Elevation (ft)	Receiver Elevation (ft)	Barrier Height (ft)	Source to Barr. ("A") Horiz. (ft)	Rcvr. to Barr. ("B") Horiz. (ft)	Source to Rcvr. ("C") Horiz. (ft)	"A" (ft)	"B" (ft)	"C" (ft)	Path Length Diff., "d" (ft)	Aatten (dB)	Ref (with barrier)	Ref (w/out barrier)	G (with barrier)	G (without barrier)	Lmax (dB)
1 Linear, Drainage, Utilities, & Sub-Grade	compressor	2	68.4	Air Compressor	200	14.0		39.7	8	480	39	4.3	5	12	10	150		160	12.6	150.2	160.0	2.79	15.0	16.7	4.7	0.5	0.7	14.0
	generator	2	67.1	Generator Set	200	13.0		37.1	8	480	40	4.5	5	12	10	150		160	12.5	150.2	160.0	2.66	15.0	16.9	4.8	0.5	0.7	13.8
	grader (paving)	2	78.8	Grader	200	13.0		48.8	8	480	52	5.0	5	12	10	150		160	11.7	150.2	160.0	1.82	15.0	17.5	5.5	0.4	0.7	13.8
	compactor (plate)	2	74.3	Plate Compactor	200	14.1		44.2	8	480	47	1.0	5	12	10	150		160	14.9	150.2	160.0	4.98	15.0	15.0	3.5	0.5	0.7	14.1
	pump	2	77.9	Pump	200	14.0		47.7	8	480	46	3.9	5	12	10	150		160	12.9	150.2	160.0	3.09	15.0	15.4	4.4	0.5	0.7	14.0
	dozer	2	90.0	Rough Terrain Forklift	200	13.0		60.1	8	480	53	5.3	5	12	10	150		160	12.0	150.2	160.0	2.20	15.0	17.2	5.2	0.4	0.7	13.9
	scraper	2	88.4	Scraper	200	11.5		61.3	8	480	64	8.0	5	12	10	150		160	10.8	150.2	160.0	0.91	12.5	19.5	6.5	0.4	0.8	11.5
	backhoe	4	75.9	Tractor	200	13.0		45.8	8	480	57	4.5	5	12	10	150		160	12.5	150.2	160.0	2.66	15.0	16.9	4.9	0.5	0.7	13.9
				Total for 1 Linear, Drainage, Utilities, & Sub-Grade Phase							85.3																
2 Linear, Paving	Paving - Asphalt (Paver + D	2	81.8	Paver	150	13.8		54.3	8	480	58	1.1	5	12	10	150		160	12.2	150.2	160.0	2.37	15.0	17.0	5.0	0.4	0.7	13.8
	Paving - Asphalt (Paver + R	2	81.8	Paving Equipment	150	13.5		54.1	8	480	59	0.5	5	12	10	150		160	11.9	150.2	160.0	2.09	15.0	17.3	5.3	0.4	0.7	13.9
	Compactor (roller)	1	73.4	Roller	150	13.0		46.4	8	480	56	4.4	5	12	10	150		160	12.6	150.2	160.0	2.72	15.0	16.7	4.7	0.5	0.7	13.9
	backhoe	4	75.9	Tractor	150	13.0		48.3	8	480	55	4.5	5	12	10	150		160	12.5	150.2	160.0	2.66	15.0	16.9	4.8	0.5	0.7	13.9
				Total for 2 Linear, Paving Phase							83.3																
3 Demolition	concrete saw	3	89.6	Concrete Saw	150	14.0		58.0	8	480	63	2.2	5	12	10	150		160	14.0	150.2	160.0	4.14	15.0	15.5	3.5	0.5	0.7	14.0
	excavator	2	75.5	Excavator	150	13.0		46.0	8	480	52	6.2	5	12	10	150		160	11.6	150.2	160.0	1.72	15.0	17.6	5.6	0.4	0.7	13.8
	dozer	3	80.5	Rubber Tired Dozer	150	13.0		53.2	8	480	58	5.9	5	12	10	150		160	12.0	150.2	160.0	2.20	15.0	17.2	5.2	0.4	0.7	13.8
				Total for 3 Demolition Phase							62.8																
4 Site Preparation	dozer	3	80.5	Rubber Tired Dozer	150	13.0		53.2	8	480	58	5.3	5	12	10	150		160	12.0	150.2	160.0	2.20	15.0	17.2	5.2	0.4	0.7	13.8
	backhoe	4	75.9	Tractor	150	13.0		48.3	8	480	55	4.5	5	12	10	150		160	12.5	150.2	160.0	2.66	15.0	16.9	4.9	0.5	0.7	13.9
				Total for 4 Site Preparation Phase							58.7																
5 Grading	excavator	2	75.5	Excavator	150	13.0		48.0	8	480	52	6.2	5	12	10	150		160	11.6	150.2	160.0	1.72	15.0	17.6	5.6	0.4	0.7	13.8
	grader (paving)	1	78.8	Grader	150	13.0		51.8	8	480	52	5.0	5	12	10	150		160	11.7	150.2	160.0	1.82	15.0	17.5	5.5	0.4	0.7	13.8
	dozer	1	80.5	Rubber Tired Dozer	150	13.0		53.2	8	480	51	5.3	5	12	10	150		160	12.0	150.2	160.0	2.20	15.0	17.2	5.2	0.4	0.7	13.8
	scraper	1	88.4	Scrapers	150	11.5		64.0	8	480	64	8.0	5	12	10	150		160	10.8	150.2	160.0	0.91	12.5	19.5	6.5	0.4	0.8	11.5
	backhoe	2	75.9	Tractor	150	13.0		48.8	8	480	52	4.5	5	12	10	150		160	12.5	150.2	160.0	2.66	15.0	16.9	4.9	0.5	0.7	13.9
				Total for 5 Grading Phase							60.4																
6 Building Construction	crane	1	74.2	Crane	150	12.0		49.7	8	480	50	7.7	5	12	10	150		160	10.9	150.2	160.0	1.03	13.1	18.4	6.4	0.4	0.6	12.0
	man lift	3	72.1	Forklift	150	13.0		47.4	8	480	50	5.9	5	12	10	150		160	11.8	150.2	160.0	1.93	15.0	17.4	5.4	0.4	0.7	13.9
	generator	1	67.1	Generator Set	150	13.0		43.1	8	480	46	4.5	5	12	10	150		160	12.5	150.2	160.0	2.66	15.0	16.9	4.9	0.5	0.7	13.8
	backhoe	3	75.9	Tractor	150	13.0		48.8	8	480	54	4.5	5	12	10	150		160	12.5	150.2	160.0	2.66	15.0	16.9	4.9	0.5	0.7	13.9
	welding machine	1	71.2	Welders	150	14.0		43.9	8	480	44	2.5	5	12	10	150		160	13.9	150.2	160.0	3.84	15.0	15.9	3.9	0.5	0.7	14.0
				Total for 6 Building Construction Phase							54.4																
7 Paving	Paving - Asphalt (Paver + D	2	81.8	Pavers	150	13.8		54.3	8	480	58	1.1	5	12	10	150		160	12.2	150.2	160.0	2.37	15.0	17.0	5.0	0.4	0.7	13.8
	Paving - Asphalt (Paver + R	2	81.8	Paving Equipment	150	13.5		54.1	8	480	59	0.5	5	12	10	150		160	11.9	150.2	160.0	2.09	15.0	17.3	5.3	0.4	0.7	13.9
	compactor (roller)	2	73.4	Rollers	150	13.0		46.4	8	480	51	4.4	5	12	10	150		160	12.6	150.2	160.0	2.72	15.0	16.7	4.7	0.5	0.7	13.9
				Total for 7 Paving Phase							62.9																
8 Architectural Coating	compressor	1	68.4	Air Compressor	150	14.0		38.7	8	480	39	4.3	5	12	10	150		160	12.6	150.2	160.0	2.79	15.0	16.7	4.7	0.5	0.7	14.0
				Total for 8 Architectural Coating Phase							38.7																

To User: bordered cells are inputs, unbordered cells have formulae

0 = temporary barrier (TB) of input height inserted between source and receptor

Analysis Type	Nearest		
Source to barrier distance	10	noise level limit for construction phase at residential land use, per County guidance =	45
Receiver to barrier distance	1200	allowable hours over which Leq is to be averaged =	8
Receiver height	5		

Construction Activity	Equipment	Total Equipment Qty	Reference Level @ 50 ft, from FHWA RCNM 2 Table	Client Equipment Description, Data Source and/or Notes	Source to MSR Distance (ft.)	Temporary Barrier Insertion Loss (dB)	Additional Noise Reduction	Distance-Adjusted Leq	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 8-hour Leq
1. Linear, Grubbing & Land Clearing	dozer	2	80.0	Crawler Tractor	1200	0.1		46.4	8	480	49
	excavator	2	75.9	Excavator	1200	0.1		42.4	8	480	45
								Total for 1. Linear, Grubbing & Land Clearing Phase:			50.0
2 Linear, Grading & Excavation	dozer	2	80.0	Crawler Tractor	1200	0.1		46.4	8	480	49
	Excavator	6	75.9	Excavator	1200	0.1		42.4	8	480	50
	grader (passby)	2	78.5	Grader	1200	0.1		45.0	8	480	48
	compactor (roller)	4	75.4	Roller	1200	0.1		41.9	8	480	48
	dozer	2	80.0	Rubber Tired Loaders	1200	0.1		46.4	8	480	49
	Scraper	4	88.4	Scraper	1200	0.1		54.9	8	480	61
	backhoe	4	75.8	Tractor	1200	0.1		42.3	8	480	48
								Total for 2 Linear, Grading & Excavation Phase:			63.3
3 Linear, Drainage, Utilities, & Sub-Grade	compressor	2	65.8	Air Compressor	1200	0.1		32.1	8	480	35
	generator	2	67.1	Generator Set	1200	0.1		33.6	8	480	37
	grader (passby)	2	78.5	Grader	1200	0.1		45.0	8	480	48
	compactor (plate)	2	74.6	Plate Compactor	1200	0.1		41.1	8	480	44
	pump	2	72.8	Pump	1200	0.1		39.2	8	480	42
	dozer	2	80.0	Rough Terrain Forklift	1200	0.1		46.4	8	480	49
	scraper	4	88.4	Scraper	1200	0.1		54.9	8	480	61
	backhoe	4	75.8	Tractor	1200	0.1		42.3	8	480	48
								Total for 3 Linear, Drainage, Utilities, & Sub-Grade Phase:			61.9
4 Linear, Paving	Paving - Asphalt (Paver + C	2	81.8	Paver	1200	0.1		48.3	8	480	51
	Paving - Asphalt (Paver + N	2	82.8	Paving Equipment	1200	0.1		49.3	8	480	52
	Compactor (Roller)	6	75.4	Roller	1200	0.1		41.9	8	480	50
	backhoe	4	75.8	Tractor	1200	0.1		42.3	8	480	48
								Total for 4 Linear, Paving Phase:			56.7
5 Demolition	concrete saw	1	85.4	Concrete Saw	1200	0.1		51.9	8	480	52
	excavator	3	75.9	Excavator	1200	0.1		42.4	8	480	47
	dozer	2	80.0	Rubber Tired Dozer	1200	0.1		46.4	8	480	49
								Total for 5 Demolition Phase:			51.9
6 Site Preparation	dozer	3	80.0	rubber tired dozer	1200	0.1		46.4	8	480	51
	backhoe	4	75.8	tractor	1200	0.1		42.3	8	480	48
								Total for 6 Site Preparation Phase:			53.8
7 Grading	excavator	2	75.9	Excavator	1200	0.1		42.4	8	480	45
	grader (passby)	1	78.5	Grader	1200	0.1		45.0	8	480	45
	dozer	1	80.0	Rubber Tired Dozers	1200	0.1		46.4	8	480	46
	scraper	2	88.4	Scrapers	1200	0.1		54.9	8	480	58
	backhoe	2	75.8	Tractor	1200	0.1		42.3	8	480	45
								Total for 7 Grading Phase:			56.8
8 Building Construction	crane	1	74.2	Crane	1200	0.1		40.7	8	480	41
	man lift	3	72.1	Forklift	1200	0.1		38.6	8	480	43
	generator	1	67.1	Generator Set	1200	0.1		33.6	8	480	34
	backhoe	3	75.8	Tractor	1200	0.1		42.3	8	480	47
	welding machine	1	71.2	Welders	1200	0.1		37.6	8	480	38
								Total for 8 Building Construction Phase:			48.8
9 Paving	Paving - Asphalt (Paver + C	2	81.8	Pavers	1200	0.1		48.3	8	480	51
	Paving - Asphalt (Paver + N	2	82.8	Paving Equipment	1200	0.1		49.3	8	480	52
	compactor (roller)	2	75.4	Rollers	1200	0.1		41.9	8	480	45
								Total for 9 Paving Phase:			55.3
10 Architectural Coating	compressor	1	65.8	Air Compressor	1200	0.1		32.1	8	480	32
								Total for 10 Architectural Coating Phase:			32.1

To User: bordered cells are inputs, unbordered cells have formulae

0 = temporary barrier (TB) of input height inserted between source and receptor

Analysis Type	Nearest
Source to barrier distance	5
Receiver to barrier distance	70
Receiver height	5

noise level limit for construction phase at residential land use, per County guidance = 65

allowable hours over which Leq is to be averaged = 8

Construction Activity	Equipment	Total Equipment Qty	Reference Level @ 50 ft. from FHWA RCNM 2 Table	Client Equipment Description, Data Source and/or Notes	Source to NSR Distance (ft.)	*Temporary Barrier Insertion Loss (dB)*	*Additional Noise Reduction*	Distance-Adjusted Leq	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 8-hour Leq
Water Supply Pipeline Installation	Dump Truck (Passby)	1	73.1	Dump Truck & Paving Machine	75	0.1		68.7	8	480	69
	backhoe	1	75.8	Tractor	75	0.1		71.2	8	480	71
									Total for Water Supply Pipeline Installation Phase		73.1

To User: bordered cells are inputs, unbordered cells have formulae

8.5 = temporary barrier (TB) of input height inserted between source and receptor

Analysis Type	Nearest		
Source to barrier distance	5	noise level limit for construction phase at residential land use, per County guidance =	85
Receiver to barrier distance	70	allowable hours over which Leq is to be averaged =	8
Receiver height	5		

Construction Activity	Equipment	Total Equipment Qty	Reference Level @ 50 ft, from FHWA RCNM 2 Table	Client Equipment Description, Data Source and/or Notes	Source to NSR Distance (ft.)	Temporary Barrier Insertion Loss (dB)	Additional Noise Reduction	Distance-Adjusted Leq	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 8-hour Leq	Source Elevation (ft)	Receiver Elevation (ft)	Barrier Height (ft)	Source to Barr. ("A") Horiz. (ft)	Barr. to Rcvr. ("B") Horiz. (ft)	Source to Rcvr. ("C") Horiz. (ft)	"A" (ft)	"B" (ft)	"C" (ft)	Path Length Diff. "P" (ft)	Aber (dB)	Half (with barrier)	Half (mod barrier)	G (with barrier)	G (without barrier)	B.bar (dB)
Water Supply Pipeline Installation	Dump Truck (Peak)	1	73.1	Dump Truck & Paving Machine	75	8.3		62.5	8	480	62	5.1	5	8.5	5	70	75	5.2	70.0	75.0	0.21	6.5	11.8	5.1	0.5	0.7	6.3
	backhoe	1	75.9	Tractor	75	8.3		62.4	8	480	62	4.5	5	4.5	5	70	75	5.4	70.0	75.0	0.40	9.1	11.3	4.9	0.5	0.7	8.9
											65.4																

Total for Water Supply Pipeline Phase

To User: bordered cells are inputs, unbordered cells have formulae

0 = temporary barrier (TB) of input height inserted between source and receptor

Analysis Type	Nearest
Source to barrier distance	5
Receiver to barrier distance	125
Receiver height	5

noise level limit for construction phase at residential land use, per County guidance = 65

allowable hours over which Leq is to be averaged = 8

Construction Activity	Equipment	Total Equipment Qty	Reference Level @ 50 ft. from FHWA RCNM 2 Table	Client Equipment Description, Data Source and/or Notes	Source to NSR Distance (ft.)	*Temporary Barrier Insertion Loss (dB)*	*Additional Noise Reduction*	Distance-Adjusted Leq	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 8-hour Leq
Water Supply Pipeline Installation	Dump Truck (Passby)	1	73.1	Dump Truck & Paving Machine	125	0.1		62.2	8	480	62
	backhoe	1	75.8	Tractor	125	0.1		64.8	8	480	65
								Total for Water Supply Pipeline Installation Phase			66.7

To User: bordered cells are inputs, unbordered cells have formulae

0 = temporary barrier (TB) of input height inserted between source and receptor

Analysis Type	Nearest		
Source to barrier distance	5	noise level limit for construction phase at residential land use, per County guidance =	65
Receiver to barrier distance	125	allowable hours over which Leq is to be averaged =	8
Receiver height	5		

Construction Activity	Equipment	Total Equipment Qty	Reference Level @ 50 ft. from FHWA RCNM 2 Table	Client Equipment Description, Data Source and/or Notes	Source to NSR Distance (ft.)	*Temporary Barrier Insertion Loss (dB)*	*Additional Noise Reduction*	Distance-Adjusted Leq	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 8-hour Leq
Water Supply Pipeline Installation	Dump Truck (Passby)	0	73.1	Dump Truck & Paving Machine	125	0.1		62.2	8	480	0
	backhoe	1	75.8	Tractor	125	0.1		64.8	8	480	65
								Total for Water Supply Pipeline Installation Phase			64.8

To User: bordered cells are inputs, unbordered cells have formulae

0 = temporary barrier (TB) of input height inserted between source and receptor

Analysis Type	Nearest		
Source to barrier distance	5	noise level limit for construction phase at residential land use, per County guidance =	65
Receiver to barrier distance	150	allowable hours over which Leq is to be averaged =	8
Receiver height	5		

Construction Activity	Equipment	Total Equipment Qty	Reference Level @ 50 ft. from FHWA RCNM 2 Table	Client Equipment Description, Data Source and/or Notes	Source to NSR Distance (ft.)	*Temporary Barrier Insertion Loss (dB)*	*Additional Noise Reduction*	Distance-Adjusted Leq	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 8-hour Leq
Water Supply Pipeline Installation	Dump Truck (Passby)	1	73.1	Dump Truck & Paving Machine	150	0.1		60.1	8	480	60
	backhoe	1	75.8	Tractor	150	0.1		62.7	8	480	63
									Total for Water Supply Pipeline Installation Phase:		**64.6**

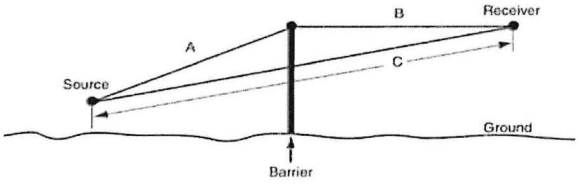
$Source_{elev}$	3.0	A_{horiz}	30.0	A	33.8
$Receiver_{elev}$	15.0	B_{horiz}	5.0	B	6.1
C	37.0	C_{horiz}	35.0		
P	2.87				
$Barrier_{elev}$	18.5				
Abarr	15.0				

The above calculations, refering to inputs from the figure at right, helps a user estimate what barrier attenuation (Abarr) to expect (i.e., up to 15 per formula to right) based upon source height (above grade), barrier height, and receiver height, and the horizontal distances between the source and receiver to the barrier. The FTA-based formula in the worksheets use these path length (P) and Abarr values to determine the barrier's insertion loss.

The calculations herein assume the "In General" calculation of Heff per Figure 6-5, which then allows a calculation of "G" with and without barrier.

Barrier Parameter P

P= A+B-C



For all other barriers, and for protrusion of terrain above the line of sight:	$A_{barrier} = \min\left\{15 or\left[20\times\log\left(\frac{2.51\sqrt{P}}{\tanh\left[4.46\sqrt{P}\right]}\right)+5\right]\right\}$
Barrier Insertion Loss	$IL_{barrier} = \max\left\{0 or\left[A_{barrier} - 10(G_{XB} - G_S)\log\left(\frac{D}{50}\right)\right]\right\}$

D = closest distance between the receiver and the source, in feet
P = path length difference, in feet (see figure below)
G_{XB} = Ground factor G computed *without barrier* (see Figure 6-5)
G_S = Ground factor G computed *with barrier* (see Figure 6-5)

† The term "tanh(variable)" stands for hyperbolic tangent, available on many scientific calculators. If "tanh" is not available, then compute E = exp(variable), and set tanh(variable) = (E - 1/E) / (E + 1/E), where exp(variable) is the "exponential" function, also written as e^x on calculator keypads.

Sources: Transit Noise & Vibration Impact Assessment (FTA 2006)