COUNTY OF VENTURA

CONSTRUCTION NOISE THRESHOLD CRITERIA AND CONTROL PLAN

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County of Ventura
Initial Study
PL15-0106
Attachment 30 - County of Ventura Construction Noise Threshold Criteria and Control Plan

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Construction and Noise

A distinct difference between the construction industry and other industries is that construction is, in the vast majority of cases, a temporary activity. There are very few construction projects that last several years. Even very large buildings and roads are under construction in a particular area for only a reasonably short time period, seldom more than two years. As the construction project progresses, the noise from such a project changes as the different phases of the construction are undertaken. Noise mitigation programs that take a long time to implement or officials that are very slow to act usually find that the problem is gone by the time the remedies are in place. Often a construction contractor can avoid most community complaints simply by notifying the potentially affected residents and other sensitive receptors regarding the purpose of the project and the expected completion schedule. People want to know how soon the construction will be finished and what are the project benefits to the neighborhood.

Thus, rather than being a continuous problem, construction noise is always a temporary site-specific problem. As such, there are many factors that contribute to the potential impacts due to construction noise, including the location of sensitive receptors, the type or phase of construction, the combination of equipment used, the site layout, and the construction methods employed. The noise created by construction equipment will vary greatly during a project, depending on such factors as the type of equipment, the specific equipment models, the operation being performed, the care employed by equipment operators and the condition of the equipment being used.

Fundamentals of Sound

A brief introduction to the fundamentals of sound may be useful. Physically, sound magnitude is measured and quantified in terms of the decibel (dB), which is a unit on a logarithmic scale based on the ratio of the measured sound pressure to the reference sound pressure of 20 micropascal (20 μPa = 20 x 10^{-6} N/m^2). The decibel system can be very confusing to people since it is logarithmic and not arithmetic. For example, doubling or halving the number of sources of equal sound (a 2-fold change in acoustic *energy*) changes the receptor sound by only 3 dB, which is a barely perceptible sound loudness change for humans. On the other hand, a doubling or halving the sound *loudness* at the receiver results from a 10 dB change, which also represents a 10-fold change in the acoustic *energy*.

In addition, the human hearing system exhibits a slow time response and also is not equally sensitive to the same sound pressure level at low, middle and high acoustic frequencies. Because of this variability, a frequency-dependent, adjustment called "A-weighting" has been devised so that sound may be measured in a manner similar to the way the human hearing system responds. The A-weighted sound level is abbreviated "dBA". Figure 1 gives typical A-weighted sound levels for various noise sources and the typical reactions to these levels. All sound levels referred to in this document are A-weighted, slow response, sound pressure levels.

The two acoustical metrics most frequently used to provide a single number sound level for time-varying sounds over a given time period are the energy equivalent or energy average sound level (L_{eq}) and the "slow response" maximum sound level (L_{max}). The long-term A-weighted energy average sound level, called the 24-hour equivalent sound level, $L_{eq}(24h)$, is the logarithmic average of the individual 24 hourly equivalent sound levels, $L_{eq}(h_i)$. Since it has been found that noise is more disturbing in the evening and nighttime when the ambient noise is

generally quieter, modifications to the 24-hour L_{eq} have been adopted. The Day-Night sound level (DNL or L_{dn}) is a 24-hour energy average noise level based on the daytime and nighttime hourly average $L_{eq}(h)$ noise levels, with a 10 dB penalty added to each hourly nighttime average

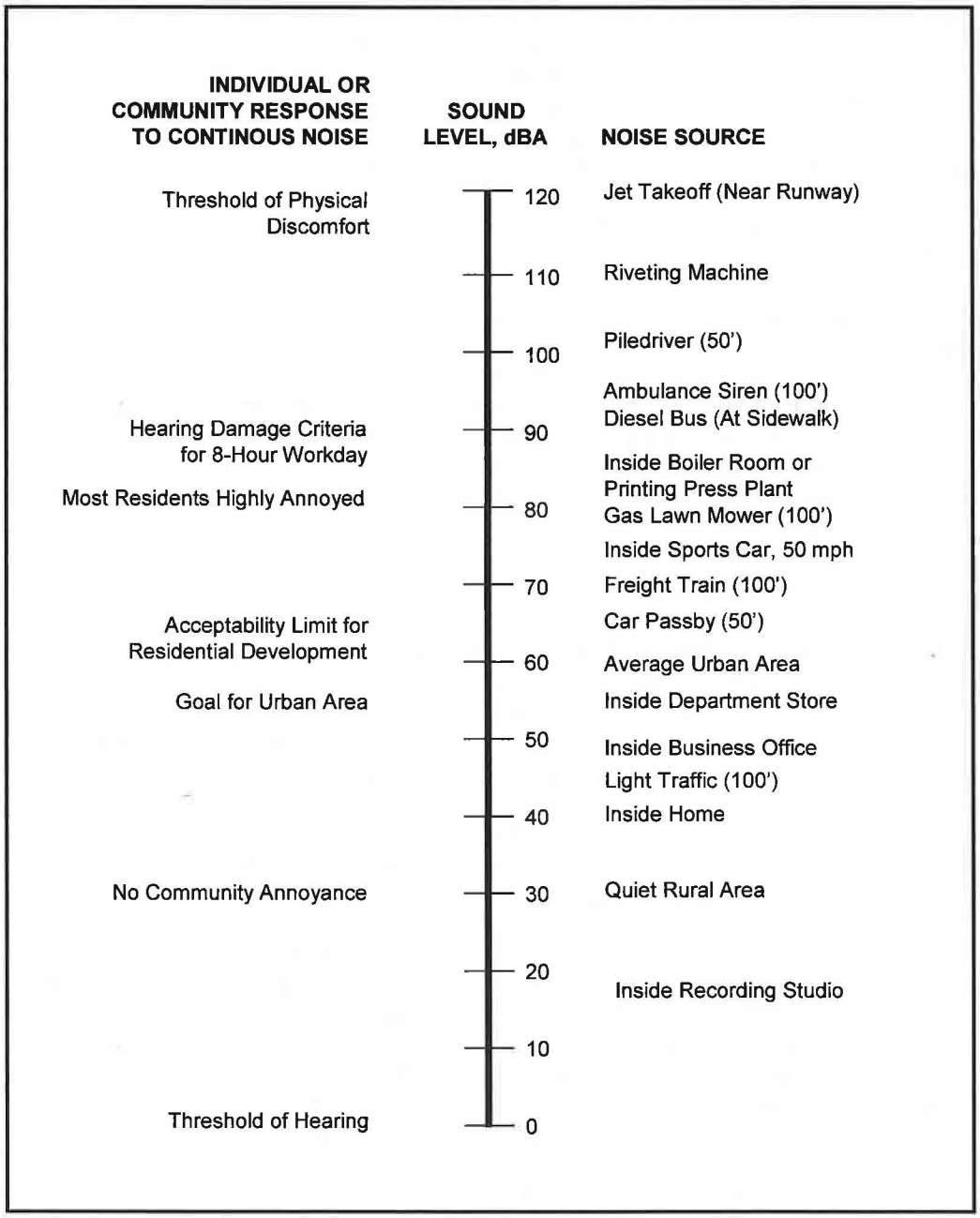

Figure 1. Typical Sound Levels of Noise Sources and Expected Reactions

noise level. Another long-term noise descriptor is the Community Noise Equivalent Level (CNEL or L_{den}). The CNEL is a 24-hour average noise level based on the daytime, evening and nighttime hourly average noise levels, with a 5 dB penalty added to each of the three evening hourly average noise levels and a 10 dB penalty added to each of the nine hourly nighttime average noise levels. The CNEL is used primarily in the State of California.

Noise from Typical Construction Equipment and Operations

The equivalent sound level (L_{eq}) as it relates to construction activity depends on several factors including machine power, the manner of operation and the amount of time the equipment is operated over a given time period. The following provides information on typical levels generated by various construction equipment and provides guidance on determining the noise from construction activities.

The most dominant source of noise for the majority of construction equipment is the engine exhaust, which is usually a diesel engine. However, for some construction work, such as impact pile driving or pavement breaking, the noise produced by the work process is the dominant source. Similar construction activities can create different noise impacts, depending on the location of the construction site, the terrain and other intervening features and the type of receptor populations in the vicinity of the construction site.

For most construction activities, different construction equipment operate in one of two modes, *stationary* and *mobile*. *Stationary* equipment are those that operate in one small area for one or more days at a time, with either a steady power cycle operation (e.g., pumps, generators, compressors, etc.) or a periodic impulsive operation (e.g., pile drivers, pavement breakers, etc.). *Mobile* equipment are those that frequently move around a much larger area of the construction site with power applied in a rapidly changing, non-steady fashion (e.g., bulldozers, loaders, etc.), or move to and from the construction site (e.g., haul trucks, material trucks, etc.). These variations in operating power and location add a great deal of complexity in characterizing the source noise level of a given piece of construction equipment. This complexity can be simplified by determining the equipment noise level at a 50-foot reference distance from the equipment operating at full power and adjusting its full power noise level according to the duty cycle or "usage factor" of the particular construction activity and project phase to determine the characteristic noise level of the operation during each phase.

The Society of Automotive Engineers has developed standardized procedures for measuring reference noise levels for the certification of mobile and stationary construction equipment. For informational purposes, typical 50-foot reference noise levels from representative pieces of construction equipment are listed in Figure 2. The major noise producing construction activities within the County would likely be pile driving, pavement breaking, demolition, excavation, earth moving, and haul trucking.

Noise-sensitive receptors that would be affected by such construction activities within the County are listed in Figure 3, along with their periods of greatest sensitivity to construction noise.

Construction activity noise is characterized by the combined duty cycle and resulting noise emission of each piece of equipment. The duty cycle is expressed in terms of the "usage factor" of the equipment, which is the percentage of time during the work period that the equipment is

operating under load or at near full power. In addition to the minute-by-minute variations in noise producing activities, construction projects are carried out in several different phases.

Figure 2. Typical Construction Equipment Noise

Equipment Type Noise Source	Dominant Noise Components[1]	50-Foot Noise Level (L_{eq}) dBA[2,3]	Noise Level Range (L_p) dBA[2,3]	50-Foot Maximum Noise Level (L_{max}) dBA[2,3]
Air Compressor (portable)[4]	E, C, H, I	81	76-89	89
Air Compressor (stationary)	E, C, H, I	82	76-89	89
Auger, Drilled Shaft Rig	E, C, F, I, W	82	76-89	89
Backhoe	E, C, F, I, H, W	85	81-90	90
Bar Bender	E, P, W	82	78-88	85
Chain Saw	E, W, C	85	72-88	88
Compactor	E, C, F, I, W	82	81-85	85
Concrete Batch Plant	W, E, C	92	80-96	96
Concrete Mixer (small trailer)	W, E, C	67	65-68	68
Concrete Mixer Truck	E, C, F, W, T	85	69-89	89
Concrete Pump Trailer	E, C, H	82	74-84	84
Concrete Vibrator	W, E, C	76	68-81	81
Crane, Derrick	E, C, F, I, T	88	79-90	90
Crane, Mobile	E, C, F, I, T	83	80-85	85
Dozer (Bulldozer)	E, C, F, I, H	80	77-90	90
Excavator	E, C, F, I, H, W	87	83-92	92
Forklift	E, C, I, W	84	81-86	86
Front End Loader	E, C, F, I, H	79	77-90	90
Generator	E, C	78	71-87	87
Gradall	E, C, F, I, W	82	78-85	85
Grader	E, C, F, I, W	85	79-89	89
Grinder	W	80	75-82	82
Hydraulic Hammer	W, E, C, H	102	99-105	105
Impact Wrench	W, P	85	75-85	85
Jack Hammer	P, W, E, C	82	75-88	88
Paver	E, D, F, I	89	82-92	92
Pile Driver (Impact/ Sonic/ Hydraulic)	W, P, E	101 / 96 / 65	94-107 / 90-99 / 65	107 / 99 / 65
Pavement Breaker	W, E, P	82	75-85	85
Pneumatic Tool	P, W, E, C	85	78-88	88
Pump	E, C	76	68-80	80
Rock Drill	W, E, P	98	83-99	99
Roller	E, C, F, I, W	74	70-83	83
Sand Blaster	W, E, C, H, I	85	80-87	87
Saw, Electric	W	78	59-80	80
Scraper	E, C, F, I, W	88	82-91	91
Shovel	E, C, F, I, W	82	77-90	90
Tamper	W, E, C	86	85-88	88
Tractor	E, C, F, I, W	82	77-90	90
Trencher		83	81-85	85
Trucks (Under Load)	E, C, F, I, T	88	81-95	95
Water Truck	W, E, C, F, I, T	90	89-94	94
Other Equipment with Diesel	E, C, F, I	82	75-88	88

Note 1. Ranked noisy components. C=Casing, E=Exhaust, F=Fan, H=Hydraulics, I=Intake air, P=Pneumatic exhaust, T=Transmission, W=Work tool.

Note 2. Table based on EPA studies and measured data from various construction equipment and manufacturer's data.

Note 3. Equipment noise levels are at 50 feet from individual construction equipment and with no other noise contributors.

Note 4. Portable air compressor rated at 75 cfm or greater and operating at greater than 50 psi.

Each phase has a different equipment mix depending on the work to be accomplished. Some have more continuous noise, while others may have more impact type noise. Typical construction phases and equipment usage factors are given in Appendix A. Construction phase equipment usage factors, combined with receptor distances and equipment noise emissions, can be used in estimating future project noise. Such methods are discussed in Appendix B.

Figure 3. Noise-Sensitive Receptors

Receptor Description	Typical Sensitive Time Period
Hospitals, Nursing Homes (quasi-residential)	24 hours
Single-Family and Multi-Family Dwellings (residential)	Evening/Night
Hotels/Motels (quasi-residential)	Evening/Night
Schools, Churches, Libraries (when in use)	Daytime/Evening

Construction Noise Threshold Criteria

Standardized federal or state criteria have not been adopted for assessing construction noise impacts. Therefore, municipal planning criteria are generally developed and applied on a project-specific basis. Construction project noise criteria take into account the existing noise environment, the time-varying noise during the various phases of construction activities, the duration of the construction, and the adjacent land use.

Specific construction noise limits for noise-sensitive locations are not currently specified in the General Plan or administrative code of the County of Ventura. This document, therefore, is intended to establish construction noise thresholds and standard noise monitoring and control measures. These threshold criteria, monitoring and control measures shall be applied to all discretionary development projects (public projects, PD Permits, Conditional Use Permits) and should be applied to ministerial development permits by amending the county building code (including excavation and grading). Construction noise monitoring methods are discussed in Appendix C. Construction projects that exceed the noise threshold criteria at sensitive receptor sites, shall implement effective noise mitigation measures recommended by the manufacturers, considering the guidelines of Appendix D. The permitting agency/department shall review the construction noise mitigation measures and confirm compliance with the noise threshold criteria.

During daytime hours, construction work should comply with the County of Ventura construction noise threshold criteria (NTC), defined hereafter. Normally, no evening or nighttime construction activity is permitted in areas having noise-sensitive receptors. However, in the event such activity is deemed necessary and is permitted, reduced noise threshold criteria are provided for construction that must occur during evening and/or nighttime hours. Emergency construction work is exempt from these construction noise thresholds.

Daytime Construction[1] - Daytime (7:00 a.m. to 7:00 p.m. Monday through Friday, and from 9:00 a.m. to 7:00 p.m. Saturday, Sunday and local holidays) generally means any time period not

[1] These criteria only apply to the noise-sensitive receptors that are sensitive to noise impacts during the daytime. See Figure 3 (above).

specifically defined as a more noise-sensitive time period. The daytime construction noise threshold criteria are given in Figure 4. Depending on project duration, the daytime noise threshold criteria shall be the greater of the fixed $L_{eq}(h)$ limit (which includes non-construction evening and nighttime noise) or the measured ambient $L_{eq}(h)$ plus 3 dB.

Evening Construction[2] - Evening hours (7:00 p.m. to 10:00 p.m.) are more noise-sensitive time periods. Therefore, evening construction noise threshold criteria differ from the daytime criteria. Overall project construction noise, for the noise-sensitive hours specified, shall not exceed the noise threshold criteria listed in Figure 5, at the nearest noise-sensitive receptor area or 10 feet from the façade of the nearest noise-sensitive building.

Nighttime Construction[3] - Nighttime hours (10:00 p.m. to 7:00 a.m. Monday through Friday, and from 10:00 p.m. to 9:00 a.m. Saturday, Sunday and local holidays) are the most noise-sensitive time periods. Therefore, nighttime and holiday construction noise threshold criteria differ from the daytime and evening criteria. Overall project construction noise, for the noise-sensitive hours specified, shall not exceed the noise threshold criteria listed in Figure 6, at the nearest noise-sensitive receptor area or 10 feet from the façade of the nearest noise-sensitive building.

Maximum Construction Noise - In addition, the construction-related, slow response, instantaneous maximum noise (L_{max}) shall not exceed the noise threshold criteria by 20 dBA more than eight times per daytime hour, more than six times per evening hour and more than four times per nighttime hour.

Determination of Compliance - The construction noise at sensitive receptor locations for each construction phase is due to the contributions of each piece of noise producing equipment used in each construction phase. The resulting construction phase noise must be compared to the construction noise threshold criteria to determine whether noise mitigation measures are required. The construction noise monitoring methods are discussed in Appendix C and typical noise mitigation measures are given in Appendix D. During periods of greater construction noise activity, the construction noise shall be monitored by a designated person trained in the use of a sound meter in accordance with the methods of Appendix C. When construction noise fails to comply with the appropriate noise threshold criteria, or falls out of compliance during use, the designated noise monitor shall immediately identify the non-compliant activity or equipment. Either the non-compliant activity must be stopped and the equipment removed from service or effective remedial action must be taken, similar to the noise mitigation measures of Appendix D, to restore compliance with the respective noise threshold criteria.

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[2] These criteria apply to all noise-sensitive receptors. See Figure 3 (above).

[3] These criteria only apply to the noise-sensitive receptors that are sensitive to noise impacts during the nighttime. See Figure 3 (above).

Figure 4. Daytime Construction Activity Noise Threshold Criteria

Construction Duration Affecting Noise-sensitive Receptors	Noise Threshold Criteria shall be the greater of these noise levels at the nearest receptor area or 10 feet from the nearest noise-sensitive building	
	Fixed Leq(h), dBA	Hourly Equivalent Noise Level (L_{eq}), dBA[1, 2]
0 to 3 days	75	Ambient L_{eq}(h) + 3 dB
4 to 7 days	70	Ambient L_{eq}(h) + 3 dB
1 to 2 weeks	65	Ambient L_{eq}(h) + 3 dB
2 to 8 weeks	60	Ambient L_{eq}(h) + 3 dB
Longer than 8 weeks	55	Ambient L_{eq}(h) + 3 dB

Note 1. The instantaneous L_{max} shall not exceed the NTC by 20 dBA more than 8 times per daytime hour.
Note 2. Local ambient Leq measurements shall be made on any mid-week day prior to project work.

Figure 5. Evening Construction Activity Noise Threshold Criteria

Receptor Location	Evening Noise Threshold Criteria shall be the greater of these noise levels at the nearest receptor area or 10 feet from the nearest noise-sensitive building	
	Fixed Leq(h), dBA	Hourly Equivalent Noise Level (L_{eq}), dBA[1, 2]
Residential	50	Ambient L_{eq}(h) + 3 dB

Note 1. The instantaneous L_{max} shall not exceed the NTC by 20 dBA more than 6 times per evening hour.
Note 2. Hourly evening local ambient noise measurements shall be made on a typical mid-week evening prior to project work.

Figure 6. Nighttime Construction Activity Noise Threshold Criteria

Receptor Location	Nighttime Threshold Criteria shall be the greater of these noise levels at the nearest receptor area or 10 feet from the nearest noise-sensitive building	
	Fixed Leq(h), dBA	Hourly Equivalent Noise Level (L_{eq}), dBA[1, 2]
Resident, Live-in Institutional	45	Ambient L_{eq}(h) + 3 dB

Note 1. The instantaneous L_{max} shall not exceed the NTC by 20 dBA more than 4 times per nighttime hour.
Note 2. Hourly nighttime local ambient noise measurements shall be made on a typical mid-week night prior to project work.

Construction Noise Complaints

The daytime noise threshold criteria for construction activity are provided in Figure 4. When evening and nighttime construction is necessary, evening and nighttime construction operations (except for emergency construction) must comply with the evening and nighttime noise threshold criteria listed in Figures 5 and 6, respectively. If these respective construction noise threshold criteria are exceeded, there would likely be strong adverse community reaction. However, noise complaints are possible, even when construction work complies with the criteria.

The project, therefore, must be prepared to appropriately respond to complaints and keep a "Complaint Log," noting date, time, complainant's name, nature of the complaint, and any corrective action taken. The project manager shall publish and distribute to the potentially affected community, a "Hot Line" telephone or pager number, that is attended during active construction working hours, for use by the disturbed public to register complaints.

Since noise complaints are still possible, even when construction work complies with the noise threshold criteria. Noise characteristics other than loudness (e.g., squeals, incessant banging, etc.) can result in complaints. An unusual number of construction noise complaints may require that additional noise mitigation be undertaken. Careful identification of the specific conditions of activity responsible for the noise complaints would be necessary to determine additional appropriate mitigation measures. Appendix D suggests typical measures to be considered for greater mitigation than previously implemented. Proper measures shall be applied before continuing the activity responsible for the unusual number of complaints. For especially difficult cases, the assistance of a qualified construction noise control consultant may be required.

APPENDICES

A. Typical Equipment Noise, Construction Phases and Use Factors

B. Estimating Construction Equipment and Project Noise

C. Construction Noise Monitoring

D. Construction Noise Mitigation Measures

Appendix A

Typical Equipment Noise, Construction Phases and Use Factors

Figure A-1. Typical Construction Equipment Noise

Equipment Type Noise Source	Dominant Noise Components[1]	50-Foot Noise Level (L_{eq}) dBA[2,3]	Noise Level Range (L_p) dBA[2,3]	50-Foot Maximum Noise Level (L_{max}) dBA[2,3]
Air Compressor (portable)[4]	E, C, H, I	81	76-89	89
Air Compressor (stationary)	E, C, H, I	82	76-89	89
Auger, Drilled Shaft Rig	E, C, F, I, W	82	76-89	89
Backhoe	E, C, F, I, H, W	85	81-90	90
Bar Bender	E, P, W	82	78-88	85
Chain Saw	E, W, C	85	72-88	88
Compactor	E, C, F, I, W	82	81-85	85
Concrete Batch Plant	W, E, C	92	80-96	96
Concrete Mixer (small trailer)	W, E, C	67	65-68	68
Concrete Mixer Truck	E, C, F, W, T	85	69-89	89
Concrete Pump Trailer	E, C, H	82	74-84	84
Concrete Vibrator	W, E, C	76	68-81	81
Crane, Derrick	E, C, F, I, T	88	79-90	90
Crane, Mobile	E, C, F, I, T	83	80-85	85
Dozer (Bulldozer)	E, C, F, I, H	80	77-90	90
Excavator	E, C, F, I, H, W	87	83-92	92
Forklift	E, C, I, W	84	81-86	86
Front End Loader	E, C, F, I, H	79	77-90	90
Generator	E, C	78	71-87	87
Gradall	E, C, F, I, W	82	78-85	85
Grader	E, C, F, I, W	85	79-89	89
Grinder	W	80	75-82	82
Hydraulic Hammer	W, E, C, H	102	99-105	105
Impact Wrench	W, P	85	75-85	85
Jack Hammer	P, W, E, C	82	75-88	88
Paver	E, D, F, I	89	82-92	92
Pile Driver (Impact/ Sonic/ Hydraulic)	W, P, E	101 / 96 / 65	94-107 / 90-99 / 65	107 / 99 / 65
Pavement Breaker	W, E, P	82	75-85	85
Pneumatic Tool	P, W, E, C	85	78-88	88
Pump	E, C	76	68-80	80
Rock Drill	W, E, P	98	83-99	99
Roller	E, C, F, I, W	74	70-83	83
Sand Blaster	W, E, C, H, I	85	80-87	87
Saw, Electric	W	78	59-80	80
Scraper	E, C, F, I, W	88	82-91	91
Shovel	E, C, F, I, W	82	77-90	90
Tamper	W, E, C	86	85-88	88
Tractor	E, C, F, I, W	82	77-90	90
Trencher		83	81-85	85
Trucks (Under Load)	E, C, F, I, T	88	81-95	95
Water Truck	W, E, C, F, I, T	90	89-94	94
Other Equipment with Diesel	E, C, F, I	82	75-88	88

Note 1. Ranked noisy components. C=Casing, E=Exhaust, F=Fan, H=Hydraulics, I=Intake air, P=Pneumatic exhaust, T=Transmission, W=Work tool.
Note 2. Table based on EPA studies and measured data from various construction equipment and manufacturer's data.
Note 3. Equipment noise levels are at 50 feet from individual construction equipment and with no other noise contributors.
Note 4. Portable air compressor rated at 75 cfm or greater and operating at greater than 50 psi.

Figure A-2
Typical Domestic Housing Construction Equipment and Use Factors

Equipment Item	50-Foot Leq, dBA	Mitigated1 Leq, dBA	Highest Hourly Use Percentage per Construction Phase				
			Clear	Excavate	Base	Build	Finish
Air Compressor	81	75	--2	10	--	--	25
Backhoe	85	75	2	4	--	--	2
Concrete Mixer	85	75	--	--	4	8	16
Concrete Pump	82	75	--	--	--	--	--
Concrete Vibrator	76	75	--	--	--	--	--
Crane, Derrick	88	75	--	--	--	--	--
Crane, Mobile	83	75	--	--	--	10	4
Dozer	80	75	4	8	--	--	4
Generator	78	75	4	--	--	--	--
Grader	85	75	5	--	--	--	2
Jack Hammer	82	75	--	--	--	--	3
Loader	79	75	4	8	--	--	4
Paver	89	80	--	--	--	--	3
Pile Driver	101	95	--	--	--	--	--
Pneumatic Tool	85	80	--	--	4	10	4
Pump	76	75	--	4	7	--	--
Rock Drill	98	80	--	1	--	--	0.5
Roller	74	74	--	--	--	--	4
Saw, Electric	78	75	--	--	4 (2) 3	10 (2)	4 (2)
Scraper	88	80	5	--	--	--	1
Shovel	82	75	--	2	--	--	--
Truck	88	75	16	40	--	--	16

Note 1. Estimated level obtainable by quieter methods or equipment and implementing feasible noise controls.
Note 2. "--" indicates typically zero or very little use during construction phase.
Note 3: Numbers in parentheses are greatest multiple number of same items in use.

Figure A-3
Typical Large Building and Institutional Construction Equipment and Use Factors

Construction Equipment	50-Foot Leq, dBA	Mitigated1 Leq, dBA	Highest Hourly Use Percentage per Construction Phase				
			Clear	Excavate	Base	Build	Finish
Air Compressor	81	75	--2	100 (2) 3	100 (2)	100 (2)	40 (2)
Backhoe	85	75	04	16	--	--	4
Concrete Mixer	85	75	--	--	40	40	16
Concrete Pump	82	75	--	--	40	8	8
Concrete Vibrator	76	75	--	--	40	10	4
Crane, Derrick	88	75	--	--	--	16	4
Crane, Mobile	83	75	--	--	--	16 (2)	4 (2)
Dozer	80	75	16	40	--	--	16
Generator	78	75	40 (2)	100 (2)	--	--	--
Grader	85	75	8	--	--	--	2
Jack Hammer	82	75	--	10	4	4	4
Loader	79	75	16	40	--	--	16
Paver	89	80	--	--	--	--	10
Pile Driver	101	95	--	--	4	--	--
Pneumatic Tool	85	80	--	--	4	16 (2)	4 (2)
Pump	76	75	--	100 (2)	100 (2)	40	--
Rock Drill	98	80	--	4	--	--	0.5
Roller	74	74	--	--	--	--	--
Saw, Electric	78	75	--	--	4 (3)	100 (3)	--
Scraper	88	80	55	--	--	--	--
Shovel	82	75	--	40	--	--	--
Truck	88	75	16 (2)	40	--	--	16

Note 1. Estimated level obtainable by quieter methods or equipment and implementing feasible noise controls.
Note 2. "--" indicates typically zero or very little use during construction phase.
Note 3: Numbers in parentheses are greatest number of same items in use during any hour.

Figure A-4
Typical Commercial and Industrial Construction Equipment and Use Factors

Construction Equipment	50-Foot Leq, dBA	Mitigated1 Leq, dBA	Highest Hourly Use Percentage per Construction Phase				
			Clear	Excavate	Base	Build	Finish
Air Compressor	81	75	--2	100	40	40	40
Backhoe	85	75	4	16	--	--	4
Concrete Mixer	85	75	--	--	40	16	16
Concrete Pump	82	75	--	--	40	--	8
Concrete Vibrator	76	75	--	--	--	--	--
Crane, Derrick	88	75	--	--	--	4	2
Crane, Mobile	83	75	--	--	--	8	4
Dozer	80	75	4	16	--	--	4
Generator	78	75	40	40	--	--	--
Grader	85	75	5	--	--	--	2
Jack Hammer	82	75	--	10	4	4	4
Loader	79	75	16	16	--	--	4
Paver	89	80	--	--	--	--	12
Pile Driver	101	95	--	--	4	--	--
Pneumatic Tool	85	80	--	--	4	10 (3) 3	4 (3)
Pump	76	75	--	40	100 (2)	40	--
Rock Drill	98	80	--	4	--	--	5
Roller	74	74	--	--	--	--	10
Saw, Electric	78	75	--	--	4 (2)	10 (2)	--
Scraper	88	80	14	--	--	--	8
Shovel	82	75	--	20	--	--	6
Truck	88	75	16 (2)	16 (2)	--	--	16

Note 1. Estimated level obtainable by quieter methods or equipment and implementing feasible noise controls.
Note 2. "--" indicates typically zero or very little use during construction phase.
Note 3: Numbers in parentheses are greatest number of same items in use during any hour.

Figure A-5
Typical Public Works and Roadway Construction Equipment and Use Factors

Construction Equipment	50-Foot Leq, dBA	Mitigated1 Leq, dBA	Highest Hourly Use Percentage per Construction Phase				
			Clear	Excavate	Base	Build	Finish
Air Compressor	81	75	--2	100 (2)3	40	40	40 (2)
Backhoe	85	75	4	40	--	--	16
Concrete Mixer	85	75	--	--	16 (2)	40 (2)	16 (2)
Concrete Pump	82	75	--	--	--	--	--
Concrete Vibrator	76	75	--	--	--	--	--
Crane, Derrick	88	75	--	10	4	4	--
Crane, Mobile	83	75	--	--	--	16	--
Dozer	80	75	4	40	--	--	16
Generator	78	75	100 (2)	40 (2)	40 (2)	40	40 (2)
Grader	85	75	8	--	--	20	8
Jack Hammer	82	75	--	--	--	4	10 (2)
Loader	79	75	4	40	--	--	16
Paver	89	80	--	--	--	--	--
Pile Driver	101	95	--	--	--	--	--
Pneumatic Tool	85	80	--	--	4 (2)	10	4
Pump	76	75	--	40 (2)	100 (2)	40 (2)	--
Rock Drill	98	80	--	4	--	--	--
Roller	74	74	--	--	100	--	--
Saw, Electric	78	75	--	--	4 (2)	--	--
Scraper	88	80	8		20	8	8
Shovel	82	75	4	40	4	--	4
Truck	88	75	16 (2)	16	40 (2)	--	16 (2)

Note 1. Estimated level obtainable by quieter methods or equipment and implementing feasible noise controls.
Note 2. "--" indicates typically zero or very little use during construction phase.
Note 3: Numbers in parentheses are greatest number of same items in use during any hour.

Appendix B
Estimating Construction Project Noise

For project planning purposes, where the potential for noise impacts exist, it is possible to estimate the potential construction noise impacts in advance by developing an inventory of noisy construction equipment and processes for the various stages and phases of the project. Such screening methods assist construction project managers and estimators in planning for the potential need for noise mitigation.

Construction Equipment Inventory

An inventory of the number and type of noisy construction equipment to be used during planned daytime, evening and nighttime construction activities, their associated noise emissions, and other relevant information can be included on Figure B-2, Construction Phase Receptor Noise Estimation Worksheet. Using this form, construction noise levels for the various phases of construction can be estimated using the phase's equipment inventory, the typical 50-foot equipment noise levels (listed in Figure A-1 of Appendix A) along with typical by-phase construction equipment use factors, provided in Figures A-1 through A-5 of Appendix A.

Construction Noise Estimates

Calculations can be performed to estimate the daytime, evening and nighttime maximum (L_{max}) and one-hour energy average (L_{eq}) noise levels expected at the noise-sensitive location, based on the typical maximum equipment noise levels listed in Figure A-1 in Appendix A. The calculations are to be made for the various activities and locations where project construction noise will result in the greatest noise impact (*noise levels at other sensitive locations can also be calculated, if necessary*). The calculations and results should be entered on a form similar to Figure B-2, the Construction Phase Receptor Noise Estimation Worksheet. The result of a sample construction noise calculation is provided in Figure B-1.

The following calculation procedures may be used to estimate the construction noise by phase.

1. Calculate each phase's L_{max} according to the following method:

   L_{max} [equipment type] = ML – 20 $\log_{10}$ (D/50)

   where:

   ML = Typical single equipment maximum noise level (L_{max}) at 50 feet, in dBA. (*This may be replaced by a measured, under-load, maximum noise level*).

   D = Distance from the equipment to the noise-sensitive location, in feet.

   Repeat the above calculation for each item of potentially noisy equipment. Then, select the noisiest individual pieces of equipment that operate in their loudest mode at the very same time and combine them logarithmically to estimate the overall maximum construction noise level (L_{max}) at the noise-sensitive location(s) for each project phase, as follows:

   L_{max} [overall project at receptor] = 10 $\log_{10}(\Sigma 10^{(L_{max}\text{ [equipment type]} / 10)})$

2. Calculate each phase's one-hour L_{eq} according to the method recommended by the U.S. Federal Highway Administration ("Highway Construction Noise: Measurement, prediction and mitigation," U.S. Department of Transportation, Federal Highway Administration Special Report, March 1977), as follows:

   First, the construction phase's one-hour L_{eq} is to be calculated at the sensitive receptor location for each item of potentially noisy equipment using the following equation:

   $$L_{eq}(h) \text{ [equipment type]} = ML - 20 \log_{10} (D/50) + 10 \log_{10} (N \times HP/100)$$

   where:

   ML = Typical single equipment maximum noise level (L_{max}) at 50 feet, in dBA. (*This may be replaced by a measured, under-load, maximum noise level*).

   D = Shortest distance (feet) from the equipment type to the nearest noise-sensitive location, or if a more sensitive receptor is further away, to the noise-sensitive receptor with the greatest impact. If the distance is measured in meters, use the ratio D/15 instead of D/50.

   N = Maximum number of the same equipment type operating hourly on the project during the construction phase.

   HP = "Hourly percentage," expressed as the greatest nominal percent of time that the equipment is operated under load at the project site. This factor is based on EPA values or is estimated based on past experience with similar projects. Thus, the effective usage factor is (EUF) = N x HP/100.

   Repeat the above calculations for each item of potentially noisy equipment. Then, the individual contribution of every item of equipment are to be combined logarithmically to obtain the overall construction hourly L_{eq} at the noise-sensitive location(s) for each project phase, as follows:

   $$L_{eq}(h) \text{ [overall project at receptor]} = 10 \log_{10} (\Sigma 10^{(\text{one-hour Leq [equipment type]} / 10)})$$

3. The calculated L_{max} and $L_{eq}(h)$ levels can then be compared with the construction noise threshold criteria. Where it is estimated that the criteria would be exceeded, noise mitigation planning can be undertaken.

Figure B-1.
Example of Construction Phase Receptor Noise Estimation Worksheet

A	B	C	D	E	F	G	H	I	J	K
Construction Phase Equipment Item	# of Items	Item Lmax at 50 feet, dBA	Dist. to Recptr.	Item Usage Percent	Usage Factor	Dist. Adj., dB	Usage Adj., dB	Recptr. Item Lmax, dBA	Recptr. Item Leq, dBA	Log_{10} Sums of Receptor Item L_{eq} Yield the Combined Receptor L_{eq}, dBA
1. DOZER	1	90	100	70	0.70	-6	-1.6	84.0	82.4	82.4
2. GRADER	1	89	200	75	0.75	-12	-1.2	77.0	75.7	83.3
3. SCRAPER	2	91	150	20	0.40	-6	-4.0	81.5	77.5	84.4
4. WATER TRUCK	1	94	50	5	0.05	-6	-13.0	94.0	81.0	86.0
5.										
6.										
							Log Sum	94.7	86.0	

Figure B-2.
Construction Phase Receptor Noise Estimation Worksheet

A	B	C	D	E	F	G	H	I	J	K
Construction Phase Equipment Item	# of Items	Item Lmax at 50 feet, dBA	Dist. to Recptr.	Item Usage Percent	Usage Factor	Dist. Correction dB	Usage Adj. dB	Recptr. Item Lmax, dBA	Recptr. Item Leq, dBA	**Log10 Sums of Receptor Item Leq Yield the Combined Receptor Leq, dBA**
1.										
2.										
3.										
4.										
5.										
6.										
							Log Sum			

Appendix C
Construction Noise Monitoring

This appendix outlines the noise measurement instrumentation and monitoring procedures.

Noise Measurement Instruments

1. Noise measurements shall be performed with an instrument that is in compliance with or exceeds the criteria for a Type 2 (General Purpose) Sound Level Meter, as defined in the most recent revision of ANSI Standard S1.4.2.

2. Sound level meters shall be capable of measuring the slow response L_{max} and one-hour L_{eq} on the A-Weighted scale, as required by the construction noise threshold criteria and construction project noise limits. Where possible, integrating-type instruments may monitor the percentile (L_1, L_{50}, etc.) noise levels, as well, to show construction noise statistics.

3. Sound level meters, microphones, and field calibrators shall be calibrated by a certified laboratory at least once a year. A valid certificate of calibration conformance shall be obtained and be available for each instrument before using sound level meters. Updated certificates shall be maintained following subsequent yearly calibrations and upon the completion of repairs to noise monitoring instruments.

Noise Measurement Procedure

1. The sound level meter shall be calibrated using an acoustic calibrator, according to the manufacturer's specifications, just before each measurement.

2. Except as otherwise indicated, measurements shall be performed using the A-weighting network and the slow response setting of the sound level meter.

3. Impulsive or impact noises shall be measured using the C-weighting network and the fast response setting of the sound level meter.

4. The measurement microphone shall be fitted with an appropriate windscreen and the sound level meter shall be placed at the location of the sensitive receptor with the microphone approximately 5 feet above the ground or floor and at least 10 feet away from any vertical surfaces.

5. Ambient noise measurements shall be taken during periods of the least noise-producing activity in the vicinity of noise sensitive locations that may be impacted by the construction operations. Ambient noise measurements shall be conducted for at least 20 minutes at representative locations for potentially impacted receptors.

6. Construction noise measurements shall be taken during periods of greatest noise-producing activity at noise sensitive locations in the vicinity of the construction site a minimum of once each shift and also after a sustained perceptible change in noise-producing construction activity or location. Noise measurements shall be conducted for at least 20 minutes each monitoring session.

7. Construction noise measurements shall coincide with daytime, evening and nighttime daily time periods of maximum noise-generating construction activity and shall be taken or repeated during the construction phase or activity that has the greatest potential to create annoyance or to exceed applicable noise regulations and restrictions.

8. If, in the estimation of the person performing the measurements, non-project related noise sources contribute significantly to the measured noise level, additional measurements (with the same non-project noise source contributions) shall be repeated when project construction is inactive to determine the non-project ambient background noise level.

9. Noise data shall be logged using the Noise Measurement Report Form and maintained for at least six months following the completion of the construction project. The type of measurement (e.g. baseline ambient, on-going construction, major change, etc.) shall be noted on the form.

10. Monitoring locations shall be clearly identified and sketched on the Noise Measurement Report Form along with the locations of and monitoring site distances to the noise-sensitive receptors.

11. Construction equipment operating during the noise monitoring period and their locations shall be identified and sketched on the Noise Measurement Report Form, along with the locations of and equipment distances to the noise sensitive receptors.

Figure C-1
Noise Measurement Report Form - Part A

Project: _____ Contract No(s): _____

Date: _____ Day of Week: _____ Time: _____

Monitoring Site Number: _____ Monitoring Site Address: _____

Measurement Taken By: _____ of _____

Approximate Wind Speed: _____ mph [km/hr]. Approximate Wind Direction: From the _____

Approximate distance of Sound Level Meter from Receptor Location: _____

Approximate distance of Sound Level Meter from Construction Site: _____

(Leave Blank for Baseline Ambient)

Receptor Land Use (Check One): ☐ Residential / Institutional ☐ Commercial / Recreational

Sound Level Meter: Make and Model: _____ Serial Number _____

Meter Setting: ☐ A-Weighted Sound Level (SLOW) ☐ C-Weighted Sound Level (FAST) for Impacts

Duration of Measurement: _____ (at least 20 Minutes)

Check the measurement purpose:

☐ Baseline condition ☐ Ongoing construction ☐ Major change ☐ Complaint response

Measurement Results:

Measurement Type	Measured Level	Noise Criteria Threshold	Exceedance
CALIBRATION		n/a	n/a
L_{eq}			
L_{max}			
L_1		n/a	n/a
L_8 or L_{10} (circle which)		n/a	n/a
L_{25}		n/a	n/a
L_{50}		n/a	n/a
L_{90}		n/a	n/a

Field Notes:

1. _____

2. _____

3. _____

4. _____

Complete all that apply below:

Active Equipment: _____

(List construction equipment that contribute to measured noise)

Complaint Response: _____

(Describe complaint; include log-in number)

Complaint Mitigation Measure(s): _____

(Describe complaint response mitigation)

Figure C-2
Noise Measurement Report Form - Part B

Project: _____ Contract No(s): _____

Date: _____ Day of Week: _____ Time: _____

Monitoring Site Number: _____ Monitoring Site Address: _____

Site Map

Field Notes:

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

Noise Monitor's Signature: _____ Date: _____

Appendix D
Construction Noise Mitigation Measures

Construction noise is to be monitored at the most affected sensitive receptor location (10 feet from the construction activity side of a noise-sensitive receptor building or at the outdoor living area). Noise measurements are to be conducted using the procedures in this Appendix and the measurement results logged in a format similar to that of the Construction Noise Mitigation Form in this Appendix. Where the construction noise threshold criteria are exceeded, at noise-sensitive locations, noise abatement measures, such as those in this Appendix, are to be implemented and adequate noise reduction achieved to bring the construction activities into compliance with the construction noise threshold criteria.

Construction noise mitigation may be achieved using various combinations of equipment source noise reduction, propagation path noise reduction and sensitive receptor noise reduction.

Construction Equipment Source Noise Reduction Methods

Feasible and reasonable equipment noise mitigation measures may need to be implemented to meet the construction noise threshold criteria. Examples of equipment source noise reduction methods to reduce construction noise impacts at sensitive receptor locations are listed in this section. The implementation of one or more of these measures, along with those of the other sections, may be necessary to achieve compliance with the construction noise threshold criteria.

Equipment Noise Reduction:

1. Minimize the use of impact devices, such as jackhammers, pavement breakers, and hoe rams. Where possible, use concrete crushers or pavement saws rather than hoe rams for tasks such as concrete or asphalt demolition and removal.

2. Pneumatic impact tools and equipment used at the construction site shall have intake and exhaust mufflers recommended by the manufacturers thereof, to meet relevant noise limitations.

3. Provide impact noise producing equipment, i.e. jackhammers and pavement breaker(s), with noise attenuating shields, shrouds or portable barriers or enclosures, to reduce operating noise.

4. Line or cover hoppers, conveyor transfer points, storage bins, and chutes with sound-deadening material (e.g., apply wood or rubber liners to metal bin impact surfaces).

5. Provide upgraded mufflers, acoustical lining or acoustical paneling for other noisy equipment, including internal combustion engines.

6. Avoid blasting and impact-type pile driving.

7. Use alternative procedures of construction and select a combination of techniques that generate the least overall noise and vibration. Such alternative procedures could include the following:

    a. Use electric welders powered by remote generators.

b. Mix concrete at non-sensitive off-site locations, instead of on-site.

c. Erect prefabricated structures instead of constructing buildings on-site.

8. Use construction equipment manufactured or modified to reduce noise and vibration emissions, such as:

   a. Electric instead of diesel-powered equipment.

   b. Hydraulic tools instead of pneumatic tools.

   c. Electric saws instead of air- or gasoline-driven saws.

9. Turn off idling equipment when not in use for periods longer than 30 minutes.

Operations Noise Reduction Methods:

In no case shall the following mitigation measures alter the project's responsibility for compliance with applicable Federal, state, and local safety ordinances and regulations, as well as project-specific construction specifications.

1. Operate equipment so as to minimize banging, clattering, buzzing, and other annoying types of noises, especially near residential and other noise sensitive areas during the evening and nighttime hours.

2. To the extent feasible, configure the construction site in a manner that keeps noisier equipment and activities as far as possible from noise sensitive locations and nearby buildings.

3. All back-up alarms should be disarmed at 8:00 p.m. and not reactivated until 7:00 a.m. on weekdays and 9:00 a.m. on weekends and local holidays. Signal persons and strobe lights must be used during periods when the back-up alarms are disarmed.

4. Maximize physical separation, as far as practicable, between noise generators and noise receptors. Separation includes following measures:

   a. Provide enclosures for stationary items of equipment and noise barriers around particularly noisy areas at the project site.

   b. Locate stationary equipment to minimize noise and vibration impacts on community.

5. Minimize noise-intrusive impacts during most noise sensitive hours.

   a. Plan noisier operations during times of highest ambient noise levels.

   b. Keep noise levels relatively uniform; avoid excessive and impulse noises.

   c. Turn off idling equipment.

   d. Phase in start-up and shut-down of project site equipment.

6. Select truck routes for material delivery and spoils disposal so that noise from heavy-duty trucks will have a minimal impact on noise sensitive receptors. Proposed truck haul routes are to be submitted to the County Transportation Division for approval.

    a. Conduct truck loading, unloading, and hauling operations so noise and vibration are kept to a minimum.

    b. Route construction equipment and vehicles carrying soil, concrete or other materials over streets and routes that will cause the least disturbance to residents in the vicinity of construction sites and haul roads.

    c. Do not operate haul trucks on streets within 250 feet of school buildings during school hours or hospitals and nursing homes at any time, without a variance.

    d. Submit haul routes and staging areas to the County Transportation Division for approval, at least 30 days before the required usage date.

A summary of equipment noise control methods is given in Figure D-1. Incorporating the construction noise mitigation methods and techniques would reduce construction noise and vibration impacts.

Construction Noise Propagation Path Reduction Methods

Feasible and reasonable propagation path mitigation measures may need to be implemented to help meet the construction noise threshold criteria. Examples of propagation path noise reduction methods to reduce construction noise impacts at sensitive receptor locations are listed in this section. The implementation of one or more of these measures, along with those of the other sections, may be necessary to achieve compliance with the construction noise threshold criteria.

Construction Site Noise Barriers

Moveable noise barriers can be positioned and relocated along a construction corridor, while fixed noise barriers can be located at a fixed construction site.

Moveable Construction Noise Blankets

1. For lesser noise reduction, install moveable frame-mounted noise curtains, blankets or enclosures adjacent to or around noisy equipment where required to meet the project noise limits. Noise control shields shall be made of a durable, flexible composite material featuring a noise barrier layer bonded to a weather-protected, sound-absorptive material on the construction-activity side of the noise shield.

2. Provide readily removable and moveable noise shields so that they may be repositioned, as necessary, to provide noise abatement for non-stationary and stationary processes along a construction corridor as the construction process moves.

Figure D-1
Some Construction Equipment Noise Sources and Typical Mitigation Measures

Construction Equipment	Source(s) of noise	Possible mitigation measures (may need to be discussed with equipment manufacturer)		Possible alternative construction methods[1]
Impact Pile Driver	Pneumatic/diesel hammer or steam winch vibrator driver	Enclose hammer head and top of pile in an acoustical screen or acoustical blankets, apply acoustical damping to sheet steel piles to reduce vibration and resonant noise		(1) Use alternative methods of pile driving, e.g. drill and drop, poured in place, hydraulic driver, etc. (2) Alternative methods of soil retention and ground improvement, e.g. retaining walls, ground anchors, shafts formed of pre-cast concrete segments sunk into the ground, etc.
	Impact on pile	Use resilient pad between pile and hammer head.		
	Crane cables, pile guides and attachments	Careful alignment of pile and rig, lubricate screeching cables, guides and pulleys.		
	Power unit	Install more efficient exhaust silencer; apply acoustical damping and protected internal noise absorption layers to vibrating panels and covers. Manufacturer's access panels should be kept closed. Use properly ventilated acoustical enclosures where possible.		
Bulldozer Compactor Crane Dump truck Excavator Grader Loader Scraper Shovel	Engine	Install more efficient exhaust silencer. Apply acoustical damping and protected internal noise absorption layers to vibrating panels and covers. Enclosure panels should be kept closed. Operate without excessive engine revving.		
Compressor Generator	Engine	Install more efficient exhaust silencer.	Locate the compressor or generator within an acoustical enclosure or behind an absorptive, three-sided sound wall.	Use electric motors instead of diesel or gasoline engines to drive compressors. If there is no electrical supply, use a reduced noise compressor or generator. A remote electrical generator can be used to supply power to several pieces of equipment.
	Compressor or generator	Apply acoustical damping and protected noise absorption layers to internal of vibrating panels and covers. Enclosure panels should be kept closed		

Construction Noise Threshold Criteria

Pneumatic concrete breaker and tools	Tool	Install a muffler and acoustic shroud to reduce noise without impairing efficiency	Operate equipment inside a portable acoustical enclosure	Use rotary drill and buster. Use hydraulic and electric equipment. A thermal lance can be used to burn holes in concrete and to cut through large sections of concrete. For breaking large areas of concrete, use equipment which breaks concrete by bending it.
	Bit	Use a damped bit to eliminate "bit ringing." Noise drops as surface is broken through		
	Air line	Stop all air line leaks.		
	Motor	Install muffler to pneumatic saws		
Power saws	Vibration of blade and cut material	Keep saw blades sharp. Use a damped blade. Use blades with random tooth spacing. Tightly clamp material during cutting, if possible		
Rotary drills, diamond drilling and boring	Drive motor and bit	Use equipment inside an acoustical enclosure.		Use thermal lance
Construction Equipment	**Source(s) of noise**	**Possible mitigation measures (may need to be discussed with equipment manufacturer)**		**Possible alternative construction methods[1]**
Riveters	Impact on rivets	Enclose working area with acoustic barriers.		Use high tensile steel bolts instead of rivets
Cartridge gun	Cartridge blast	Use a muffled cartridge gun.		Drilled attachments
Pump	Engine or motor, pulsing, cavitation	Use an acoustical enclosure (allow for engine cooling and exhaust) or use motor suction and girdle mutes.		
Batch plant	Engine	Install more efficient silencer on diesel or gasoline engine. Enclose engine.	Locate batch or mixing plant as far as possible from noise-sensitive receptors.	Use electric motor instead of diesel or gasoline engine
Concrete mixer	Filling	Keep aggregate from falling from an excessive height		
	Cleaning	Do not hammer the drum.		
Hammer	Impact on nail			Use screw attachment
Impact chisel	Impact on stock			Use rotary hand milling machine
Materials handling	Impact of material	Prevent high material drops. Shield drop areas, especially for conveyor systems		Cover surface with resilient material or unload remotely
Steam cleaning	Escaping jet of steam, interaction with surface	Pass escaping steam through silencer or screen the cleaning area and use quieter nozzles.		

Note 1. Care should be taken when selecting a quieter process, so that ancillary equipment noise sources, such as cranes and compressors, are mitigated so they do not become new dominant noise sources.

3. Installation and Maintenance:

    a. Install noise blanket shields with sound-absorptive surfaces facing the noise source.

    b. Maintain the moveable noise shields and repair damage that occurs, including, but not limited to, keeping noise shields clean and free from graffiti, and maintaining structural integrity. Promptly repair or replace gaps, holes, and weaknesses in the noise shields, and openings between, or under the noise shield blankets.

Moveable Construction Noise Barriers

1. For greater noise reduction, install moveable paneled noise shields, barriers or enclosures adjacent to or around noisy equipment where required to meet the project noise limits. Noise control shields shall be made of panels featuring a solid panel with a weather-protected, sound-absorptive material on the construction-activity side of the noise shield.

2. Provide readily removable and moveable noise shields so that they may be repositioned, as necessary, to provide noise abatement for non-stationary and stationary processes along a construction corridor as the construction process moves.

3. Installation and Maintenance:

    a. Install paneled noise shields with sound-absorptive surfaces facing the noise source.

    b. Maintain the moveable noise shields and repair damage that occurs, including, but not limited to, keeping noise shields clean and free from graffiti, and maintaining structural integrity. Promptly repair or replace gaps, holes, and weaknesses in the noise shields, and openings between, or under the noise shield panels.

Fixed Construction Noise Curtains

1. For lesser noise reduction, install frame-mounted sound noise control curtains or noise control blankets in locations adjacent to or around noisy equipment as required to meet the noise limits specified in this document and to shield the public from excessive construction noise. Noise control curtains shall be made of a durable, flexible composite material featuring a noise barrier layer bonded to a weather-protected, sound-absorptive material on one or both sides. The supporting structure shall be engineered and erected according to applicable codes.

2. Noise control curtains shall be installed, as necessary, to provide greater noise abatement for non-stationary and stationary processes.

3. Installation, Maintenance and Removal

    a. Noise control curtains shall be installed without any gaps and with the sound absorptive side facing the construction activity area.

    b. Maintain the noise control curtains and promptly repair any damage that may occur. Gaps, holes or weaknesses in the curtain, or openings between the curtain and the ground shall be promptly repaired.

c. The fixed noise control curtains and associated elements shall be completely removed and the site appropriately restored upon the conclusion of the construction activity.

Fixed Noise Control Barriers

1. For greater noise reduction, install solid noise control panels or enclosures in locations adjacent to or around noisy equipment as required to meet the noise threshold criteria specified in this document and to shield the public from excessive construction noise. Noise control panels shall be made of a solid, heavy noise barrier material with a weather-protected, sound-absorptive material on the construction-activity side of the barrier. The supporting structure shall be engineered and erected according to applicable codes.

2. Noise control panels shall be erected, as necessary, to provide greater noise abatement for non-stationary and stationary processes.

3. Installation, Maintenance, and Removal

   a. Solid noise control panels shall be installed without any gaps and with the sound absorptive side facing the construction activity area.

   b. Maintain the noise control panels and promptly repair any damage that may occur. Gaps, holes or weaknesses in the panels or openings between the panels and the ground shall be promptly repaired.

   c. The fixed noise control panels and associated elements shall be completely removed and the site appropriately restored upon the conclusion of the construction activity.

Sensitive Receptor Construction Noise Reduction Methods

Feasible and reasonable receptor noise mitigation measures may be implemented to meet the construction noise threshold criteria. Examples of receptor noise reduction methods to reduce construction noise impacts at sensitive receptor locations are listed in this section. The implementation of one or more of these measures, along with those of the other sections, may be necessary to achieve compliance with the construction noise threshold criteria.

Receptor Building Interior Noise Control Measures

1. For noise reduction at fixed, mid-term construction sites, install removable secondary acoustic window inserts (i.e., Quiet Window, or equal) to existing windows in sensitive receptor buildings as required to meet the noise threshold criteria specified in this document.

2. For noise reduction at fixed, long-term construction sites, install permanent replacement acoustic windows with an STC rating 5 dB greater than the construction noise reduction needed. Where sliding doors are exposed to excessive construction noise, acoustic sliding patio doors may also need to be installed. Careful attention must be taken to seal the frame airtight to the existing structure.

3. Install properly fitted, tubular compression-type weather strip gasketing around the door frames (jamb and head) and install automatic drop thresholds and threshold plates to exposed swinging doors. Careful attention must be taken to seal the existing door frame airtight to the existing structure.

Construction Noise Threshold Criteria

Moveable Exterior Receptor Noise Control Barriers

1. For construction along a construction corridor, install moveable paneled noise shields or barriers at noise sensitive receptor sites. Noise control shields shall be made of panels featuring a solid panel with a weather-protected, sound-absorptive material on the construction-activity side of the noise shield.

2. Provide readily removable and moveable noise shields so that they may be repositioned, as necessary, to provide greater noise abatement along a construction corridor as the construction process moves.

3. Installation and Maintenance:

    a. Install paneled noise shields with sound-absorptive surfaces facing the noise source.

    b. Maintain the moveable noise shields and repair damage that occurs, including, but not limited to, keeping noise shields clean and free from graffiti, and maintaining structural integrity. Promptly repair or replace gaps, holes, and weaknesses in the noise shields, and openings between, or under the noise shield panels.

Fixed Exterior Receptor Noise Control Barriers

1. For noise reduction at fixed construction sites, install solid noise control panels at sensitive receptor locations as required to meet the noise threshold criteria specified in this document and to shield the sensitive receptor from excessive construction noise. Noise control panels shall be made of a solid, heavy noise barrier material with a weather-protected, sound-absorptive material on the construction-activity side of the barrier. The supporting structure shall be engineered and erected according to applicable codes.

2. Noise control panels shall be erected, as necessary, to provide greater noise abatement for non-stationary and stationary processes at fixed construction sites.

3. Installation, Maintenance, and Removal

    a. Solid noise control panels shall be installed without any gaps and with the sound absorptive side facing the construction activity area.

    b. Maintain the noise control panels and promptly repair any damage that may occur. Gaps, holes or weaknesses in the panels or openings between the panels and the ground shall be promptly repaired.

    c. The fixed noise control panels and associated elements shall be completely removed and the site appropriately restored upon the conclusion of the construction activity.

Figure D-2. Construction Noise Mitigation Form

Part A –Construction Equipment Mitigation Measures

Project: _____ Contract No(s):_____ Construction Phase: _____

Measured By: _____ of _____ Date: _____ Time: _____

IMPORTANT: Attach construction equipment noise measurement location sketches (also identify other noise sources in area).

Construction Phase Equipment Inventory: Overall Project Phase Noise Reduction Requirement[1] = _____ dBA.

Code Letter (a)	Equipment				Typical 50-Foot Noise Level (dBA) (f)	Measured 50-Foot Noise Level (dBA) (g)	Equipment Noise Mitigation Measure (h)	Measured 50-Foot Mitigated Noise (dBA) (i)
	Category (b)	Make & Model (c)	ID# (d)	HP (e)				
Example	Front End Loader	Caterpillar 988	50W043xxx	375	85	91	Critical muffler	79

Notes:
Note 1. The noise reduction requirement is the exceedance between the overall construction phase noise from Appendix C and the sensitive receptor noise threshold criteria.
Column (a): Code letter in sketch to indicate position of equipment during noise measurement.
Column (b): Equipment type from Table B-1.
Column (c): Equipment manufacturer and model.
Column (d): Unique identifier (ID), such as VIN or registration number.
Column (e): Equipment rated horsepower.
Column (f): Equipment typical noise level from Table B-1.
Column (q): Estimated noise level at 50 ft. If greater than the level in Column (f), mitigation measures (e.g. mufflers, lower throttle, etc.) shall be implemented.
Column (h): Noise mitigation measure(s) implemented to help achieve compliance with the noise threshold criteria at the sensitive receptor location.
Column (i): Estimated or measured mitigated noise level at 50 ft

Figure D-3. Construction Noise Mitigation Form

Part B – Propagation Path Mitigation Measures

Project: _____ Contract No(s): _____ Construction Phase: _____

Measured By: _____ of _____ Date: _____ Time: _____

(Attach Construction Vicinity Sketch)

Sensitive Receptor Measurement Location during Construction Activities Without Mitigation	Measured Noise Level at Receptor Location, (dBA)*			
	Ambient L_{eq} (dBA)	L_{eq} w/ Project (dBA)	Ambient L_{max} (dBA)	L_{max} w/ Project (dBA)
Noise Threshold Criteria >	n/a		n/a	
1.				
2.				
3.				
4.				

Propagation Path Noise Abatement Measures

1. _____
2. _____
3. _____
4. _____

Anticipated Results

1. _____
2. _____
3. _____
4. _____

Sensitive Receptor Measurement Location during Construction Activities With Additional Mitigation	**Measured Noise Level at Receptor Location, (dBA)***			
	Ambient L_{eq} (dBA)	**L_{eq} w/ Project (dBA)**	**Ambient L_{max} (dBA)**	**L_{max} w/ Project (dBA)**
Noise Threshold Criteria >	n/a		n/a	
1.				
2.				
3.				
4.				

Figure D-4. Construction Noise Mitigation Form

Part C – Sensitive Receptor Measures

Project: _____ Contract No(s): _____ Construction Phase: _____

Measured By: _____ of _____ Date: _____ Time: _____

(Attach Construction Vicinity Sketch)

Sensitive Receptor Measurement Location during Construction Activities Without Mitigation	**Measured Noise Level at Receptor Location, (dBA)***			
	Ambient L_{eq} (dBA)	**L_{eq} w/ Project (dBA)**	**Ambient L_{max} (dBA)**	**L_{max} w/ Project (dBA)**
Noise Threshold Criteria >	n/a		n/a	
1.				
2.				
3.				
4.				

Sensitive Receptor Noise Abatement Measures

1. _____
2. _____
3. _____
4. _____

Anticipated Results

1. _____
2. _____
3. _____
4. _____

Sensitive Receptor Measurement Location during Construction Activities <u>With Additional</u> Mitigation	**Measured Noise Level at Receptor Location, (dBA)***			
	Ambient L_{eq} (dBA)	**L_{eq} w/ Project (dBA)**	**Ambient L_{max} (dBA)**	**L_{max} w/ Project (dBA)**
Noise Threshold Criteria >	n/a		n/a	
1.				
2.				
3.				
4.				

ASSOCIATED TRANSPORTATION ENGINEERS
100 N Hope Avenue, Suite 4, Santa Barbara, CA 93110 • (805) 687-4418 • FAX (805) 682-8509
Since 1978

Richard L. Pool, P.E.
Scott A. Schell, AICP, PTP

October 19, 2015 15087L01.LTR

Mr. George Flack
Green Compass/Santa Clara Waste Water
2775 North Ventura Road, Suite 209
Oxnard, CA 93036

TRIP GENERATION ANALYSIS FOR THE SANTA CLARA WASTE TREATMENT PROJECT CUP MODIFICATION - SANTA PAULA, CALIFORNIA

The CUP modification is for an upgrade to the existing waste water treatment facility. The modification would result in the upgrade of the facility's footprint and an increase in the total number of employees from 15 to 45. The number of weekly and average daily truck trips would not increase above the currently approved 500 weekly truck loads (166 average daily trips) over 6 days.

The project site is located at 815 Mission Rock Road in unincorporated Ventura County just west of the City of Sant Paula. Access to the project site would be provided by a driveway connection to Mission Rock Road and two driveway connections to Shell Oil Road. Figure 1 (attached) illustrates the project site plan. The following trip generation analysis was prepared to address the traffic generated by the CUP modification.

Project Trip Generation

For the purpose of estimating the number of trips which would be generated by the "project", ATE used operational data (attached) supplied by the applicant.

Existing Conditional Use Permit Trip Generation

The operational level assumed for the existing CUP is based upon the following criteria. Under it's current CUP, Santa Clara Waste Water is allowed to operate with 15 plant employees, 5 per shift and allowed 500 weekly truck loads or 166 average daily weekly truck trips. The following represents the average daily operations that occur:

Truck Trips: 166 average daily truck trips (83 in and 83 out)
15 Plant Employees: 30 average daily employee trips (15 in and 15 out)
- Plant employees 5 on three shifts all in place prior to the 7:00 - 9:00 A.M. peak hour period and the 4:00 - 6:00 P.M. peak hour period.

Proposed Conditional Use Permit Modification Trip Generation

Santa Clara Waste Water is proposing to expand its footprint at the Mission Rock Road location. The operational level assumed for the CUP modification is based upon the following criteria. The Mission Rock Road facility will operate with 45 plant employees, 15 per shift and allowed 500 weekly truck loads or 166 average daily truck trips. The following represents the average daily operations that potentially could occur:

Truck Trips: 166 average daily truck trips (83 in and 83 out)
45 Plant Employees: 90 average daily employee trips 45 in and 45 out)
- Plant employees 15 on three shifts all in place prior to the 7:00 - 9:00 A.M. peak hour period and the 4:00 - 6:00 P.M. peak hour period.

Table 1
Project CUP Trip Generation Comparison

Project	ADT*
Existing CUP: Waste Treatment Facility	196
Proposed CUP Modification: Waste Treatment Facility	256
Net Change:	+60

* ADT: Average Daily Trips

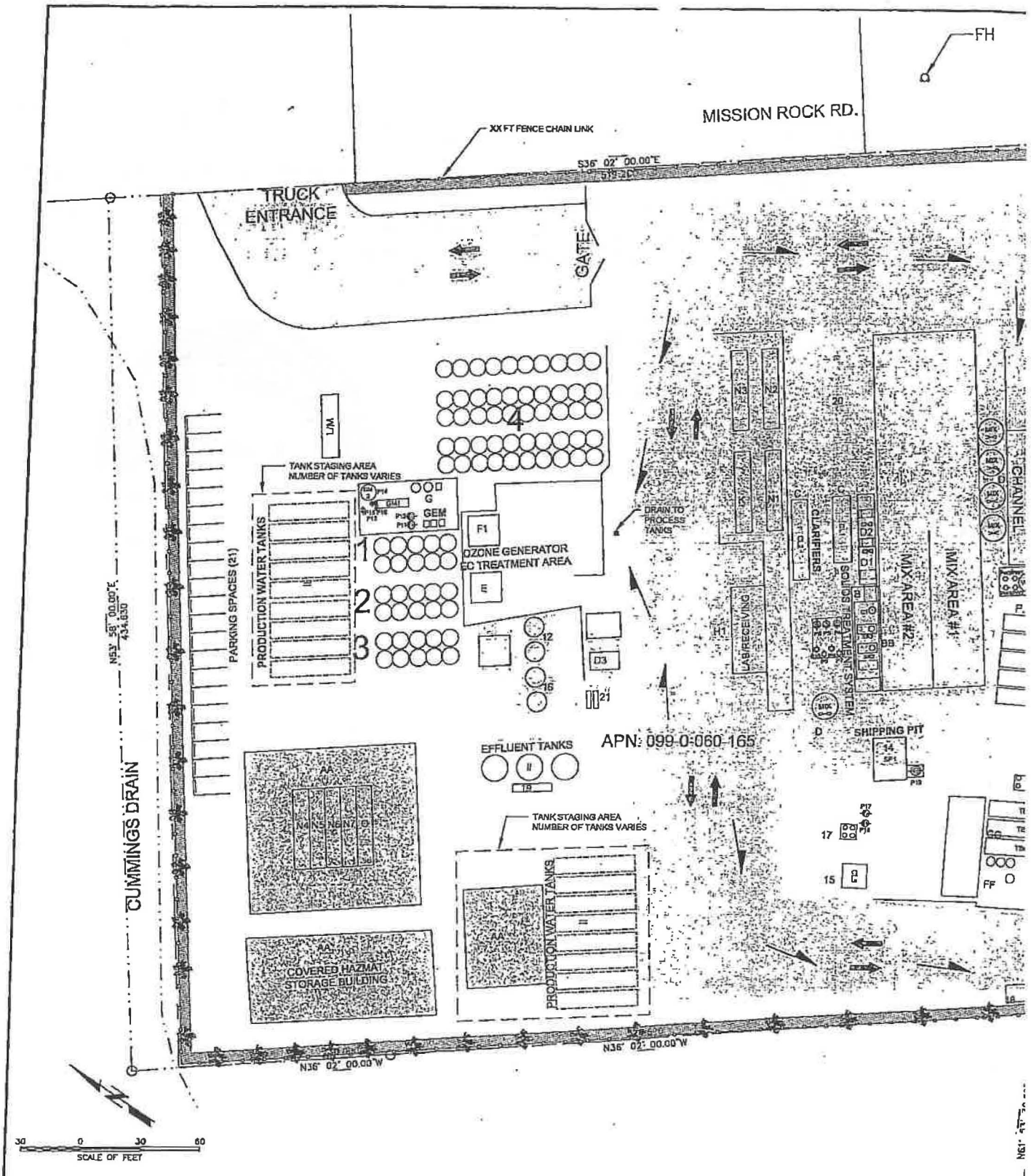
The CUP modification would result in a net increase is 60 average daily trips. Employee trips will continue to occur outside the A.M. and P.M. peak hour periods. Since the truck trips during the peak hour periods will remain at the current CUP level, the proposed CUP modification would not result in an increase in the peak hour trips.

Associated Transportation Engineers

Richard L. Pool, P.E.
President

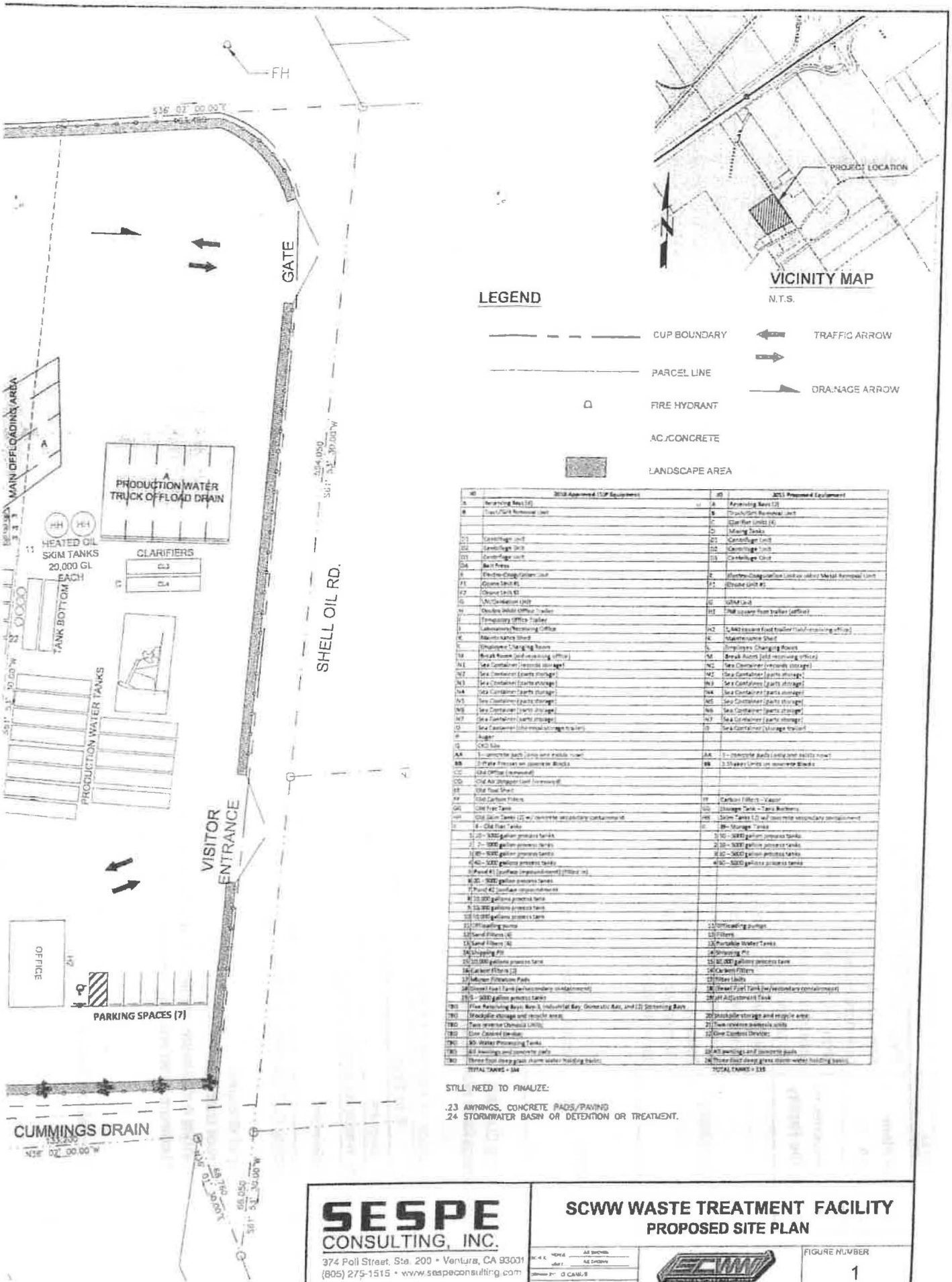
RLP/DFN/wp

Attachment: Figure 1- Project Site Plan
SCWW Operational Data



APPLICANT:	PROPERTY OWNER:	APN: 099-0-060-165	ENGINEER:	NET BUILDING COVERAGE = XXX SQF OR XX%
GREEN COMPASS	SANTA CLARA WASTE WATER CO.		SESPE CONSULTING INC.	PERVIOUS AREA = XXX SQF OR XX%
WILLIAM MITZEL	2775 NORTH VENTURA RD.		ROB DAL FARRA	IMPERVIOUS AREA = XXX SQF OR XX%
2775 NORTH VENTURA RD.	SUITE 209		374 POLI ST.	LANDSCAPE AREA = XXX SQF OR XX%
SUITE 209	OXNARD, CA 93036		SUITE 200	
OXNARD, CA 93036	P:909-641-4418		VENTURA, CA 93001	
P:909-641-4418			P:805-275-1515	

S:\GR10 – Green Compass\CAD\GR10 – Green Compass-Site-Plan-08-24-15.dwg Sep 18, 2015, 2:40pm Guillaume-PC



ID	2010 Approved CUP Equipment	ID	2015 Proposed Equipment
A	Receiving Bays (3)	A	Receiving Bays (3)
B	Trash/Dirt Removal Unit	B	Trash/Dirt Removal Unit
		C	Clarifier Units (4)
		D	Mixing Tanks
D1	Centrifuge Unit	D1	Centrifuge Unit
D2	Centrifuge Unit	D2	Centrifuge Unit
D3	Centrifuge Unit	D3	Centrifuge Unit
DA	Belt Press		
E	Electro-Chem/Ozone Unit	E	Electro-Coagulation Unit or other Metal Removal Unit
F1	Ozone Unit #1	F1	Ozone Unit #1
F2	Ozone Unit #2		
G	UV/Oxidation Unit	G	UV/AP Unit
H	Double Wide Office Trailer	H1	768 square foot trailer (office)
I	Temporary Office Trailer		
J	Laboratory/Receiving Office	H2	1,440 square foot trailer (lab/receiving office)
K	Maintenance Shed	K	Maintenance Shed
L	Employee Changing Room	L	Employee Changing Room
M	Break Room (old receiving office)	M	Break Room (old receiving office)
N1	Sea Container (records storage)	N1	Sea Container (records storage)
N2	Sea Container (parts storage)	N2	Sea Container (parts storage)
N3	Sea Container (parts storage)	N3	Sea Container (parts storage)
N4	Sea Container (parts storage)	N4	Sea Container (parts storage)
N5	Sea Container (parts storage)	N5	Sea Container (parts storage)
N6	Sea Container (parts storage)	N6	Sea Container (parts storage)
N7	Sea Container (parts storage)	N7	Sea Container (parts storage)
O	Sea Container (dry material storage trailer)	O	Sea Container (storage trailer)
P	Auger		
Q	CKD Silo		
AA	1 - concrete pads (one unit mobile now)	AA	1 - concrete pads (one unit mobile now)
BB	2 Plate Presses on concrete Blocks	BB	2 Shakers Units on concrete Blocks
CC	Old Office (removed)		
DD	Old Air Stripper Unit (removed)		
EE	Old Flow Sheet		
FF	Old Carbon Filters	FF	Carbon Filters - Vapor
GG	Old Frac Tank	GG	Storage Tank - Tank Bottoms
HH	Old Skim Tanks (2) w/ concrete secondary containment	HH	Skim Tanks (2) w/ concrete secondary containment
II	8 - Old Frac Tanks	II	8 - Storage Tanks
	1 20 - 500 gallon process tanks		1 10 - 5000 gallon process tanks
	2 2 - 5000 gallon process tanks		2 10 - 5000 gallon process tanks
	3 10 - 5000 gallon process tanks		3 10 - 3650 gallon process tanks
	4 40 - 5000 gallon process tanks		4 30 - 5000 gallon process tanks
	5 Pond #1 (surface impoundment) (filled in)		
	6 30 - 5000 gallon process tanks		
	7 Pond #2 (surface impoundment)		
	8 10,000 gallon process tank		
	9 10,000 gallon process tank		
	10 10,000 gallon process tank		
	11 Offloading pump	11	Offloading pumps
	12 Sand Filters (4)	12	Filters
	13 Sand Filters (4)	13	Portable Water Tanks
	14 Shipping Pit	14	Shipping Pit
	15 10,000 gallon process tank	15	10,000 gallon process tank
	16 Carbon Filters (2)	16	Carbon Filters
	17 Mixer/Filtration Pads	17	Filter Units
	18 Diesel Fuel Tank (w/secondary containment)	18	Diesel Fuel Tank (w/secondary containment)
	19 5 - 5000 gallon process tanks	19	pH Adjustment Tank
TBD	Free Retaining Bays Nos. 3, Industrial Bay, Domestic Bay, and (2) Shredding Bays		
TBD	Stockpile storage and recycle area	20	Stockpile storage and recycle area
TBD	Two reverse Osmosis Units	21	Two reverse osmosis units
TBD	One Control Device	22	One Control Device
TBD	30- Water Processing Tanks		
TBD	All awnings and concrete pads	23	All awnings and concrete pads
TBD	Three foot deep grass storm water holding basin	24	Three foot deep grass storm water holding basin
	TOTAL TANKS = 144		TOTAL TANKS = 135

STILL NEED TO FINALIZE:

.23 AWNINGS, CONCRETE PADS/PAVING
.24 STORMWATER BASIN OR DETENTION OR TREATMENT.

SESPE CONSULTING, INC.
374 Poli Street, Ste. 200 • Ventura, CA 93001
(805) 275-1515 • www.sespeconsulting.com

SCWW WASTE TREATMENT FACILITY
PROPOSED SITE PLAN

DATE: JULY 2015

FIGURE NUMBER
1

COMPARISON OF EXISTING & PROPOSED TRAFFIC LIMITS

ITEM	CURRENT CUP 960 LIMITS	PROPOSED LIMITS
Hours of Plant Operation	Mon – Sat. 5:00 a.m. to 11:00 p.m., Closed on Sundays Any time during any day of the week to meet demands , or emergencies	24 hours/day, 365 days/year (for onsite treatment operations, different schedule for truck deliveries)
Truck Deliveries to & from the Facility	Mon. – Fri., 7:00 a.m. to 5:00 p.m. Saturday 8:00 a.m. to 3:00 p.m. No trucking on Sunday	Mon. – Fri., 7:00 a.m. to 7:00 p.m. (2 hours longer) Saturday 8:00 a.m. to 3:00 p.m. No trucking on Sunday
Truck Trip Limits [1]	4 supply deliveries per week 80 waste deliveries per day 16 outgoing waste/recyclable vehicle trips per week *Equates to 500 trucks (1,000 one way trips) per week* [2] *No max. day limit although could have 100 trucks in one day – 4+80+16 = 100*	Weekly average limit of 500 trucks (1,000 one way trips) per week. Applied to overall truck traffic, does not differentiate between the types of truck trips. A daily maximum limit of 100 trucks (200 one way trips) in any one day. 500 truck per week limit would still apply.
Employees	Maximum of 15 employees per day (30 one way trips) from application dated 2/1/06 – 5 employees per shift	Maximum of 15 employees per 8-hour shift = 45 employees, 90 one way trips More likely scenario (at 100% operation): 6:00 AM – 2:00 PM = 15 employees 2:00 PM – 10:00 PM = 15 employees 10:00 PM – 6:00 AM = 10 employees

1 - Existing CUP 960 Language: *SCWW would be limited to a maximum of four supply deliveries per week, 80 waste deliveries per day, and 16 outgoing waste/recyclable product vehicle trips per week. SCWW would have a maximum of 15 employees per day.*

2 - Calculation of existing CUP 960 truck trip limits:

Trip Type	Weekly Trucks
Supply Deliveries	4
Outgoing waste/recyclable product	16
Waste Deliveries	480 (80 per day, 6 days/week)
Existing CUP 960 Weekly Total:	500

Summary of changes:

- Truck traffic would occur 12 hours per day instead of 10 hours per day Monday to Friday (fewer average trips per hour).
- Setting a maximum day limit of 100 trucks per day. 500 truck per week limit would still apply.
- Maximum of 90 one way employee trips per day instead of 30.

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Since 1978

Richard L. Pool, P.E.
Scott A. Schell, AICP, PTP

April 25, 2017 15087L02.LTR

Mr. George Flack
Green Compass/Santa Clara Waste Water
2775 North Ventura Road, Suite 209
Oxnard, CA 93036

TRIP GENERATION ANALYSIS FOR THE SANTA CLARA WASTE TREATMENT PROJECT CUP MODIFICATION - SANTA PAULA, CALIFORNIA

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The project site is located at 815 Mission Rock Road in unincorporated Ventura County just west of the City of Sant Paula. Access to the project site would be provided by a driveway connection to Mission Rock Road and two driveway connections to Shell Oil Road. Figure 1 (attached) illustrates the project site plan. The following trip generation analysis was prepared to address the traffic generated by the CUP modification.

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Caltrans District 7 staff has requested a new traffic study to evaluate project impacts to Caltrans facilities. However, since there is no change in existing A.M. and P.M. project peak hour trips, there will be no additional impacts to the Caltrans facilities. There is no need for additional evaluation of State Route 126, the State Route 126 Eastbound Ramps at Briggs Road, Briggs Road or Pinkerton Road during the A.M. and P.M. peak hours.

Associated Transportation Engineers

By: Richard L. Pool, P.E.
President

RLP/DFN

Attachment: Figure 1- Project Site Plan
SCWW Operational Data

COMPARISON OF EXISTING & PROPOSED TRAFFIC LIMITS

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- Maximum of 90 one way employee trips per day instead of 30.

GIS and Mapping Work Order

CLEAR PRINT EMAIL

County of Ventura • Resource Management Agency • GIS Development and Mapping Services
800 S. Victoria Ave, Ventura, Ca. 93009 • 805 654-3624 • http://www.ventura.org/rma/gis

☐ Aerial Request ☐ Labels / Radius Map ☐ Data Requests ☐ Attachment(s) Provided
☐ Mapping Request ☐ Biological Map Packet ☐ Photo Enlargement / Mounting ☐ Copies

Date 08/04/20
Name Franca Rosengren
Phone Number (805) 654-2045
Date Required 8/5/2021

Project / Case Number PL15-0106
Agency / Department RMA Planning
APN 099-0-060-565
Budget / Organization / Object 2199

☐ Postcard Map / dbf mailing Labels Hearing: ☐PD ☐PC ☐BOS
☐ 300 Foot Radius for Property Owners (must include a Minimum of 16 Adjacent Parcels). If necessary, Expand the Radius to include at least 16 Adjacent Parcels. (default non-coastal)
☐ 300 Foot Radius for Property Owners / 100 Foot for Residences (default coastal)

☐ Other Radius
☐ Owner ☐ Resident

Electronic Format
☐ Send Data Electronically Via Email As Well As Hard Copies As Outlined In Instructions Below

Instructions: Please provide me a radius map of one-fourth out from the property. And also show the closest school in feet and miles.

Land Use
- ☐ Area Plans
- ☐ General Plan
- ☐ Zoning
- ☐ Urban Infill Areas

Biological Resources
- ☐ Biological Reports
- ☐ CNDDB
- ☐ Deed Restrictions
- ☐ Red-Line Channels
- ☐ Fish Barriers
- ☐ Vegetation
- ☐ Wetlands
- ☐ Wildlife Movements
- ☐ Waterbodies Buffered

Hazards
- ☐ All Faults
- ☐ Dam Inundation
- ☐ Earthquake Fault Zones
- ☐ Expansive Soils
- ☐ Fire History
- ☐ Fire Severity Zones
- ☐ FEMA Floodzones
- ☐ Groundshaking
- ☐ Landslides (Earthquake Induced)
- ☐ Landslides (Mapped)
- ☐ Liquefaction
- ☐ Military Training Routes
- ☐ Minor Pipelines
- ☐ Major Pipelines
- ☐ Near Source Zones
- ☐ Radon
- ☐ Tsunami

Political Boundaries
- ☐ 118 Traffic Impact Area
- ☐ 2000 Census
- ☐ Airports Sphere of Influence
- ☐ Areas of Interest
- ☐ SOAR (Save Our Agricultural Resources)
- ☐ CURB (City Urban Restriction Boundary)
- ☐ Coastal Boundary
- ☐ Coastal Zone Appeal Jurisdiction
- ☐ Enforcement Districts
- ☐ Municipal Advisory Council
- ☐ Ojai Valley Clean Air Ordinance
- ☐ Oxnard Forebay GWB
- ☐ Property Owners Association
- ☐ Sphere of Influence
- ☐ Supervisorial Districts
- ☐ Tierra Rejada-Santa Rosa GWB
- ☐ VCFPD Restriction
- ☐ Ventura City SOAR

Public Facilities
- ☐ Communication Facilities
- ☐ School Districts
- ☐ Fire Protection Districts
- ☐ Planning Facilities
- ☐ Sheriff Protection District

Resources
- ☐ Eligible Scenic Hwy Protection
- ☐ Greenbelts
- ☐ IFI (Important Farmland Inventory)
- ☐ LCA
- ☐ Mineral Aggregate Resources
- ☐ Mining Permits
- ☐ Oil Permits
- ☐ Paleontology
- ☐ Proposed Greenbelts
- ☐ Soil Classification

Water
- ☐ Groundwater Basins
- ☐ Groundwater Sampling Locations
- ☐ National Hydrographic Dataset
- ☐ Ocean Water Sampling Locations
- ☐ Sanitation Districts
- ☐ Watersheds
- ☐ Water Districts
- ☐ Water Purveyors
- ☐ Water Treatment Facilities
- ☐ Water Wells

Others
- ☐ Camarillo Heights Drainage
- ☐ Climate Zones
- ☐ Lighting Zones
- ☐ West Carlisle Road
- ☐ 100-Foot Contours
- ☐ Thomas Guide Grid

Red denotes sensitive data

Zoning on: General Plan Designation on:
Ordinance No. GPA No.
Completed By: Date: Total Hours:

Attachment 32 – Works Cited

INITIAL STUDY FOR
RI-NU SERVICES, LLC
WASTE WATER TREATMENT FACILITY

Alec Thille, Agricultural Commissioner's Office. October 30, 2020. *Initial Study Analysis Memorandum.*

Andrea Ozdy, Analyst, Ventura Local Agency Formation Commission (LAFCo). November 20, 2020. March 16, 2021. April 14, 2021. *Memoranda to Franca Rosengren regarding Application PL15-0106, Community Sewage Treatment Facility.*

City of Santa Paula. June 1, 2021. *List and Map of Past, Present, and Reasonably Foreseeable Future Projects Used in the Cumulative Impacts Analysis*.

Clete J. Saunier, Public Works Director, City of Santa Paula. March 15, 2021. *Conditional Will Serve Letter for 815 Mission Rock Road, APN: 099-0-050-565.*

Daniel R. Tormey, Ph.D., P.G., President, Technical Director, Catalyst Environmental Solutions. September 6, 2018. March 3, 2021. March 27, 2021. *Technical Memoranda*.

Darren Arrieta, Engineer, Transportation and Roads Department, Public Works Agency. November 17, 2020. March 1, 2021. October 11, 2021. *Initial Study Analysis Memoranda.*

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Ewan Beenham, Division of Oil, Gas, and Geothermal Resources. April 11, 2017. *Site Review: Saticoy Field-Well Access at Santa Clara Waste Water Facility, Mission Rock Road, Ventura County.* February 16, 2017. *Site Review: Saticoy Field-Well Access at Santa Clara Waste Water Facility, Mission Rock Road, Ventura County.*

Ewelina Mutkowska, Stormwater Program Manager, Watershed Protection District, Public Works Agency. November 18, 2020. *Initial Study Analysis in Accela.* July 20, 2021. *Revised Conditions of Approval.*

Flood Insurance Rate Map (DFIRM No. 06111C0778F, July 31, 2020.)

Invirotreat Inc., Innovative Treatment. April 5, 2018. *Preliminary Design Process Flow, CWT & Domestic Waste Treatment Facility.*

James Mason, Community and Economic Development Director, City of Santa Paula. March 18, 2021. *Memorandum from James Mason to Franca Rosengren regarding 815 Mission Rock Road, Water – PL15-0106 (APN# 099-0-050-565).*

James Maxwell, Groundwater Specialist, Watershed Protection District, Groundwater Resources Section, Public Works Agency. November 25, 2020. *Initial Study memoranda to Franca Rosengren regarding Application PL15-0106, Community Sewage Treatment Facility.* January 5, 2021. *Revised Conditions of Approval from James Maxwell.*

Janna Minsk, AICP, Planning Director, City of Santa Paula. June 13, 2017. *Response to Request for Re-Review of Resubmitted Application PL15-0106.*

Jim O'Tousa, Development and Inspection Services Division, Public Works Agency. November 18, 2020. *Initial Study Analysis in Accela.*

Jordan, Gilbert, & Bain, Landscape Architects, Inc. November 27, 2018. *Conceptual Landscape and Planting Plan.*

Kerby E. Zozula, Manager, Ventura County Air Pollution Control District Engineering Division. April 8, 2019. *Memorandum from Mr. Zozula to Ali Ghasemi, Manager, Ventura County Air Pollution Control District, Planning Division Regarding a Health Risk Assessment for the Ri-Nu Facility.*

Miya Edmonson, Branch Chief, California Department of Transportation. November 10, 2020. *Response to Request for Review Letter*.

Manju Venkat, Planning Division Biologist, Ventura County Planning Division. May 22, 2019. *Email from Manju Venkat to Franca Rosengren regarding Initial Study Analysis.*

Nicole Collazo, Ventura County Air Pollution Control District. August 14, 2018. January 17, 2019. February 26, 2019. November 20, 2020. *Initial Study Analysis Memorandum.*

Nicole Doner, Planning Division Cultural Heritage Planner, Ventura County Planning Division. November 15, 2017. *Initial Study Analysis, Cultural Resources, Email.*

Rebecca Lustig, Ventura County Environmental Health Division. November 12, 2020. March 19, 2021. April 16, 2021. *Memoranda to Franca Rosengren regarding Application PL15-0106, Community Sewage Treatment Facility*

Richard L. Poole, Professional Engineer, President, Associated Transportation Engineers. October 19, 2015 and updated on April 25, 2017. *Trip Generation Analysis for the Santa Clara Waste Treatment Project CUP Modification.*

RI-NU Services, LLC. January 2019. *Safety Handbook, Injury and Illness Prevention Program, Code of Practices, Safety Standards (Procedures), and General Safety Policies.*

Robert P. Woodward, PE, Interim City Engineer, City of Santa Paula. January 13, 2021. *Email from Bob Woodward to Rob Dal Farra regarding Water Service at 815 Mission Rock Road.*

Ruben Luna, Ventura County Fire Prevention District. February 7, 2019. *October 29, 2020. Initial Study Analysis Memorandum.*

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WASTE ANALYSIS PLAN

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April 2017

County of Ventura
Initial Study
PL15-0106
Attachment 28 - Waste Analysis Plan

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SUMMARY OF WASTE ACCEPTANCE PRACTICES

This Waste Analysis Plan (WAP) details the procedures for ensuring the Ri-Nu Services LLC facility located at 815 Mission Rock Road in Santa Paula, California (the facility) only accepts non-hazardous wastes. The following is a summary of the waste acceptance practices that are presented in more detail throughout this document:

1. It is the responsibility of the waste generator to conduct laboratory analysis of their waste stream to ensure it is not a hazardous waste prior to sending it to Ri-Nu for treatment and disposal.

2. The generator submits a "profile application" of the proposed waste stream to Ri-Nu for approval. The profile application includes:
    a. A description of the waste stream (tank bottoms, drill mud, etc.).
    b. A description of the process that generated the waste stream.
    c. A physical description of the waste stream (color, odor, pH range, % solids).
    d. Laboratory analytical conducted by a 3rd party State-certified laboratory for the waste stream confirming it is not a hazardous waste.

3. The generator submits an actual sample of the proposed waste stream to Ri-Nu.

4. Ri-Nu compares the waste stream sample to the profile description and conducts internal sample analyses in their in-house lab to compare to the 3rd party analytical submitted by the generator. The in-house lab will be used only for internal testing and will not be a State-certified lab used for complete waste profiling.

5. Ri-Nu also conducts bench scale treatability testing to be sure their treatment process can reduce the waste stream contaminants to levels below the facility's discharge limits. Even if the waste stream proves to be non-hazardous, if it cannot be treated sufficiently, it will not be accepted by the facility.

6. If the physical inspection of the waste stream sample matches the profile description and Ri-Nu's in-house laboratory analyses are consistent with the 3rd party analytical results, Ri-Nu will allow the generator to schedule delivery of their waste to the Ri-Nu facility.

7. When the generator's truck arrives at the Ri-Nu facility to transfer their waste, Ri-Nu conducts the following check for each load:
    a. A sample of the waste stream is taken from the delivery truck before it is unloaded and physically compared to the original waste stream sample supplied by the generator. Physical comparisons include color, odor and % solids.
    b. Ri-Nu's in-house lab then conducts additional "fingerprint" analyses of the sample from the delivery truck. This may include checking pH, flash point, metals content, etc.

8. If the waste load fails either the physical inspection or the analytical "fingerprint" check, it is rejected and the truck leaves the facility without unloading the waste.

9. The load check process takes roughly 30 minutes to complete. Once the load passes the load check, the waste is unloaded at the facility.

10. The waste generator is required to re-certify their waste characterization:
    a. Annually for each waste stream managed by the Ri-Nu facility; and
    b. Whenever a change in raw materials or a change in the process that creates the waste stream alters the characteristics of that waste.

These practices ensure that Ri-Nu does not accept a waste stream that is a hazardous waste.

1.0 INTRODUCTION

In accordance with the Environmental Health Standards for the Management of Hazardous Waste, codified in the California Code of Regulations (CCR) 22 CCR §66264.13, and in accordance with Title 40 of the Code of Federal Regulations, Part 264 (40 CFR 264), this Waste Analysis Plan (WAP) is a description of the chemical and physical characteristics of the non-hazardous waste stored and treated at the Ri-Nu Services LLC facility located at 815 Mission Rock Road in Santa Paula, California (the facility). This WAP includes the waste analysis procedures, which help ensure that the facility has sufficient information to make sound storage, treatment, safety, and compliance decisions. Wastes stored at the facility are non-hazardous waste, sludge, and muds generated by a variety of sources. Non-hazardous waste streams accepted at the facility include, but are not limited to, the following:

- Sludge generated from truck washouts
- Drilling muds generated from the oil and gas industry
- Oil and gas production wastes
- Waste sludge generated from various industrial processes

This WAP describes the methods and procedures used to ensure that the waste streams received at the facility are those permitted for storage and treatment. Specifically, this WAP details procedures to ensure that a particular waste stream is "as described" by the generating activity and non-hazardous according to federal and state regulations.

To achieve the above goals, all incoming waste streams will undergo a pre-acceptance evaluation and a waste shipment evaluation. Outgoing waste streams will retain this characterization for offsite transportation and treatment or disposal. If altered, outgoing waste streams will be re-characterized as described below.

2.0 NON-HAZARDOUS WASTE CHARACTERIZATION

Non-hazardous wastes managed at the facility are subject to waste analyses for a variety of purposes, including:

- Determination as to whether a solid waste is hazardous, and therefore, not acceptable for treatment at the facility, as defined by 40 CFR 261.3(a)(2) and CCR Title 22, Division 4.5, Chapters 11
- Determination of the constituents of each non-hazardous waste stream managed at the facility
- Determination as to whether a waste stream is restricted under 40 CFR 268 Subpart C
- Collection of sufficient information to safely manage waste at the facility, including determination of container specifications and Department of Transportation (DOT) shipping names, as applicable
- Confirmation that waste shipments conform with waste profile records and shipping papers
- Confirmation that the constituents of the waste are consistent with the outbound waste profile for offsite shipments of the waste

2.1 Waste Profiles

Prior to initial receipt of waste at the facility, a full characterization of the waste stream must be performed by the generator of the waste. This characterization will include:

- A description of the waste stream.
- A description of the process that generated the waste stream.
- A physical description of the waste stream (color, odor, pH range, % solids).
- Laboratory analytical conducted by a 3rd party State-certified laboratory for the waste stream confirming it is not a hazardous waste.

The results of the full characterization constitute the waste profile. Full characterization identifies all of the constituents and characteristics necessary for proper designation and management of a

waste stream. Full characterization also accounts for 100% of the constituents in a waste stream (e.g., 30% oil and 70% water). A profile containing this information will be maintained for each waste stream from each separate generator. However, different waste streams with the same composition may share a common waste profile. Examples of the facility's liquid and solid waste profile sheets are included in Attachment 1.

Characterization of a waste stream may also utilize existing published or documented data on the non-hazardous waste or wastes generated from similar processes. A waste profile may incorporate data from several sources including information from a safety data sheet.

All waste streams will be periodically re-profiled in accordance with Section 2.3 of this WAP or whenever a change in raw materials or a change in the process that creates the waste stream alters the characteristics of that waste.

If the facility cannot, within reasonable certainty, determine whether a particular waste is properly identified by an existing profile, the waste will be considered to represent a new waste stream. For every new waste stream identified, a full characterization will be performed and a waste profile will be generated before the waste may be accepted at the facility.

In emergency situations (e.g., a spill response), the facility may receive and manage a waste prior to the completion of the waste profile. In such instances, the waste will be managed in accordance with the best existing knowledge of the waste. A complete waste profile will be generated by the generator as soon as practicable, at which time the waste will be managed in accordance with the profile information and this WAP.

2.2 Waste Characterization - Non-Hazardous Waste Determination

California hazardous waste is regulated under *Environmental Health Standards for the Management of Hazardous Waste* (CCR Title 22, Division 4.5, Chapters 10 to 56). The regulation provides the guidelines for determining if a waste is Resource Conservation and Recovery Act (RCRA) hazardous or California (non-RCRA) hazardous. The first step is determining if a waste is a RCRA-hazardous waste by following the steps listed below:

- Determine if the waste exhibits one of the RCRA-hazardous waste characteristics (22 CCR 66261, Article 3):

- Ignitability (D001), for example if a waste is a liquid with a flash point is <140°F.
- Corrosivity (D002), for example if a waste is a liquid with a pH is ≤2 or ≥12.
- Reactivity (D003).
- Toxicity (D004 through D043) is determined by comparing the constituent concentrations in the analytical report to the regulatory levels that are presented in 22 CCR §66261.24. If the concentrations are equal to or greater than the contaminant threshold levels, the waste is a RCRA hazardous waste.

- Determine if the waste is a listed waste as defined by 22 CCR §66261.31 through §66261.33(f). Listed wastes include the following:
  - Waste from non-specific sources (F-Listed)
  - Waste from specific sources (K-Listed)
  - Discarded unused products including acutely hazardous (P-Listed) and toxic (U-Listed) wastes

If the waste does not meet the definition of a RCRA-hazardous waste, then the following steps will be completed to determine if the waste meets the definition of a non-RCRA hazardous waste:

- Determine if the waste exhibits a non-RCRA corrosivity characteristic. Non-RCRA corrosivity as defined in 22 CCR 66261.22 is if a waste is "not aqueous and, when mixed with an equivalent weight of water, produce a solution with a pH less than or equal to 2 or greater than or equal to 12.5; or is not a liquid and when mixed with an equivalent weight of water, produce a solution that corrodes steel at a rate of greater than 6.35 millimeters (0.25-inch) per year at 130°F."

- Determine if the waste exhibits a non-RCRA toxicity characteristic as defined by 22 CCR 66261.24. Analytical results for liquids will be compared to the Soluble Threshold Limit Concentrations (STLCs). If a constituent of concern equals or exceeds the respective STLC, the waste will be characterized as a non-RCRA hazardous waste.

- Analytical results for solid wastes will be compared to the Total Threshold Limit Concentrations (TTLC) and if a constituent of concern equals or exceeds the respective Threshold Limit Concentration, the solid sample will be considered hazardous and therefore not acceptable at the facility. If the concentration of a constituent is at least 10-times the

STLC value for that chemical, it will be resubmitted for California's WET analysis, an analysis that determines the amount of the constituent that is soluble, for the specific constituent of concern. The WET analysis concentration for the constituent of concern will be compared to the STLC and if it equals or exceeds the STLC, the solid waste will be characterized as a non-RCRA hazardous waste, and therefore not acceptable at the facility.

- Has an acute oral LD_{50} less than 2,500 milligrams per kilogram.
- Has an acute dermal LD_{50} less than 4,300 milligrams per kilogram.
- Has an acute inhalation LC_{50} less than 10,000 parts per million as a gas or a vapor.
- Has an acute aquatic 96-hour LC_{50} less than 500 milligrams per liter when tested on fish using a specified test method (fish test).
- Contains a single or combined total concentration equal to or greater than 0.001 percent by weight of any of the following chemicals:
  - 2-Acetylaminofluorene (2-AAF)
  - Acrylonitrile
  - 4-Aminodiphenyl
  - Benzidine and its salts
  - Bis (Chloromethyl) there (BCME)
  - Methyl chloromethyl ether
  - 1,2-Dibromo-1-chloropropane (DBCP)
  - 3,3'-Dichlorobenzidine and its salts (DCB)
  - 4-Dimehtylaminoazobenzene (DAB)
  - Ethyleneimine (EL)
  - Alpha-Naphthylamine (1-NA)
  - Beta-Naphthylamine (2-NA)
  - 4-Nitrobiphenyl (4-NBP)
  - N-Nitrosodiemthylamine (DMN)
  - Beta-Propiolactone
  - Vinyl chloride (VCM)
- Has been shown through experience or testing to pose hazards to human health or the environment because of its carcinogenicity, acute toxicity, chronic toxicity, bioaccumulative properties, or persistence in the environment.

- Determine if the waste is on the M List. An M-listed waste is a waste that has additionally added mercury as per Article 4.1 of Chapter 11, Title 22.

- Determine if the waste is found on or contains substances listed in Appendix X of Title 22, which are presumed to be hazardous waste unless, it is determined that the waste is not a hazardous waste based on procedures set forth above.

- Determine if the waste is extremely hazardous pursuant to any of the criteria of section 66261.110 or 66261.113.

If the waste does not meet the definition of a RCRA-hazardous waste or a non-RCRA hazardous waste, then it is acceptable for treatment at the facility.

Waste generated as a result of on-site treatment shall be characterized by collecting representative samples of the waste, conducting laboratory analyses on the samples, and evaluating data as described above. The lab analyses will be conducted by a contracted State-certified lab and not the on-site lab. Once characterized, a profile for the off-site disposal will be obtained for the waste (unless an existing profile already exists for ongoing waste stream) and the waste will be transported to the off-site disposal facility by a licensed waste hauler. Examples of onsite generated waste include clarifier sludge, spent filter media, etc.

2.3 Waste Characterization Frequency

Each waste stream managed by the facility shall undergo full characterization annually. Waste streams that have not been managed at the facility in a preceding year do not need to be re-characterized until such time as the waste is again received at the facility.

Except as specified below, full characterization may consist of existing published or documented data on the waste or on waste generated from similar processes as well as laboratory analysis of a representative sample of the waste stream. If existing data are used, the facility will obtain confirmation from the generator that the process generating the non-hazardous waste has not significantly changed.

In the following circumstances, a waste stream will undergo full characterization consisting solely of laboratory analyses, supplemented with process knowledge as necessary to confirm the waste is non-hazardous:

- The facility has been notified, or has reason to believe, that the process or operation generating the non-hazardous waste has significantly changed.

- There is a discrepancy between a waste designation indicated on the profile for that waste and the waste designation indicated by the results of screening analyses performed upon receipt of the waste.

- The first time a waste undergoes full characterization pursuant to the WAP.

- No more than five years from the last full characterization by laboratory analysis, or the next time a waste is received at the facility, whichever is longer.

Analytical requirements will be those specified in Section 1.1.6 of this WAP. Such characterization will occur prior to receipt of the next shipment of the waste stream in question.

2.4 Analytical Methods

All non-hazardous waste sampling and analysis will be conducted in accordance with the protocols stipulated in U.S. EPA SW-846, *Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods.* SW-846 functions primarily as a guidance document setting forth acceptable, although not required, methods for the regulated and regulatory communities to use in responding to RCRA-related sampling and analysis requirements. Such analyses may serve to further characterize a waste stream for which documented information is inadequate, to periodically confirm profile information, or to rectify a discrepancy.

The State-certified laboratory employed to obtain analytical data must certify its use of the methods specified and must be able to provide, upon request, documentation of acceptable quality assurance/quality control procedures. Acceptable documentation will include compliance with the quality control section of SW-846 procedures. The following guidance is taken from *SW-846, Guidance Regarding Flexibility Inherent to SW-846 Methods and the Precedence of SW-846 Quality Control Criteria.*

- The specific products and instrument settings cited in SW-846 methods represent those products and settings used during method development or subsequently evaluated by the Agency for use in the method. Glassware, reagents, supplies, equipment, and settings other than those listed in this manual may be employed, provided that method performance

appropriate for the intended RCRA application has been documented. Such performance includes consideration of precision, accuracy (or bias), recovery, representativeness, comparability, and sensitivity (detection, quantitation, or reporting limits) relative to the data quality objectives for the intended use of the analytical results. In response to this inherent flexibility, if an alternative analytical procedure is employed, then the U.S. EPA expects the laboratory to demonstrate and document that the procedure is capable of providing appropriate performance for its intended application. This demonstration must not be performed after the fact, but as part of the laboratory's initial demonstration of proficiency with the method. The documentation should be in writing, maintained in the laboratory, and available for inspection upon request by authorized representatives of the appropriate regulatory authorities. The documentation should include the performance data as well as a detailed description of the procedural steps as performed (i.e., a written standard operating procedure).

- Given this allowance for flexibility, the U.S. EPA wishes to emphasize that this manual also contains procedures for "method-defined parameters", where the analytical result is wholly dependent on the process used to make the measurement. Examples include the use of the TCLP to prepare a leachate, and the flash point, pH, paint filter liquids, and corrosivity tests. In these instances, changes to the specific methods may change the end result and incorrectly identify a waste as nonhazardous. Therefore, when the measurement of such method-defined parameters is required by regulation, those methods are not subject to the flexibility afforded in other methods.

- Analysts and data users are advised that even for those analytes that are not method-defined, different procedures may produce some difference in results. Common examples include the differences in recoveries of phenolic compounds extracted from water by separatory funnel (Method 3510) and continuous liquid-liquid (Method 3520) extraction techniques, differences in recoveries of many compounds between Soxhlet (Method 3540) and ultrasonic (Method 3550) extraction techniques, and differences resulting from the choice of acid digestion of metals (Method 3050) or microwave digestion (Method 3051). Where practical, the Agency has included guidance in the individual methods regarding known potential problems, and analysts are advised to review this information carefully in choosing or modifying analytical procedures. Chapter One describes a variety of quality control (QC) procedures that may be used to evaluate the quality of the analytical results. Additional QC procedures may be described in the individual methods. The results of these QC procedures should be used by the analyst to evaluate if the choice

of the analytical procedures and/or any modifications are appropriate to generate data of the quality necessary to satisfy the data quality needs of the intended application.

- The performance data included in the SW-846 methods are not intended to be used as absolute QC acceptance criteria for method performance. The data are intended to be guidance, by providing typical method performance in typical matrices, to assist the analyst in selection of the appropriate method for the intended application. In addition, it is the responsibility of the laboratory to establish actual operating parameters and in-house QC acceptance criteria, based on its own laboratory standard operating procedures and in-house QC program, to demonstrate appropriate performance of the methods used in that laboratory for the RCRA analytical applications for which they are intended.

- The regulated community is further advised that the methods here or from other sources need only be used for those specific analytes of concern that are subject to regulation or other monitoring requirements. The fact that a method provides a long list of analytes does not mean that each of those analytes is subject to any or all regulations, or that all of those analytes must be analyzed each time the method is employed, or that all of the analytes can be analyzed using a single sample preparation procedure. It is the U.S. EPA's intention that the target analyte list for any procedure includes those analytes necessary to meet the data quality objectives of the project, i.e., those analytes subject to monitoring requirements and set out in a RCRA permit (or other applicable regulation), plus those analytes used in the methods for QC purposes, such as surrogates, internal standards, system performance check compounds, etc. Additional analytes, not included on the analyte list of a particular method(s), but needed for a specific project, may be analyzed by that particular method(s), if appropriate performance can be demonstrated for the analytes of concern in the matrices of concern at the levels of concern.

Waste Extraction Test analyses will be conducted according to the method set forth in 22 CCR Appendix II *Waste Extraction Test (WET) Procedures*. The WET extraction solution shall consist of 0.2M sodium citrate at pH 5.0 + 0.1, which is prepared by titrating an appropriate amount of analytical grade citric acid in deionized water with 4.0N NaOH, except that the extraction solution for the determination of hexavalent chromium shall consist of deionized water.
Tables 1 and 2 summarize recommended, analyte-specific test methods.

2.5 Sampling Procedures

Many waste streams are heterogeneous; therefore, care must be taken to obtain a representative sample. In sampling wastes, consideration should be given to the uniformity of the waste in a container and to daily variations in production, which may cause the waste stream to vary. Table 3 contains a summary of waste sampling methods for different types of wastes. Recommended sampling access points for different waste containers and soil are listed in Table 4. Recommended numbers of samples to be taken for different types of wastes and soil are provided in Table 5.

Samples from multiple containers of the same waste will be composited for analysis (except for heterogeneous or layered wastes). Samples to be analyzed for volatile organics should be grab samples and should not be composited.

Strict chain-of-custody records will be maintained for these samples collected for regulatory compliance. Each person who handles the sample will, upon receipt, sign and date the identification tag. To ensure adequate chain-of-custody procedures, Volume II — Chapter Nine of SW-846, 3rd Edition must be followed.

The sample container must be compatible with the waste. Except for some solvents and oils, a plastic (1 quart) bottle is best. U.S. EPA procedures (SW-846) for sample preservation must be followed and U.S. EPA and DOT regulations for transporting hazardous materials/wastes must be met. Laboratories must certify that their procedures are U.S. EPA approved, and in that certification, reference U.S. EPA SW-846.

3.0 FACILITY CONFIRMATION OF WASTE STREAMS

Before Ri-Nu accepts a waste into their facility, they will confirm that the waste stream matches the previously completed and accepted non-hazardous waste profile. This process will involve:

a. The generator submits an actual sample of the proposed waste stream to Ri-Nu.

b. Ri-Nu will compare the waste stream sample to the profile description and conducts internal sample analyses in their in-house lab to compare to the 3rd party analytical submitted by the generator. The in-house lab will be used only for internal testing and will not be a State-certified lab used for complete waste profiling.

c. Ri-Nu will also conduct bench scale treatability testing to be sure their treatment process can reduce the waste stream contaminants to levels below the facility's discharge limits. Even if the waste stream proves to be non-hazardous if it cannot be treated sufficiently it will not be accepted by the facility.

d. If the physical inspection of the waste stream sample matches the profile description and Ri-Nu's in house laboratory analyses are consistent with the 3rd party analytical results, Ri-Nu will allow the generator to schedule delivery of their waste to the Ri-Nu facility.

e. When the generator's truck arrives at the Ri-Nu facility to transfer their waste, Ri-Nu conducts the following check for each load:

    i. A sample of the waste stream is taken from the delivery truck before it is unloaded and physically compared to the original waste stream sample supplied by the generator. Physical comparisons include color, odor and % solids.

    ii. Ri-Nu's in-house lab then conducts additional analyses of the sample from the delivery truck. This may include checking pH, flash point, metals content, etc.

f. If the waste load fails either the physical inspection or the analytical check, it is rejected and the truck leaves the facility without unloading the waste.

g. The load check process takes roughly 30 minutes to complete. Once the load passes the load check, the waste is unloaded at the facility.

4.0 WASTE STREAM ANALYTICAL REQUIREMENT EXAMPLES

When profiling a waste stream, waste analysis parameters and the rationale for using a specific analytical parameter are based on the physical as well as the chemical characteristics of each waste stream. Only analyses relevant to the non-hazardous waste characteristics for a particular waste stream are necessary. In some cases, the facility will have to test for specific constituents.

Physical characterization includes parameters such as container information on labels, visual appearance (color, odor, physical state, etc.), pH, flash point, moisture content, specific gravity, viscosity, miscibility in water, and the quantity received. Chemical characterization includes laboratory analyses necessary to delineate the chemical nature of the waste stream.

This WAP section provides examples of waste streams expected to be received at the facility and the analytical required to profile each stream.

At a minimum, every profile application should include laboratory results for Title 22 metals.

4.1 Oil Exploration and Production Wastes (E&P Wastes)

The term "E&P Wastes" is used to describe wastes generated by exploration, development, and production activities related to oil production, including the extraction of crude oil from the ground, and subsequent purification processes that takes place to remove co-produced excess water and other unwanted wastes into three categories: produced water; drilling wastes, and associated wastes (Department of Toxic Substances Control, 2002). E&P wastes intrinsic to oil production are currently exempt from regulations as hazardous wastes under Federal law, pursuant to 40 CFR Section 261.4(b)(5). The E&P waste exemption was also incorporated into California regulations pursuant to 22 CCR Sections 66261.4(b)(2) and 66261.24(a)(1). This exemption applies in California in cases where the waste is hazardous solely by meeting the federal characteristic for toxicity under the Toxicity Characteristic Leaching Procedure (TCLP). Therefore, a waste that is hazardous solely by meeting or exceeding the maximum contaminant concentration for constituents extracted by TCLP, and for which federal regulatory thresholds have been established, is exempted from regulation as hazardous waste in California. However, the exemption does not apply if toxicity is determined based on criteria other than TCLP, or the waste meets any of the three characteristics of hazardous waste codified in 22 CCR Chapter 11 Article 3, Sections 66261.20 et seq., namely ignitability, corrosivity, and reactivity (Department of Toxic Substances Control 2002).

The United States Environmental Protection Agency (U.S. EPA) published lists of exempt and non-exempt E&P wastes, although the lists should not be considered to be comprehensive (U.S. EPA 2002). The exempt wastes list that applies to those wastes generated by E&P operations include the following:

- Produced water
- Drilling fluids
- Drill cuttings
- Workover wastes
- Rigwash
- Drilling fluids and cuttings from offshore operations disposed of onshore
- Geothermal production fluids
- Liquid Hydrocarbons produced from the production stream but not from oil refining
- Well completion, treatment, and stimulation fluids
- Basic sediment, water, and other tank bottoms from storage facilities that hold product and exempt waste
- Produced sand
- Packing fluids
- Hydrogen sulfide abatement wastes from geothermal energy production

The non-exempt wastes list that applies to those wastes generated by E&P operations include the following:

- Unused fracturing fluids or acids
- Gas plant cooling tower cleaning wastes
- Vacuum truck and drum rinsate from trucks and drums transporting or containing non-exempt waste
- Liquid and solid wastes generated by crude oil and tank bottom reclaimers
- Oil and gas service company wastes such as empty drums, drum rinsate, sandblast media, painting wastes, spent solvents, spilled chemicals, and waste acids
- Refinery wastes
- Waste compressor oil, filters, and blowdown

This following table summarizes profiling analytical requirements for select E&P waste streams:

Waste Stream	Potential Analytes of Concern	Analytical Methods
Produced water	VOCs Title 22 metals (Pb, As, Ba, etc.) Oil & Grease	EPA 8260 EPA 6010, 6020 EPA 1664
Tank bottoms	VOCs Title 22 metals (Pb, As, Ba, etc.) Flash point Oil & Grease	EPA 8260 EPA 6010, 6020 EPA 1010 EPA 1664
Drill mud	VOCs Title 22 metals (Pb, As, Ba, etc.) pH Oil & Grease	EPA 8260 EPA 6010, 6020 EPA 9040, 150.1 EPA 1664

4.2 Miscellaneous Industrial Waste Streams

This following table summarizes profiling analytical requirements for other example waste streams:

Waste Stream	Potential Analytes of Concern	Analytical Methods
Industrial Wastewater Containing Metals (blowdown brine, metal finish wastewater)	Title 22 metals (Pb, As, Ba, etc.)	EPA 6010, 6020
Oily Wastewater (oil-water emulsions, UST site contaminated groundwater, bilge water)	VOCs Title 22 metals (Pb, As, Ba, etc.) Oil & Grease	EPA 8260 EPA 6010, 6020 EPA 1664
Industrial Wastewater Containing Organics (solvent bearing wastes, landfill leachate, winery wastewater)	VOCs Title 22 metals (Pb, As, Ba, etc.) Oil & Grease	EPA 8260 EPA 6010, 6020 EPA 1664

5.0 REFERENCES

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Tables

Table 1
Analytical Test Methods

Table 1
Determinative Methods for Organic Analytes

Analyte	Applicable Method(s)
Acenaphthene	8100, 8270, 8275, 8310, 8410
Acenaphthylene	8100, 8270, 8275, 8310, 8410
Acetaldehyde	8315
Acetone	8015, 8260, 8315
Acetonitrile	8015, 8033, 8260
Acetophenone	8270
2-Acetylaminofluorene	8270
1-Acetyl-2-thiourea	8270
Acifluorfen	8151
Acrolein (Propenal)	8015, 8260, 8315, 8316
Acrylamide	8032, 8316
Acrylonitrile	8015, 8031, 8260, 8316
Alachlor	8081
Aldicarb (Temik)	8318, 8321
Aldicarb sulfone	8318, 8321
Aldicarb sulfoxide	8321
Aldrin	8081, 8270
Allyl alcohol	8015, 8260
Allyl chloride	8021, 8260
2-Aminoanthraquinone	8270
Aminoazobenzene	8270
4-Aminobiphenyl	8270
Aminocarb	8321
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	8330
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	8330
3-Amino-9-ethylcarbazole	8270
Anilazine	8270
Aniline	8131, 8270
o-Anisidine	8270
Anthracene	8100, 8270, 8275, 8310, 8410
Aramite	8270
Aroclor-1016 (PCB-1016)	8082, 8270
Aroclor-1221 (PCB-1221)	8082, 8270
Aroclor-1232 (PCB-1232)	8082, 8270
Aroclor-1242 (PCB-1242)	8082, 8270
Aroclor-1248 (PCB-1248)	8082, 8270
Aroclor-1254 (PCB-1254)	8082, 8270
Aroclor-1260 (PCB-1260)	8082, 8270
Aspon	8141
Asulam	8321
Atrazine	8141
Azinphos-ethyl	8141
Azinphos-methyl	8141, 8270
Barban	8270, 8321
Baygon (Propoxur)	8318, 8321
Bendiocarb	8321
Benefin	8091
Benomyl	8321
Bentazon	8151
Benzal chloride	8121
Benzaldehyde	8315
Benz(a)anthracene	8100, 8270, 8275, 8310, 8410
Benzene	8021, 8260
Benzenethiol (Thiophenol)	8270

Table 1
Determinative Methods for Organic Analytes

Analyte	Applicable Method(s)
Benzidine	8270, 8325
Benzo(b)fluoranthene	8100, 8270, 8275, 8310
Benzo(j)fluoranthene	8100
Benzo(k)fluoranthene	8100, 8270, 8275, 8310
Benzoic acid	8270, 8410
Benzo(g,h,i)perylene	8100, 8270, 8275, 8310
Benzo(a)pyrene	8100, 8270, 8275, 8310, 8410
p-Benzoquinone	8270
Benzotrichloride	8121
Benzoylprop ethyl	8325
Benzyl alcohol	8270
Benzyl benzoate	8061
Benzyl chloride	8021, 8121, 8260
BHC (-Hexachlorocyclohexane)	8081, 8121, 8270
β-BHC (β -Hexachlorocyclohexane)	8081, 8121, 8270
δ-BHC (δ -Hexachlorocyclohexane)	8081, 8121, 8270
γ-BHC (Lindane, (γ-Hexachlorocyclohexane)	8081, 8121, 8270
Bis(2-chloroethoxy)methane	8111, 8270, 8410
Bis(2-chloroethyl) ether	8111, 8270, 8410, 8430
Bis(2-chloroethyl)sulfide	8260
Bis(2-chloroisopropyl) ether	8021, 8111, 8270, 8410
Bis(2-n-butoxyethyl) phthalate	8061
Bis(2-ethoxyethyl) phthalate	8061
Bis(2-ethylhexyl) phthalate	8061, 8270, 8410
Bis(2-methoxyethyl) phthalate	8061
Bis(4-methyl-2-pentyl)-phthalate	8061
Bolstar (Sulprofos)	8141
Bromacil	8321
Bromoacetone	8021, 8260
4-Bromoaniline	8131
Bromobenzene	8021, 8260
Bromochloromethane	8021, 8260
2-Bromo-6-chloro-4-nitroaniline	8131
Bromodichloromethane	8021, 8260
2-Bromo-4,6-dinitroaniline	8131
4-Bromofluorobenzene	8260
Bromoform	8021, 8260
Bromomethane	8021, 8260
4-Bromophenyl phenyl ether	8111, 8270, 8275, 8410
Bromoxynil	8270
Butanal	8315
1-Butanol (n-Butyl alcohol)	8015
n-Butanol	8260
2-Butanone (Methyl ethyl ketone, MEK)	8015, 8260
Butralin	8091
n-Butyl alcohol (1-Butanol)	8015
t-Butyl alcohol	8015
n-Butylbenzene	8021, 8260
sec-	8021, 8260
tert-Butylbenzene	8021, 8260
Butyl benzyl phthalate	8061, 8270, 8410
2-sec-Butyl-4,6-dinitrophenol (DNBP, Dinoseb)	8041, 8151, 8270, 8321
Caffeine	8321
Captafol	8081, 8270

Table 1
Determinative Methods for Organic Analytes

Analyte	Applicable Method(s)
Captan	8270
Carbaryl (Sevin)	8270, 8318, 8321, 8325
Carbendazim	8321
Carbofuran (Furaden)	8270, 8318, 8321
Carbon disulfide	8260
Carbon tetrachloride	8021, 8260
Carbophenothion	8141, 8270
Chloral hydrate	8260
Chloramben	8151
Chlordane (NOS)	8270
"-Chlordane	8081
γ-Chlordane	8081
Chlorfenvinphos	8141, 8270
Chloroacetonitrile	8260
2-Chloroacrylonitrile	8015
2-Chloroaniline	8131
3-Chloroaniline	8131
4-Chloroaniline	8131, 8270, 8410
Chlorobenzene .	8021, 8260
Chlorobenzilate	8081, 8270
2-Chlorobiphenyl	8082, 8275
2-Chloro-1,3-butadiene (Chloroprene)	8021, 8260
1-Chlorobutane	8260
Chlorodibromomethane (Dibromochloromethane)	8021, 8260
2-Chloro-4,6-dinitroaniline	8131
1-Chloro-2,4-dinitrobenzene	8091
1-Chloro-3,4-dinitrobenzene	8091
Chloroethane	8021, 8260
2-Chloroethanol	8021, 8260, 8430
2-(2-Chloroethoxy)ethanol	8430
2-Chloroethyl vinyl ether	8021, 8260
Chloroform	8021, 8260
1-Chlorohexane	8260
Chloromethane	8021, 8260
5-Chloro-2-methylaniline	8270
Chloromethyl methyl ether	8021
2-Chloro-5-methylphenol	8041
4-Chloro-2-methylphenol	8041
4-Chloro-3-methylphenol	8041, 8270, 8410
3-(Chloromethyl)pyridine hydrochloride	8270
1-Chloronaphthalene	8270, 8275
2-Chloronaphthalene	8121, 8270, 8410
Chloroneb	8081
2-Chloro-4-nitroaniline	8131
4-Chloro-2-nitroaniline	8131
1-Chloro-2-nitrobenzene	8091
1-Chloro-4-nitrobenzene	8091
2-Chloro-6-nitrotoluene	8091
4-Chloro-2-nitrotoluene	8091
4-Chloro-3-nitrotoluene	8091
2-Chlorophenol	8041, 8270, 8410
3-Chlorophenol	8041
4-Chlorophenol	8041, 8410
4-Chloro-1,2-phenylenediamine	8270

Table 1
Determinative Methods for Organic Analytes

Analyte	Applicable Method(s)
4-Chloro-1,3-phenylenediamine	8270
4-Chlorophenyl phenyl ether	8111, 8270, 8410
2-Chlorophenyl 4-nitrophenyl ether	8111
3-Chlorophenyl 4-nitrophenyl ether	8111
4-Chlorophenyl 4-nitrophenyl ether	8111
o-Chlorophenyl thiourea	8325
Chloroprene (2-Chloro-1,3-butadiene)	8021, 8260
3-Chloropropionitrile	8260
Chloropropham	8321
Chloropropylate	8081
Chlorothalonil	8081
2-Chlorotoluene	8021, 8260
4-Chlorotoluene	8021, 8260
Chloroxuron	8321
Chlorpyrifos	8141
Chlorpyrifos methyl	8141
Chrysene	8100, 8270, 8275, 8310, 8410
Coumaphos	8141, 8270
Coumarin Dyes	8321
p-Cresidine	8270
o-Cresol (2-Methylphenol)	8041, 8270, 8410
m-Cresol (3-Methylphenol)	8041, 8270
p-Cresol (4-Methylphenol)	8041, 8270, 8275, 8410
Crotonaldehyde	8015, 8260, 8315
Crotoxyphos	8141, 8270
Cyclohexanone	8315
2-Cyclohexyl-4,6-dinitrophenol	8041, 8270
2,4-D	8151, 8321
Dalapon	8151, 8321
2,4-DB	8151, 8321
DBCP (1,2-Dibromo-3-chloropropane)	8011, 8021, 8081, 8260, 8270
2,4-D, butoxyethanol ester	8321
DCM (Dichloromethane, Methylene chloride)	8021, 8260
DCPA	8081
DCPA diacid	8151
4,4'-DDD	8081, 8270
4,4'-DDE	8081, 8270
4,4'-DDT	8081, 8270
DDVP (Dichlorvos, Dichlorovos)	8141, 8270, 8321
2,2',3,3'4,4'5,5',6,6'-Decachlorobiphenyl	8275
Decanal	8315
Demeton-O, and Demeton-S	8141, 8270
2,4-D, ethylhexyl ester	8321
Diallate	8081, 8270
Diamyl phthalate	8061
2,4-Diaminotoluene	8270
Diazinon	8141
Dibenz(a,h)acridine	8100
Dibenz(a,j)acridine	8100, 8270
Dibenz(a,h)anthracene	8100, 8270, 8275, 8310
7H-Dibenzo(c,g)carbazole	8100
Dibenzofuran	8270, 8275, 8410
Dibenzo(a,e)pyrene	8100, 8270
Dibenzo(a,h)pyrene	8100

Table 1
Determinative Methods for Organic Analytes

Analyte	Applicable Method(s)
Dibenzo(a,i)pyrene	8100
Dibenzothiophene	8275
Dibromochloromethane (Chlorodibromomethane)	8021, 8260
1,2-Dibromo-3-chloropropane (DBCP)	8011, 8260, 8270
1,2-Dibromoethane (EDB, Ethylene dibromide)	8011, 8021, 8260
Dibromofluoromethane	8260
Dibromomethane	8021, 8260
2,6-Dibromo-4-nitroaniline	8131
2,4-Dibromophenyl 4-nitrophenyl ether	8111
Di-n-butyl phthalate	8061, 8270, 8410
Dicamba	8151, 8321
Dichlone	8081, 8270
3,4-Dichloroaniline	8131
1,2-Dichlorobenzene	8021, 8121, 8260, 8270, 8410
1,3-Dichlorobenzene	8021, 8121, 8260, 8270, 8410
1,4-Dichlorobenzene	8021, 8121, 8260, 8270, 8410
3,3'-Dichlorobenzidine	8270, 8325
3,5-Dichlorobenzoic acid	8151
2,3-Dichlorobiphenyl	8082, 8275
3,3'-Dichlorobiphenyl	8275
cis-1,4-Dichloro-2-butene	8260
trans-1,4-Dichloro-2-butene	8260
Dichlorodifluoromethane	8021, 8260
1,1-Dichloroethane	8021, 8260
1,2-Dichloroethane	8021, 8260
1,1-Dichloroethene (Vinylidene chloride)	8021, 8260
cis-1,2-Dichloroethene	8021, 8260
trans-1,2-Dichloroethene	8021, 8260
Dichlorofenthion	8141
Dichloromethane (DCM, Methylene chloride)	8021, 8260
2,6-Dichloro-4-nitroaniline	8131
2,3-Dichloronitrobenzene	8091
2,4-Dichloronitrobenzene	8091
3,5-Dichloronitrobenzene	8091
3,4-Dichloronitrobenzene	8091
2,5-Dichloronitrobenzene	8091
2,3-Dichlorophenol	8041
2,4-Dichlorophenol	8041, 8270, 8410
2,5-Dichlorophenol	8041
2,6-Dichlorophenol	8041, 8270
3,4-Dichlorophenol	8041
3,5-Dichlorophenol	8041
2,4-Dichlorophenol 3-methyl-4-nitrophenyl ether	8111
2,6-Dichlorophenyl 4-nitrophenyl ether	8111
3,5-Dichlorophenyl 4-nitrophenyl ether	8111
2,5-Dichlorophenyl 4-nitrophenyl ether	8111
2,4-Dichlorophenyl 4-nitrophenyl ether	8111
2,3-Dichlorophenyl 4-nitrophenyl ether	8111
3,4-Dichlorophenyl 4-nitrophenyl ether	8111
Dichloroprop (Dichlorprop)	8151, 8321
1,2-Dichloropropane	8021, 8260
1,3-Dichloropropane	8021, 8260
2,2-Dichloropropane	8021, 8260
1,3-Dichloro-2-propanol	8021, 8260

Table 1
Determinative Methods for Organic Analytes

Analyte	Applicable Method(s)
1,1-Dichloropropene	8021, 8260
cis-1,3-Dichloropropene	8021, 8260
trans-1,3-Dichloropropene	8021, 8260
Dichlorovos (DDVP, Dichlorvos)	8141, 8270, 8321
Dichlorprop (Dichloroprop)	8151, 8321
Dichlorvos (DDVP, Dichlorovos)	8141, 8270, 8321
Dicrotophos	8141, 8270
Dicofol	8081
Dicyclohexyl phthalate	8061
Dieldrin	8081, 8270
1,2,3,4-Diepoxybutane	8260
Diesel range organics (DRO)	8015, 8440
Diethylene glycol	8430
Diethyl ether	8015, 8260
Diethyl phthalate	8061, 8270, 8410
Diethylstilbestrol	8270
Diethyl sulfate	8270
1,4-Difluorobenzene	8260
Dihexyl phthalate	8061
Dihydrosaffrole	8270
Diisobutyl phthalate	8061
Dimethoate	8141, 8270, 8321
3,3'-Dimethoxybenzidine	8270, 8325
Dimethylaminoazobenzene	8270
2,5-Dimethylbenzaldehyde	8315
7,12-Dimethylbenz(a)anthracene	8270
3,3'-Dimethylbenzidine	8270, 8325
","-Dimethylphenethylamine	8270
2,3-Dimethylphenol	8041
2,4-Dimethylphenol	8041, 8270
2,5-Dimethylphenol	8041
2,6-Dimethylphenol	8041
3,4-Dimethylphenol	8041
Dimethyl phthalate	8061, 8270, 8410
Dinitramine	8091
2,4-Dinitroaniline	8131
1,2-Dinitrobenzene	8091, 8270
1,3-Dinitrobenzene (1,3-DNB)	8091, 8270, 8330
1,4-Dinitrobenzene	8091, 8270
4,6-Dinitro-2-methylphenol	8270, 8410
2,4-Dinitrophenol	8041, 8270, 8410
2,5-Dinitrophenol	8041
2,4-Dinitrotoluene (2,4-DNT)	8091, 8270, 8330, 8410
2,6-Dinitrotoluene (2,6-DNT)	8091, 8270, 8330, 8410
Dinocap	8270
Dinonyl phthalate	8061
Dinoseb (2-sec-Butyl-4,6-dinitrophenol, DNBP)	8041, 8151, 8270, 8321
Di-n-octyl phthalate	8061, 8270, 8410
Dioxacarb	8318
1,4-Dioxane	8015, 8260
Dioxathion	8141, 8270
Di-n-propyl phthalate	8410
Diphenylamine	8270
5,5-Diphenylhydantoin	8270

Table 1
Determinative Methods for Organic Analytes

Analyte	Applicable Method(s)
1,2-Diphenylhydrazine	8270
Disperse Blue 3	8321
Disperse Blue 14	8321
Disperse Brown 1	8321
Disperse Orange 3	8321
Disperse Orange 30	8321
Disperse Red 1	8321
Disperse Red 5	8321
Disperse Red 13	8321
Disperse Red 60	8321
Disperse Yellow 5	8321
Disulfoton	8141, 8270, 8321
Diuron	8321, 8325
1,3-DNB (1,3-Dinitrobenzene)	8091, 8270, 8330
DNBP (2-sec-Butyl-4,6-dinitrophenol, Dinoseb)	8151, 8270, 8321
2,4-DNT (2,4-Dinitrotoluene)	8091, 8270, 8275, 8330, 8410
2,6-DNT (2,6-Dinitrotoluene)	8091, 8270, 8330, 8410
EDB (1,2-Dibromoethane, Ethylene dibromide)	8011, 8021, 8260
Endosulfan I	8081, 8270
Endosulfan II	8081, 8270
Endosulfan sulfate	8081, 8270
Endrin	8081, 8270
Endrin aldehyde	8081, 8270
Endrin ketone	8081, 8270
Epichlorohydrin	8021, 8260
EPN	8141, 8270
Ethanol	8015, 8260
Ethion	8141, 8270
Ethoprop	8141
Ethyl acetate	8015, 8260
Ethylbenzene	8021, 8260
Ethyl carbamate	8270
Ethyl cyanide (Propionitrile)	8015, 8260
Ethylene dibromide (EDB, 1,2-Dibromoethane)	8021, 8260
Ethylene glycol	8015, 8430
Ethylene oxide	8015, 8260
Ethyl methacrylate	8260
Ethyl methanesulfonate	8270
Etridiazole	8081
Famphur	8141, 8270, 8321
Fenitrothion	8141
Fensulfothion	8141, 8270, 8321
Fenthion	8141, 8270
Fenuron	8321
Fluchloralin	8270
Fluometuron	8321
Fluoranthene	8100, 8270, 8275, 8310, 8410
Fluorene	8100, 8270, 8275, 8310, 8410
Fluorescent Brightener 61	8321
Fluorescent Brightener 236	8321
Fluorobenzene	8260
2-Fluorobiphenyl	8270
2-Fluorophenol	8270
Fonophos	8141

Table 1
Determinative Methods for Organic Analytes

Analyte	Applicable Method(s)
Formaldehyde	8315
Furaden (Carbofuran)	8270, 8318, 8321
Gasoline range organics (GRO)	8015
Halowax-1000	8081
Halowax-1001	8081
Halowax-1013	8081
Halowax-1014	8081
Halowax-1051	8081
Halowax-1099	8081
Heptachlor	8081, 8270
2,2',3,3',4,4',5-Heptachlorobiphenyl	8082, 8275
2,2',3,4,4',5,5'-Heptachlorobiphenyl	8082, 8275
2,2',3,4,4',5',6-Heptachlorobiphenyl	8082
2,2',3,4',5,5',6-Heptachlorobiphenyl	8082, 8275
Heptachlor epoxide	8081, 8270
Heptanal	8315
Hexachlorobenzene	8081, 8121, 8270, 8275, 8410
2,2',3,3,4,4'-Hexachlorobiphenyl	8275
2,2',3,4,4',5'-Hexachlorobiphenyl	8082, 8275
2,2',3,4,5,5'-Hexachlorobiphenyl	8082
2,2',3,5,5',6-Hexachlorobiphenyl	8082
2,2',4,4',5,5'-Hexachlorobiphenyl	8082
Hexachlorobutadiene	8021, 8121, 8260, 8270, 8410
"-Hexachlorocyclohexane ("-BHC)	8081, 8121, 8270
β-Hexachlorocyclohexane (β-BHC)	8081, 8121, 8270
δ-Hexachlorocyclohexane (δ-BHC)	8081, 8121, 8270
γ-Hexachlorocyclohexane ((γ-BHC, Lindane)	8081, 8121, 8270
Hexachlorocyclopentadiene	8081, 8121, 8270, 8410
Hexachloroethane	8121, 8260, 8270, 8410
Hexachlorophene	8270
Hexachloropropene	
Hexafluoro-2-methyl-2-propanol	8015
Hexafluoro-2-propanol	8015
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	8330
Hexamethylphosphoramide (HMPA)	8141, 8270
Hexanal	8315
2-Hexanone	8260
Hexyl 2-ethylhexyl phthalate	8061
HMPA (Hexamethylphosphoramide)	8141, 8270
HMX (Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine)	8330
1,2,3,4,6,7,8-HpCDD	8280, 8290
HpCDD, total	8280
1,2,3,4,6,7,8-HpCDF	8280, 8290
1,2,3,4,7,8,9-HpCDF	8280, 8290
HpCDF, total	8280
1,2,3,4,7,8-HxCDD	8280, 8290
1,2,3,6,7,8-HxCDD	8280, 8290
1,2,3,7,8,9-HxCDD	8280, 8290
HxCDD,	8280
1,2,3,4,7,8-HxCDF	8280, 8290
1,2,3,6,7,8-HxCDF	8280, 8290
1,2,3,7,8,9-HxCDF	8280, 8290
2,3,4,6,7,8-HxCDF	8280, 8290
HxCDF	8280

Table 1
Determinative Methods for Organic Analytes

Analyte	Applicable Method(s)
Hydroquinone	8270
3-Hydroxycarbofuran	8318, 8321
5-Hydroxydicamba	8151
2-Hydroxypropionitrile	8260
Indeno(1,2,3-cd)pyrene	8100, 8270, 8275, 8310
Iodomethane (Methyl iodide)	8260
Isobutyl alcohol (2-Methyl-1-propanol)	8015, 8260
Isodrin	8081, 8270
Isophorone	8270, 8410
Isopropalin	8091
Isopropyl alcohol (2-Propanol)	8015, 8260
Isopropylbenzene	8021, 8260
p-Isopropyltoluene	8021, 8260
Isosafrole	8270
Isovaleraldehyde	8315
Kepone	8081, 8270
Lannate (Methomyl)	8318, 8321
Leptophos	8141, 8270
Lindane ((γ-Hexachlorocyclohexane, (γ-BHC)	8081, 8121, 8270
Linuron (Lorox)	8321, 8325
Lorox (Linuron)	8321, 8325
Malathion	8141, 8270
Maleic anhydride	8270
Malononitrile	8260
MCPA	8151, 8321
MCPP	8151, 8321
Merphos	8141, 8321
Mestranol	8270
Mesurol (Methiocarb)	8318, 8321
Methacrylonitrile	8260
Methanol	8015, 8260
Methapyrilene	8270
Methiocarb (Mesurol)	8318, 8321
Methomyl (Lannate)	8318, 8321
Methoxychlor	8081, 8270
Methyl acrylate	8260
2-Methyl-1-propanol (Isobutyl alcohol)	8015, 8260
Methyl-t-butyl ether	8260
3-Methylcholanthrene	8100, 8270
2-Methyl-4,6-dinitrophenol	8041
4,4'-Methylenebis(2-chloroaniline)	8270
4,4'-Methylenebis(N,N-dimethylaniline)	8270
Methyl ethyl ketone (MEK, 2-Butanone)	8015, 8260
Methylene chloride (Dichloromethane, DCM)	8021, 8260
Methyl iodide (Iodomethane)	8260
Methyl isobutyl ketone (MIBK, 4-Methyl-2-pentanone)	8015, 8260
Methyl methacrylate	8260
Methyl methanesulfonate	8270
2-Methylnaphthalene	8270, 8410
Methyl parathion	8270, 8321
4-Methyl-2-pentanone (MIBK, Methyl isobutyl ketone)	8015, 8260
2-Methylphenol (o-Cresol)	8041, 8270, 8410
3-Methylphenol (m-Cresol)	8041, 8270
4-Methylphenol (p-Cresol)	8041, 8270, 8410

Table 1
Determinative Methods for Organic Analytes

Analyte	Applicable Method(s)
2-Methylpyridine (2-Picoline)	8015, 8260, 8270
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	8330
Mevinphos	8141, 8270
Mexacarbate	8270, 8321
MIBK (Methyl isobutyl ketone, 4-Methyl-2-pentanone)	8015, 8260
Mirex	8081, 8270
Monocrotophos	8141, 8270, 8321
Monuron	, 8325
Naled	8141, 8270, 8321
Naphthalene	8021, 8100, 8260, 8270, 8275, 8310, 8410
NB (Nitrobenzene)	8091, 8260, 8270, 8330, 8410
1,2-Naphthoquinone	8091
1,4-Naphthoquinone	8270, 8091
1-Naphthylamine	8270
2-Naphthylamine	8270
Neburon	8321
Nicotine	8270
5-Nitroacenaphthene	8270
2-Nitroaniline	8131, 8270, 8410
3-Nitroaniline	8131, 8270, 8410
4-Nitroaniline	8131, 8270, 8410
5-Nitro-o-anisidine	8270
Nitrobenzene (NB)	8091, 8260, 8270, 8330, 8410
4-Nitrobiphenyl	8270
Nitrofen	8081, 8270
Nitroglycerin	8332
2-Nitrophenol	8041, 8270, 8410
3-Nitrophenol	8041
4-Nitrophenol	8041, 8151, 8270, 8410
4-Nitrophenyl phenyl ether	8111
2-Nitropropane	8260
Nitroquinoline-1-oxide	8270
N-Nitrosodi-n-butylamine	8015, 8260, 8270
N-Nitrosodiethylamine	8270
N-Nitrosodimethylamine	8070, 8270, 8410
N-Nitrosodi-n-butylamine (N-Nitrosodibutylamine)	8015, 8260, 8270
N-Nitrosodiphenylamine	8070, 8270, 8410
N-Nitrosodi-n-propylamine	8070, 8270, 8410
N-Nitrosomethylethylamine	8270
N-Nitrosomorpholine	8270
N-Nitrosopiperidine	8270
N-	8270
2-Nitrotoluene (o-Nitrotoluene, 2-NT)	8091, 8330
3-Nitrotoluene (m-Nitrotoluene, 3-NT)	8091, 8330
4-Nitrotoluene (p-Nitrotoluene, 4-NT)	8091, 8330
o-Nitrotoluene (2-Nitrotoluene, 2-NT)	8091, 8330
m-Nitrotoluene (3-Nitrotoluene, 3-NT)	8091, 8330
p-Nitrotoluene (4-Nitrotoluene, 4-NT)	8091, 8330
5-Nitro-o-toluidine	8270
trans-Nonachlor	8081
2,2'3,3'4,4'5,5'6-Nonachlorobiphenyl	8082, 8275
Nonanal	8315
2-NT (2-Nitrotoluene, o-Nitrotoluene)	8091, 8330
3-NT (3-Nitrotoluene, m-Nitrotoluene)	8091, 8330

Table 1
Determinative Methods for Organic Analytes

Analyte	Applicable Method(s)
4-NT (4-Nitrotoluene, p-Nitrotoluene)	8091, 8330
OCDD	8280, 8290
OCDF	8280, 8290
2,2',3,3',4,4'5,5'-Octachlorobiphenyl	8275
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	8330
Octamethyl pyrophosphoramide	8270
Octanal	8315
Oxamyl	8321
4,4'-Oxydianiline	8270
Paraldehyde	8015, 8260
Parathion	8270
Parathion, ethyl	8141
Parathion, methyl	8141
PCB-1016 (Aroclor-1016)	8082, 8270
PCB-1221 (Aroclor-1221)	8082, 8270
PCB-1232 (Aroclor-1232)	8082, 8270
PCB-1242 (Aroclor-1242)	8082, 8270
PCB-1248 (Aroclor-1248)	8082, 8270
PCB-1254 (Aroclor-1254)	8082, 8270
PCB-1260 (Aroclor-1260)	8082, 8270
PCNB	8081
1,2,3,7,8-PeCDD	8280, 8290
PeCDD, total	8280
1,2,3,7,8-PeCDF	8280, 8290
2,3,4,7,8-PeCDF	8280, 8290
PeCDF, total	8280
Pendimethaline (Penoxalin)	8091
Penoxalin (Pendimethaline)	8091
Pentachlorobenzene	8121, 8270
2,2',3,4,5'-Pentachlorobiphenyl	8082
2,2',4,5,5'-Pentachlorobiphenyl	8082, 8275
2,3,3',4',6-Pentachlorobiphenyl	8082
2,3',4,4',5-Pentachlorobiphenyl	8275
Pentachloroethane	8260
Pentachloronitrobenzene	8091, 8270
Pentachlorophenol	8041, 8151, 8270, 8410
Pentafluorobenzene	8260
Pentanal (Valeraldehyde)	8315
2-Pentanone	8015, 8260
Permethrin	8081
Perthane	8081
Phenacetin	8270
Phenanthrene	8100, 8270, 8275, 8310, 8410
Phenobarbital	8270
Phenol	8041, 8270, 8410
1,4-Phenylenediamine	8270
Phorate	8141, 8270, 8321
Phosalone	8270
Phosmet	8141, 8270
Phosphamidon	8141, 8270
Phthalic anhydride	8270
Picloram	8151
2-Picoline (2-Methylpyridine)	8015, 8260, 8270
Piperonyl sulfoxide	8270

Table 1
Determinative Methods for Organic Analytes

Analyte	Applicable Method(s)
Profluralin	8091
Promecarb	8318
Pronamide	8270
Propachlor	8081, 8321
Propanal (Propionaldehyde)	8315, 8321
1-Propanol	8015, 8260
2-Propanol (Isopropyl alcohol)	8015, 8260
Propargyl alcohol	8260
Propenal (Acrolein)	8260, 8315
Propham	8321
β-Propiolactone	8260
Propionaldehyde (Propanal)	8315
Propionitrile (Ethyl cyanide)	8015, 8260
Propoxur (Baygon)	8318, 8321
n-Propylamine	8260
n-Propylbenzene	8021, 8260
Propylthiouracil	8270
Prothiophos (Tokuthion)	8141
Pyrene	8100, 8270, 8275, 8310, 8410
Pyridine	8015, 8260, 8270
RDX (Hexahydro-1,3,5-trinitro-1,3,5-triazine)	8330
Resorcinol	8270
Ronnel	8141
Rotenone	8325
Safrole	8270
Sevin (Carbaryl)	8270, 8318, 8321, 8325
Siduron	8321, 8325
Simazine	8141
Silvex (2,4,5-TP)	8151, 8321
Solvent Red 3	8321
Solvent Red 23	8321
Stirophos (Tetrachlorvinphos)	8141, 8270
Strobane	8081
Strychnine	8270, 8321
Styrene	8021, 8260
Sulfallate	8270
Sulfotepp	8141
Sulprofos (Bolstar)	8141
2,4,5-T	8151, 8321
2,4,5-T, butoxyethanol ester	8321
2,4,5-T, butyl ester	8321
2,3,7,8-TCDD	8280, 8290
TCDD, total	8280
2,3,7,8-TCDF	8280, 8290
TCDF, total	8280
Tebuthiuron	8321
Temik (Aldicarb)	8318, 8321
TEPP	8141
Terbufos	8141, 8270
1,2,3,4-Tetrachlorobenzene	8121
1,2,3,5-Tetrachlorobenzene	8121
1,2,4,5-Tetrachlorobenzene	8121, 8270
2,2',3,5'-Tetrachlorobiphenyl	8082, 8275
2,2',4,5'-Tetrachlorobiphenyl	8275

Table 1
Determinative Methods for Organic Analytes

Analyte	Applicable Method(s)
2,2',5,5'-Tetrachlorobiphenyl	8082, 8275
2,3',4,4'-Tetrachlorobiphenyl	8082, 8275
1,1,1,2-Tetrachloroethane	8021, 8260
1,1,2,2-Tetrachloroethane	8021, 8260
Tetrachloroethene	8021, 8260
2,3,4,5-Tetrachlorophenol	8041
2,3,4,6-Tetrachlorophenol	8041, 8270
2,3,5,6-Tetrachlorophenol	8041
2,3,4,5-Tetrachloronitrobenzene	8091
2,3,5,6-Tetrachloronitrobenzene	8091
Tetrachlorvinphos (Stirophos)	8141, 8270
Tetraethyl dithiopyrophosphate	8270
Tetraethyl pyrophosphate	8270
Tetrazene	8331
Tetryl (Methyl-2,4,6-trinitrophenylnitramine)	8330
Thiofanox	8321
Thionazin (Zinophos)	8141, 8270
Thiophenol (Benzenethiol)	8270
1,3,5-TNB (1,3,5-Trinitrobenzene)	8270, 8330
2,4,6-TNT (2,4,6-Trinitrobenzene)	8330
TOCP (Tri-o-cresylphosphate)	8141
Tokuthion (Prothiophos)	8141
m-Tolualdehyde	8315
o-Tolualdehyde	8315
p-Tolualdehyde	8315
Toluene	8021, 8260
Toluene diisocyanate	8270
o-Toluidine	8015, 8260, 8270
Total petroleum hydrocarbons as diesel	8015
Total petroleum hydrocarbons as gasoline	8015
Total petroleum hydrocarbons as motor oil	8015
Toxaphene	8081, 8270
2,4,5-TP (Silvex)	8151, 8321
2,4,6-Tribromophenol	8270
2,4,6-Trichloroaniline	8131
2,4,5-Trichloroaniline	8131
1,2,3-Trichlorobenzene	8021, 8121, 8260
1,2,4-Trichlorobenzene	8021, 8121, 8260, 8270, 8275, 8410
2,2',5-Trichlorobiphenyl	8082, 8275
2,3',5-Trichlorobiphenyl	8275
2,4',5-Trichlorobiphenyl	8082, 8275
1,3,5-Trichlorobenzene	8121
1,1,1-Trichloroethane	8021, 8260
1,1,2-Trichloroethane	8021, 8260
Trichloroethene	8021, 8260
Trichlorofluoromethane	8021, 8260
Trichlorfon	8141, 8321
Trichloronate	8141
1,2,3-Trichloro-4-nitrobenzene	8091
1,2,4-Trichloro-5-nitrobenzene	8091
2,4,6-Trichloronitrobenzene	8091
2,3,4-Trichlorophenol	8041
2,3,5-Trichlorophenol	8041
2,3,6-Trichlorophenol	8041

Table 1
Determinative Methods for Organic Analytes

Analyte	Applicable Method(s)
2,4,5-Trichlorophenol	8041, 8270, 8410
2,4,6-Trichlorophenol	8041, 8270, 8410
2,4,6-Trichlorophenyl 4-nitrophenyl ether	8111
2,3,6-Trichlorophenyl 4-nitrophenyl ether	8111
2,3,5-Trichlorophenyl 4-nitrophenyl ether	8111
2,4,5-Trichlorophenyl 4-nitrophenyl ether	8111
3,4,5-Trichlorophenyl 4-nitrophenyl ether	8111
2,3,4-Trichlorophenyl 4-nitrophenyl ether	8111
1,2,3-Trichloropropane	8021, 8260
O,O,O-Triethyl phosphorothioate	8270
Trifluralin	8091, 8081, 8270
2,4,5-Trimethylaniline	8270
1,2,4-Trimethylbenzene	8021, 8260
1,3,5-Trimethylbenzene	8021, 8260
Trimethyl phosphate	8270
1,3,5-Trinitrobenzene (1,3,5-TNB)	8270, 8330
2,4,6-Trinitrobenzene (2,4,6-TNT)	8330
Tris-BP (Tris-(2,3-dibromopropyl) phosphate)	8270, 8321
Tri-o-cresylphosphate (TOCP)	8141
Tri-p-tolyl phosphate	8270
Tris-(2,3-dibromopropyl) phosphate (Tris-BP)	8270, 8321
Valeraldehyde (Pentanal)	8315
Vinyl acetate	8260
Vinyl chloride	8021, 8260
Vinylidene chloride (1,1-Dichloroethene)	8021, 8260
o-Xylene	8021, 8260
m-Xylene	8021, 8260
p-Xylene	8021, 8260
Zinophos (Thionazin)	8141, 8270

Table 2
Determinative Methods for Inorganic Analytes

Table 2
Determinative Methods for Inorganic Analytes

Analyte	Applicable Method(s)
Aluminum	6010, 6020, 6800, 7000, 7010
Antimony	6010, 6020, 6200, 6800, 7000, 7062
Arsenic	6010, 6020, 6200, 7010, 7061, 7062, 7063
Barium	6010, 6020, 6200, 6800, 7000, 7010
Beryllium	6010, 6020, 7000, 7010
Boron	6800
Bromide	6500, 9056, 9211
Cadmium	6010, 6020, 6200, 6800, 7000, 7010
Calcium	6010, 6020, 6200, 6800, 7000
Chloride	6500, 9056, 9057, 9212, 9250, 9251, 9253
Chromium	6010, 6020, 6200, 6800, 7000, 7010
Chromium, Hexavalent	7195, 7196, 7197, 7198, 7199
Cobalt	6010, 6020, 6200, 7000, 7010
Copper	6010, 6020, 6200, 6800, 7000, 7010
Cyanide	9010, 9012, 9013, 9213
Fluoride	6500, 9056, 9214
Iron	6010, 6020, 6200, 6800, 7000, 7010
Lead	6010, 6020, 6200, 6800, 7000, 7010
Lithium	6010, 7000
Magnesium	6010, 6020, 6800, 7000
Manganese	6010, 6020, 6200, 7000, 7010
Mercury	4500, 6020, 6200, 6800, 7470, 7471, 7472, 7473, 7474
Molybdenum	6010, 6200, 6800, 7000, 7010
Nickel	6010, 6020, 6200, 6800, 7000, 7010
Nitrate	6500, 9056, 9210
Nitrite	6500, 9056, 9216
Osmium	7000
Phosphate	6500, 9056
Phosphorus	6010
Phosphorus, White	7580
Potassium	6010, 6020, 6200, 6800, 7000
Rubidium	6200
Selenium	6010, 6020, 6200, 6800, 7010, 7741, 7742
Silver	6010, 6020, 6200, 6800, 7000, 7010
Sodium	6010, 6020, 7000
Strontium	6010, 6200, 6800, 7000
Sulfate.	6500, 9035, 9036, 9038, 9056
Sulfide	9030, 9031, 9215
Thallium	6010, 6020, 6200, 6800, 7000, 7010
Thorium	6200
Tin	6200, 7000
Titanium	6200
Vanadium	6010, 6020, 6200, 6800, 7000, 7010
Zinc.	6010, 6020, 6200, 6800, 7000, 7010
Zirconium	6200

Table 3
Summary of Waste Sampling Methods

Table 3
Summary of Sampling Methods

Sampling Device	Other Device-Specific Guidance	Sample Type	Volume (Liters per Pass)	Comments (For Example: Effects on Matrix, Operational Considerations, Typical Uses)
COLIWASA	ASTM D 5495 ASTM D 5743 ASTM D 6063 U.S. EPA 1980	Shallow, Composite	0.5 to 3.0	Reusable and single use models available. Inexpensive. Glass type devices may be difficult to decontaminate. Collects undisturbed sample. For mixed solid/liquid media will collect semi-liquid only. Not for high viscosity liquids.
Concentric Tube Thief	ASTM D 6063 U.S. EPA 1994d	Surface, Relatively Undisturbed, Selective	0.5 to 1.0	Recommended for powdered or granular materials or wastes in piles, bags, drums, or similar containers. Best used in dry, unconsolidated materials. Not suitable for sampling large particles due to narrow width of slot.
Coring Type Sampler (with or without valve)	ASTM D 4823 U.S. EPA 1989c	Surface or Depth, Disturbed	0.2 to 1.5	Designed for wet soils and sludge. May be equipped with a plastic liner plastic liner and caps. May be used for VOAs. Reusable and easy to decontaminate.
Discrete Level Sampler		Depth, Discrete	0.2 to 0.5	Easy to decontaminate. Obtains samples from a discrete interval. Limited by sample volume and liquids containing high solids. Can be used to store and transport sample.
Drum Thief	ASTM D 6063 ASTM D 5743 U.S. EPA 1994b	Shallow, Composite	0.1 to 0.5	Usually single use. If made of glass and reused, decontamination may be difficult. Limited by length of sampler, small volume of sample collected, and viscosity of fluids.
Kemmerer Sampler		Depth, Discrete	1.0 to 2.0	Recommended for large tanks, lakes, ponds, or lagoons. May be difficult to decontaminate. Materials may not be compatible with sample matrix but all PTFE construction is available. Sample container exposed to media at other depths while being lowered to sample point.
Lidded Sludge/Water Sampler		Discrete, Composite	1.0	1-L sample jar placed into device (low risk of contamination). May sample at different depths and samples up to 40% solids. Equipment is heavy and limited to one bottle size.
Swing Jar Sampler		Shallow, Composite	0.5 to 1.0	Used to sample liquids, powders, or small solids at a distance up to 12-ft. Adaptable to different container sizes. Not suitable for discrete samples. Can sample a wide variety of locations.
Thin-Walled Tube	ASTM D 1587 ASTM D 4823 ASTM D 4700	Surface or Depth, Undisturbed	0.5 to 5.0	Useful for collecting an undisturbed sample (depends on extension). May require a catcher to retain soil samples. Inexpensive, easy to decontaminate. Samples for VOAs may be biased when sample is extruded.
Trier	ASTM D 5451 ASTM D 6063	Surface, Relatively Undisturbed, Selective	0.1 to 0.5	Recommended for powdered or granular materials or wastes in piles, bags, drums, or similar containers. Best for moist or sticky materials. Will introduce sampling bias when used to sample coarse-grained materials.
Valve Drum Sampler		Shallow, Composite	0.3 to 1.6	Used to collect a vertical column of liquid. Available in various materials for repeat or single use. High viscosity liquids may be difficult to sample.

Table 4
Recommended Sampling Access Points

Table 4 Sampling Access Points	
Container Type	**Sampling Point**
Drum (bung on one end)	Withdraw sample through the bung opening.
Drum (bung on side)	Lay drum on side with bung up. Withdraw sample through the bung opening.
Barrel, Fiber Drum, and Buckets	Withdraw sample through the top of containers. Withdraw samples through the center of the container as well as through different points diagonally opposite the point of entry.
Sacks and Bags	Withdraw samples through the fill openings. Withdraw samples through the center of the container as well as through different points diagonally opposite the point of entry.
Vacuum truck and Similar Containers	Withdraw sample through open hatch. Sample all other hatches.
Soil	Divide the surface area into an imaginary grid. (The number of grids is determined by the desired number of samples to be collected which, when combined, should give a representative sample of the waste.) Sample each grid.
Strip Tank	Withdraw sample from open tank and steam cleaners.
Paint Booths	Withdraw composite sample from water bath. Composite shall include all levels of liquid.

Table 5
Recommended Sample Collection (Numerical)

Table 5 Recommended Sample Collection				
Case No.	**Information Desired**	**Waste Type**	**Container Type**	**Number of Samples to Collect**
1	Average Concentration	Liquid	Drum, Vacuum Truck, and Similar Containers	1 collected with Coliwasa
2	Average Concentration	Solid (Powder or Granular)	Bag, Drum, Bin, and Sack	1 composite sample of several samples collected at different sampling areas
3	Concentration Range	Liquid	Drum, Vacuum Truck, and Similar Containers	3 to 10 separate samples, each from a different depth of the liquid
4	Concentration Range	Solid (Powder or Granular)	Bag, Drum, and Bin	3 to 5 samples from different points
5	Average Concentration	Soil		1 composite sample of several samples collected at different sampling areas
6	Concentration Range	Soil		3 to 20 separate samples from different sampling areas
7	Average Concentration	All Types	All Containers	3 identical samples or one composite sample divided into three identical samples if homogeneous
8	Average Concentration	Liquid	Storage Tank	Same as Case 2
9	Concentration Range	Liquid	Storage Tank	Same as Case 4

Attachment 1
Waste Profile Sheets

Ri-Nu Services, LLC

815 Mission Rock Rd. – Santa Paula, CA

Oxnard Permit No. TBD Profile No: _____

Generator Background & Wastewater Profile

Generator Information

Facility / Company Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Contact Name: _____ Phone: _____

Billing Information

Bill To Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Phone: _____ FAX: _____

Wastewater Profile

Wastewater Description: _____

_____

Describe Process Generating Waste: _____

_____

Is this waste considered hazardous under RCRA Standards? ☐ Yes ☐ No

Is this waste considered a California Hazardous Waste? ☐ Yes ☐ No

Does this waste originate from a facility/site within Orange County Sanitation District's Service Area? ☐ Yes ☐ No

Color: _____ Odor: _____ pH Range: _____ % Solids: _____

Are any of the following chemicals present in the waste?: ☐ Yes ☐ No

☐ Chlordane ☐ 2,4-D ☐ Endrin ☐ Hepachlor (and its hydroxide)

☐ Lindane ☐ Methoxychlor ☐ Toxaphene ☐ 2,4,5-TP (silvex)

☐ 1,4-Dioxane ☐ N-Nitrosodimethylamine (NDMA) ☐ DDD, DDT, DDE

☐ Dieldrin ☐ Mirex ☐ Aldrin ☐ PCBs

Flash Point: ☐ < 70°F ☐ 70°F - 140°F ☐ 140°F - 200°F ☐ >200°F

- **Attach analytical results for constituents reasonably expected to be present in the waste.**

Anticipated Volume: _____

Transport Frequency: ☐ Daily ☐Weekly ☐ Monthly ☐ One-Time ☐ Other (specify):_____

Hauler / Transporter Name: _____

Approximate Shipping Commencement Date: _____

Generator Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the personor persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility a fine and imprisonment for knowing violations. [40 C.F.R. §403.6(a)(2)(ii) (2005)]

Generator Certifying Representative Name: _____

Title: _____ Date: _____

FOR RI-NU SERVICES, LLC USE ONLY:

Is this waste accepted for treatment by Ri-Nu Services LLC? ☐ Yes ☐ No

Ri-Nu Services LLC Representative Name/Title: _____

Ri-Nu Services LLC Representative Signature: _____

Date of Approval: _____

Ri-Nu Services, LLC

815 Mission Rock Rd., Santa Paula, CA

SOLIDS ONLY Profile No: _____

Generator Background & Profile

Generator Information

Facility / Company Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Contact Name: _____ Phone: _____

Billing Information

Bill To Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Phone: _____ FAX: _____

Waste Profile

Waste Description: _____

_____

Describe Process Generating Waste: _____

_____

Is this waste considered hazardous under RCRA Standards? ☐ Yes ☐ No

Is this waste considered a California Hazardous Waste? ☐ Yes ☐ No

Color: _____ Odor: _____ pH Range: _____ % Liquids (estimate): _____

- **Attach analytical results for constituents reasonably expected to be present in the waste.**

Anticipated Volume: _____

Transport Frequency: ☐ Daily ☐Weekly ☐ Monthly ☐ One-Time ☐ Other (specify):_____

Hauler / Transporter Name: _____

Approximate Shipping Start Date: _____

Generator Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the personor persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility a fine and imprisonment for knowing violations. [40 C.F.R. §403.6(a)(2)(ii) (2005)]

Generator Certifying Representative Name: _____

Title: _____ Date: _____

FOR RI-NU SERVICES, LLC USE ONLY:

Is this waste accepted for treatment by Ri-Nu Services LLC? ☐ Yes ☐ No

Ri-Nu Services LLC Representative Name/Title: _____

Ri-Nu Services LLC Representative Signature: _____

Date of Approval: _____

End Destination (Landfill): _____

Notes:

Attachment 2
Procedure for Sampling Waste in Drums

Attachment 2
Procedure for Sampling Waste in Drums

1. Choose the appropriate Coliwasa for the liquid to be sampled referring to Table 3.

2. Make sure that the sampler is clean.

3. Ensure that the sampler is functioning properly prior to use. Adjust the locking mechanism, if necessary to, to ensure that the neoprene rubber stopper provides a tight closure.

4. Don appropriate personal protective equipment and observe required sampling precautions.

5. Put the sampler in the open position by placing the stopper rod handle in the Tee-position and pushing the rod down until the handle sits against the sampler's locking block.

6. Slowly lower the sampler into the liquid waste. (Lower the sampler at a rate that permits the waste level to remain the same both inside and outside the sampling tube. If the liquid level inside the sampler is lower than the level outside the sampler, the sampling rate is too fast and will result in a non-representative sample.

7. When the sampler stopper reaches the bottom of the waste container, push the sampler tube downward against the stopper to close the sampler. Lock the sampler in the closed position by turning the Tee handle until it is upright and one end rests tightly on the locking block.

8. Slowly withdraw the sampler from the waste container with one hand while wiping the sampler tube with a disposable cloth or rag with the free hand.

9. Carefully discharge the sample into a suitable container by slowly opening the sampler. This is done by slowly pulling the lower end of the Tee handle away from the locking block while the lower end of the sampler is positioned in a sample container.

10. Cap the Sample container; attach the label and seal; record required information in the field log book; and complete the sample and analysis sheet.

11. Unscrew the Tee handle of the sampler and disengage the locking block. Clean sampler onsite or store the contaminated parts in a plastic storage tube for subsequent cleaning. Store used wipes/rags in plastic bags for subsequent disposal.

12. Deliver the sample to the laboratory for analysis.

SESPE CONSULTING, INC.

374 Poli Street, Suite 200 • Ventura, California 93001

NOISE IMPACT ASSESSMENT

RI-NU Services, LLC
815 Mission Rock Road
Santa Paula, CA 93060

May 17, 2017
Updated November 2020

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County of Ventura
Initial Study
PL15-0106
Attachment 29 - Noise Impact Assessment

SESPE CONSULTING, INC.

374 Poli Street, Suite 200 • Ventura, California 93001

NOISE IMPACT ASSESSMENT

RI-NU Services, LLC
815 Mission Rock Road
Santa Paula, California 93060

November 2020

EXECUTIVE SUMMARY

This Noise Impact Assessment (NIA) has been prepared for Ri-Nu Services, LLC (Ri-Nu) to quantify and determine the significance of noise impacts associated with the proposed modifications to the existing wastewater treatment facility located at 815 Mission Rock Road, Santa Paula, California (Facility). Ri-Nu is in the process of reactivating the currently inactive facility which was previously operated by Green Compass under CUP 960-2 (LU06-0011). Ri-Nu is requesting that the permit be reinstated and modified as necessary to allow for receiving, treatment, and disposal of nonhazardous wastewater (Project). This NIA follows methodologies outlined in the *Ventura County General Plan*, the Ventura County *Initial Study Assessment Guidelines*, and Ventura County's *Construction Noise Threshold Criteria and Control Plan*.

The Facility is an existing wastewater treatment facility permitted under CUP 960-2 (LU06-0011). Ri-Nu is not proposing to change the waste streams that have been historically accepted at the Facility, which include industrial wastewater containing metals, oily wastewater, industrial wastewater containing organics, domestic wastes, and oilfield sludge wastes.

Ri-Nu is requesting the following modifications to the existing permitted operations:

- Expand CUP Boundary to include three (3) adjacent parcels to the south;
- Update the list of processing equipment/tanks to match Ri-Nu's new design;
- Construct a hazardous materials storage building;
- Revise the Facility operating hours and truck delivery schedules;
- Continue to accept, treat and dispose offsite by trucks various types of non-hazardous waste streams;
- Revise truck trips limits to simplify compliance; and
- Revise limits on employee numbers.

This NIA demonstrates that the only proposed modification with the potential to increase noise levels at nearby receptors is the addition of nighttime wastewater processing operations (haul truck trips will not occur during the nighttime). As such, this NIA focuses on the quantification and significance determination of noise impacts from the nighttime wastewater processing operations.

This NIA finds that:

- Project daytime and evening industrial noise impacts are expected to be reduced or remain unchanged as a result of the Project.
- Project nighttime industrial noise impacts are less than significant at the nearby sensitive receptors (dwellings, schools, hospitals, nursing homes, churches, and libraries) without mitigation.
- The Project will result in a Class III, less than significant, noise impact.

SESPE CONSULTING, INC.

374 Poli Street, Suite 200 • Ventura, California 93001

NOISE IMPACT ASSESSMENT

RI-NU Services, LLC
815 Mission Rock Road
Santa Paula, California 93060

November 2020

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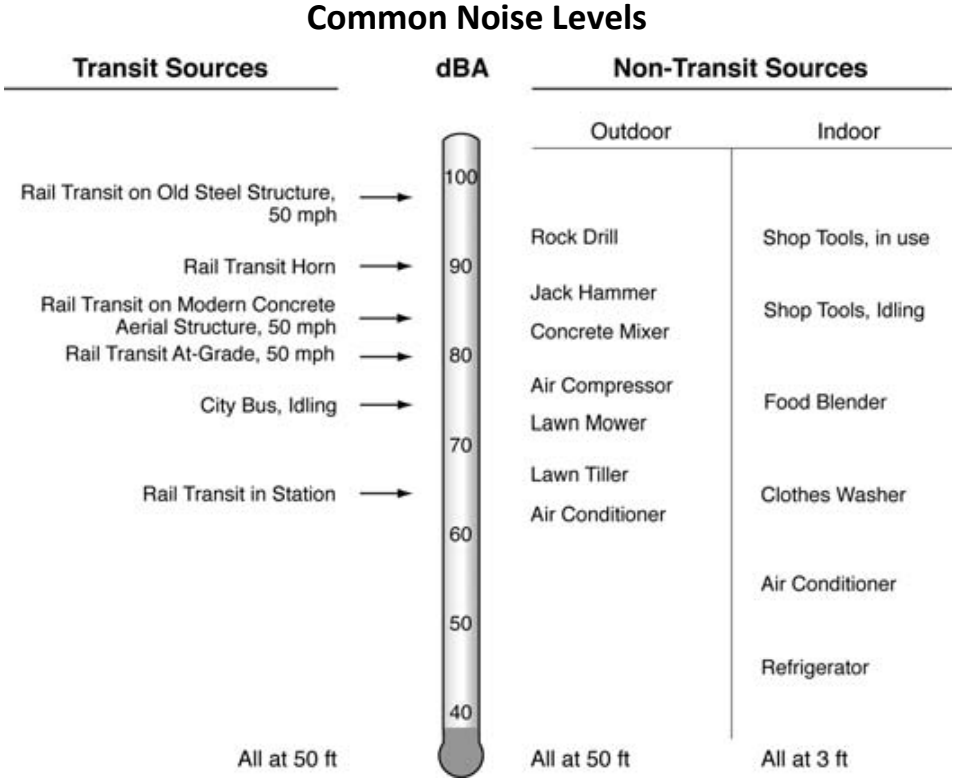
1.0 INTRODUCTION

This Noise Impact Assessment (NIA) has been prepared for Ri-Nu Services, LLC (Ri-Nu) to quantify and determine the significance of noise impacts associated with the proposed modifications to the existing wastewater treatment facility located at 815 Mission Rock Road, Santa Paula, California (Facility). Ri-Nu is in the process of reactivating the currently inactive facility which was previously operated by Green Compass under CUP 960-2 (LU06-0011). Ri-Nu is requesting that the permit be reinstated and modified as necessary to allow for receiving, treatment, and offsite disposal of nonhazardous wastewater (Project). This NIA follows methodologies outlined in the *Ventura County General Plan*, the Ventura County *Initial Study Assessment Guidelines*, and Ventura County's *Construction Noise Threshold Criteria and Control Plan*.

Project nighttime noise impacts are quantified and compared to the appropriate significance thresholds in this NIA. To provide the reader a frame of reference by which to judge noise levels, the following illustration of various common noise levels is provided.



Source: Federal Transit Administration's *Transit Noise Impact Assessment*

2.0 PROJECT DESCRPTION

The current Conditional Use Permit (CUP) 960-2 (LU06-0011) was approved by the Ventura County Planning Commission on July 29, 2010. The CUP was issued to Santa Clara Waste Water Company (SCWW), who was then acquired by Green Compass.

2.1 Facility Operations

Ri-Nu is requesting that CUP 960-2 be reinstated to authorize the continued use of an existing wastewater treatment facility that accepts, treats, and disposes (offsite via trucks) various types of non-hazardous waste. Ri-Nu is not proposing to change the waste streams that have been historically accepted, which include:

- *Industrial Wastewater Containing Metals (40 CFR Part 437 Subcategory A wastes):* This includes waste such as neutralized acid wastewater; boiler blowdown brine and metal finish wastewater.
- *Oily Wastewater (40 CFR Part 437 Subcategory B wastes):* This includes waste such oilfield wastewater, oil spills, oil-water emulsions, contaminated groundwater from petroleum sources, bilge water, and parts cleaning wastewater.
- *Industrial Wastewater Containing Organics (40 CFR Part 437 Subcategory C wastes):* This includes wastes such as solvent bearing wastes, contaminated groundwater clean-up from non-petroleum sources, landfill leachate, floral waste water and tank clean-out fluids from organic non-petroleum sources.
- *Domestic Wastes:* Septic tank waste; port-a-potty waste and secondary sewage.
- *Oilfield Sludge Wastes:* This category includes:
    - Oilfield Drilling Muds: This includes used drilling muds and cuttings generated during the drilling of oil and gas wells.
    - Oilfield Tank Bottoms: This includes solids removed from the bottom of storage tanks used in the production of crude oil.

Liquid waste streams will be treated using various processes located throughout the Facility (see Figure 3, Appendix A). This includes the equalization/adjustment tanks, clarifiers, and ozone/GEM treatment operations. A front-end loader will be utilized to process solid wastes within the mixing areas (see Figure 3, Appendix A). Here, solid wastes separated during processing within the adjacent mixing tanks and centrifuge dewatering units will be mixed with mulch and other absorbent products using a front-end loader. Once the desired moisture content and odor is achieved, solid wastes are transported to the local landfill for proper disposal.

2.2 Proposed Modifications

Ri-Nu is proposing to modify CUP 960-2 (LU06-0011). The following is a brief description of the proposed modifications that may impact the noise level at nearby receptors:

- ***Expand the Facility and CUP boundary to include three (3) adjacent parcels to the south:*** Ri-Nu is proposing to expand operations to the three (3) adjoining parcels to the south, all of which are zoned M3 (see Figure 3, Appendix A). This expansion will add 1.67 acres to the total Facility area.
- ***Update the list of processing equipment and tanks per Ri-Nu's new design:*** A comparison of proposed equipment to the equipment currently approved under CUP 960-2 is shown on the proposed site plan (see Figure 3, Appendix A). The proposed Facility process flow diagram is presented as Figure 4 (Appendix A). In total, Ri-Nu is proposing to use fewer tanks and less processing equipment than was approved under the current CUP 960-2.
- ***Modify Facility operating hours and the truck delivery schedule:*** Waste treatment operating hours are proposed to occur for 24 hours per day, 365 days per year. Deliveries to and from the facility are proposed to occur Monday through Saturday during daylight hours. The following table summarizes the proposed revisions to the operating hours and delivery schedule:

ITEM	CURRENT CUP LIMITS	PROPOSED CUP LIMITS
Hours of Plant Operation	Mon. – Sat., 5:00AM – 11:00PM Closed on Sundays Any time during any day of the week to meet demands or emergencies.	24 hours/day, 365 days/year (for onsite treatment operations)
Hours of Deliveries to & from the Facility	Mon. – Fri., 7:00AM – 5:00PM Saturdays, 8:00AM – 3:00PM None on Sundays	Mon. – Fri., 7:00AM – 7:00PM Saturdays, 8:00AM – 3:00PM No trucking on Sunday Any time for emergencies[1]
1 – Any time and any day for emergencies, only with written authorization from the Planning Director or his/her designee based upon good cause being shown and substantially documented by the Operator.		

- ***Revise limits on employee numbers:*** Ri-Nu is proposing to increase the number of employees allowed per day:

ITEM	CURRENT LIMITS	PROPOSED LIMITS
Employees	Maximum of 15 employees per day (30 one way trips)	Maximum of 15 employees per 8-hour shift = 40 employees (90 one-way trips). Expected shifts at 100% operation: 6:00 AM – 2:00 PM = 15 employees 2:00 PM – 10:00 PM = 15 employees 10:00 PM – 6:00 AM = 10 employees

For more detailed description of proposed Project operations, please see the Project Description.

2.3 Project Noise Sources

As this Facility is an existing permitted operation, noise impacts from the existing operations have already been considered and approved under CUP 960-2 (LU06-0011). For this reason, operations currently authorized under CUP 960-2 are considered a part of the Project baseline for this NIA.

The following proposed modifications have negligible noise implications and are **not** quantified by this NIA:

- **Facility Boundary Expansion**. The Facility operations will be expanded to include the three (3) parcels to the east. This will shift the noise generating activities to be slightly closer to some receptors and farther from other receptors. The rule of thumb for changes in noise levels due to changes of distance is that when the distance between a noise source and receptor is halved, the noise level experienced by the receptor increases by 3 dBA. Based on this rule of thumb, the small shift in the location of noise generating activities for this Project is expected to change noise levels at the receptors by less than 1 dBA. This modification is considered negligible and, therefore, is not analyzed further in this NIA.

- **New Facility Design**. Ri-Nu is proposing to use fewer tanks and less processing equipment than was approved for the current CUP, which will reduce noise levels slightly. Haul trucks previously exited through the southern visitor entrance near Receptor 1, but will now exit though the gate in the eastern corner of the Facility. This will reduce noise from haul truck travel at Receptor 1 by a considerable margin while having negligible effects on the noise level at Receptors 2 and 3. Therefore, this modification will likely reduce noise impacts at the nearby receptors. This reduction is conservatively not included in the noise impact calculations for this NIA.

- **Truck Delivery Schedule**. Truck delivery hours on Monday through Friday will be extended for an additional two (2) hours from 5:00 PM to 7:00 PM. The number of haul truck deliveries will not change from what is currently permitted under CUP 960-2 (i.e., 500 trucks per week). This represents a negligible change in noise levels given that the additional hours are during the daytime period (i.e. 6:00 AM-7:00 PM per the Ventura County *General Plan Noise Element*) and the total number of trips will not increase. The increase in delivery hours without an increase in the number of deliveries will actually decrease the number of trips per hour and the peak hour noise level (L_{eq}-1hr), which is the basis of significance determination in this NIA. This reduction is conservatively not included in the noise impact calculations for this NIA.

The proposed modification that may increase noise impacts is the extension of Facility operating hours from 5:00 AM to 11:00 PM to 24 hours per day. Haul truck delivery will not occur during the nighttime hours. Nighttime operations are currently not allowed, except for in emergency situations. Therefore, this NIA focuses on noise impacts resulting from proposed nighttime onsite processing operations at the Facility.

Nighttime operations that may generate noise include the equipment used to process waste materials (pumps, centrifuges, etc.), a front-end loader, and employee arrival/parking. Ri-Nu is also proposing to increase the onsite Facility employees from 15 to 40 total. The new employees will also work in three (3) separate, eight (8) hour shifts. The noise generated by employee vehicles parking onsite during each of the three (3) specific shifts is included in this NIA.

2.4 Project Construction

As it is an existing operation, much of the Facility is already built-out. Ri-Nu will be removing some of the old tankage and processing equipment, and replacing it with new equipment to match the new waste processing design. No new construction requiring significant foundation work or other large-scale development is proposed as part of the Project. The reconfiguration of the Facility will occur intermittently over a 6 to 9 months period, would be temporary in nature, and is not expected to generate noise levels in excess of what the existing permitted Facility currently generates under CUP 960-2. Per the Ventura County *Construction Noise Threshold Criteria and Control Plan*, construction activities would be confined to daytime hours only (7:00 AM-7:00 PM Monday-Friday, 9:00 AM-7:00 PM Weekends/Holidays) as this is generally the least noise-sensitive time period. As such, proposed construction activities will not occur during evening or nighttime hours. Due to the factors described above, construction nighttime noise impacts were not assessed within this NIA.

3.0 EXISTING SETTING

The existing Facility is located at 815 Mission Rock Road in unincorporated Ventura County, south of the City of Santa Paula. California State Route (SR) 126 is located 0.3 miles to the north and the Santa Clara River basin runs east-west approximately 0.4 miles to the south (see Figure 1, Appendix A). This section discusses the existing regulatory and environmental settings applicable to the Project.

3.1 Regulatory Setting

This section discusses the Project's regulatory setting, specifically the Ventura County *General Plan Noise Element* (General Plan), Ventura County *Initial Study Assessment Guidelines* (CEQA Guidelines), and Ventura County's *Construction Noise Threshold Criteria and Control Plan* (Construction Guidelines).

3.1.1 Ventura County General Plan

The Ventura County *General Plan Noise Element* (General Plan), both in the *Goals, Policies & Programs* section and the *Hazards Appendix*, contains details regarding the recommended methodology for assessment of noise impacts. The General Plan presents standards for development of new noise-generating uses based on the noise sensitivity of a Project's surroundings. The General Plan includes specific significance thresholds for daytime (6:00 AM–7:00 PM), evening (7:00 PM–10:00 PM), and nighttime (10:00 PM–6:00 AM) hours. The thresholds are applicable only to sensitive receptors, which are defined as "dwellings, schools, hospitals, nursing homes, churches, and libraries" within the General Plan. If the ambient noise level at a receptor is lower than the designated standard, then the designated or "fixed" standard is used as the significance threshold for that receptor. However, if the ambient noise level at a receptor is greater than the designated standard, the "ambient noise level +3 decibels (dB)" is used as the significance threshold. A copy of the relevant text is included in Appendix B.

3.1.2 Ventura County Initial Study Assessment Guidelines

The Ventura County *Initial Study Assessment Guidelines* (CEQA Guidelines) presents methodologies for measuring noise levels and determining if noise impacts are significant. Significance thresholds depend on ambient noise levels in the area of the project during each of the defined time periods (i.e. daytime, evening, and nighttime). If the ambient levels are lower than the thresholds, the "fixed" thresholds are utilized. If ambient levels are greater than the fixed thresholds, the "ambient level +3 decibels (dB)" is utilized. The CEQA Guidelines mirror the standards established by the General Plan Noise Element described above.

3.1.3 Construction Noise Threshold Criteria and Control Plan

The Ventura County *Construction Noise Threshold Criteria and Control Plan* (Construction Guidelines) present methodologies for quantification of construction noise impacts, default noise level assumptions for common construction equipment, mitigated equipment noise levels, construction noise threshold criteria, and guidance on proper noise monitoring techniques. This NIA utilizes the methodologies presented in the Construction Guidelines to determine the expected Project noise impacts resulting from mobile equipment (i.e. front-end loader) operations. As discussed previously, per the Construction Guidelines any onsite construction activities would be confined to daytime hours only (7:00 AM-7:00 PM Monday-Friday, 9:00 AM-7:00 PM Weekends/Holidays) as this is generally the least noise-sensitive time period. A copy of the relevant text is included in Appendix B.

3.1.4 Definitions

The following terms are employed in this NIA:

- **Decibel (dB):** A unit division, on a logarithmic scale, whose base is the tenth root of ten, used to represent ratios of quantities proportional to power. In simple terms, if the power is multiplied by a factor of ten, then ten is added to the representation of the power on the decibel scale. If 0 dB represents 1 unit of power, 30 dB represents one thousand units, 60 dB represents one million units, etc.
- **A-Weighted Sound Level (dBA):** Sound pressure level measured using the A-weighting network, a filter which discriminates against low and very high frequencies in a manner similar to the human hearing mechanism at moderate sound levels. The A-weighted sound level is generally used when discussing environmental noise impacts.
- **Equivalent Continuous Noise Level (L_{eq}).** The average noise level over a designated time period. This is often referred to as "equivalent sound level", hence the "eq" subscript. The "equivalence" is to a sound of constant level that has the same total acoustic energy content.
- **Ambient (i.e. Background) Noise Level:** The current noise level in the vicinity of the proposed Project that results from the combination of all sources, near and far. Please note ambient noise measurements presented in this NIA include existing noise generated at the existing Facility (see Section 3.2.3).
- **Sound Pressure Level (SPL):** The logarithmic measure of the power of a sound relative to a reference value, measured in dB. The sound pressure level is always associated with a specific location or distance from a sound source.

3.2 Environmental Setting

This section describes the existing noise environment and noise sources in and around the Project site, the receptors of concern near the Facility, as well as the ambient noise levels in these areas. For this Project, the existing setting includes current Facility operations.

3.2.1 Regional Setting

The Facility is located in an industrial/semi-rural area of unincorporated Ventura County, California, south of the City of Santa Paula. It is surrounded by industrial and agricultural land uses. The Ventura County General Plan identifies potential noise generating land uses (i.e. industrial properties) within the immediate vicinity of the Project site to the east and south. Agricultural land uses not expected to generate significant noise levels are located immediately west and north of the Project site.

The surrounding noise environment is characterized primarily by industrial operations, agricultural operations, traffic on nearby roadways (SR 126, Mission Rock Road, Shell Road), and occasional aircraft over-flights. The closest airport/airstrip is the Santa Paula Airport located approximately 2.9 miles away to the northeast, and has no appreciable influence on noise levels near the Facility. Existing noise sources near the Facility Receptors 1, 2 and 3 (R1, R2 and R3) include equipment noise from the existing Ri-Nu/SCWW Facility, industrial noise from nearby industrial operations along Mission Rock Road, nearby agricultural equipment noise, traffic noise from roadways (SR 126, Mission Rock Road, Shell Road), occasional aircraft over-flights, and urban activities from the nearby communities of Santa Paula and Ventura. See Figure 2 (Appendix A) which shows the locations of Facility and nearby receptors.

3.2.2 Receptors

In the General Plan and CEQA Guidelines, noise sensitive receptors are defined as "dwellings, schools, hospitals, nursing homes, churches and libraries." The receptors considered in this NIA are described below. When appropriate, receptors are grouped together and the noise impact at the worst-case portion of the group are determined. The closest receptor on each side of the Facility was included in this analysis. There are only three (3) receptors in the immediate vicinity of the Project. Other receptors in the surrounding area are further away and are not expected to experience Project noise. Also note that while receptors exist along the nearby roadways, this Project will not increase haul truck trips, so traffic noise at these receptors will not change as a result of the Project. See Figure 2 (Appendix A) for the locations of the relevant receptors.

- **Receptor 1 (R1)** is the two-story residential dwelling located approximately 40-feet southwest of the Project site at 907 Mission Rock Road. It is important to note that this residence has few windows facing the Facility, and the property is surrounded by an approximately 6-foot high wooden wall.
- **Receptor 2 (R2)** is the one-story residential dwelling located approximately 40-feet northeast of the Project site along Mission Rock Road.
- **Receptor 3 (R3)** is the one-story residential farm dwelling located approximately 190-feet northwest of the Project site.

3.2.3 Local Noise Environment

As described in Section 3.2.1, the existing ambient noise environment is characterized primarily by industrial operations (including existing operations at Ri-Nu/SCWW Facility), agricultural operations, traffic on nearby roadways (SR 126, Mission Rock Road, Shell Road), and occasional aircraft over-flights.

To quantify the existing ambient noise environment experienced by nearby receptors, two (2) long-duration (24-hour) reference noise measurements were conducted at the Project site on April 12th through 14th, 2017 (Figure 2, Appendix A). The noise measurements were recorded using a Quest DL SoundPro, Type 2 noise meters (Serial # BGI04008). The noise meter was programmed in "slow" mode, in "A" weighted form, and one (1) minute logging every for the entire measurement duration. The microphone was equipped with a windscreen during the measurement, and the noise meter was calibrated using a Quest QC-10 calibrator (Serial # QIJ090052) prior to, and following each, measurement. The noise meter and calibrator were professionally calibrated by Engineering Dynamics, Inc. within one (1) year of use.

The locations of the noise measurements and the corresponding receptors are shown on Figure 2 (Appendix A). Table 1 presents the existing ambient noise levels at the receptors. Ambient noise measurement logs are included in Appendix C.

Table 1 Ambient Noise in Facility Vicinity

Receptor	Receptor Type	Daytime L_{eq} (dBA)	Evening L_{eq} (dBA)	Nighttime L_{eq} (dBA)
Receptor 1 (R1)	Residential	54.7	53.8	52.2
Receptor 2 (R2)	Residential	58.2	54.7	52.2
Receptor 3 (R3)	Residential	54.7	53.8	52.2

Ventura County General Plan: Daytime = 6:00 AM-7:00 PM, Evening = 7:00 PM-10:00 PM, Nighttime = 10:00 PM-6:00 AM.
Notes:
– Daytime and evening ambient noise levels shown for informational purposes, as only nighttime noise impacts will be assessed within this NIA (see Section 2.3).
– Ambient noise levels recorded near R1 are also used to represent ambient noise levels at R3.

4.0 SIGNIFICANCE THRESHOLDS

As discussed in Section 3.1, the CEQA Guidelines recommend that the noise standards from the General Plan be used as the significance threshold for noise impact assessments. The General Plan noise standards that are applicable to this Project are presented below:

> *(4) Noise generators, proposed to be located near any noise sensitive use, shall incorporate noise control measures so that ongoing outdoor noise levels received by the noise sensitive receptor, measured at the exterior wall of the building, does not exceed any of the following standards:*
>
> *a. L_{eq}1H of 55 dB(A) or ambient noise level plus 3dB(A), whichever is greater, during any hour from 6:00 a.m. to 7:00 p.m.*
>
> *b. L_{eq}1H of 50 dB(A) or ambient noise level plus 3dB(A), whichever is greater, during any hour from 7:00 p.m. to 10:00 p.m.*
>
> *c. L_{eq}1H of 45 dB(A) or ambient noise level plus 3dB(A), whichever is greater, during any hour from 10:00 p.m. to 6:00 a.m.*

A threshold of 3 dB is commonly used to define "substantial increase." Under ambient conditions, people generally do not perceive that a noise level has changed until there is a 3 dB difference. This concept is used in Part (4) of the standard to dictate that, for receptors that are currently exposed to noise levels in excess of the designated standard, the Project should be considered significant if it causes a +3 dBA increase in noise levels. As such, if ambient noise levels at nearby receptors exceed the "fixed" thresholds from Part (4), then the measured ambient noise level "+3 dBA" will be used as the threshold to determine the significance of Project noise impacts.

Table 2 presents the significance thresholds applicable to this Project. As discussed in Section 2.3, only nighttime (10:00 PM-6:00 AM) thresholds are included because the Project is not expected to create any new daytime or evening noise impacts. Per Ventura County guidance, for situations where the measured ambient noise level in Table 1 exceeds the thresholds presented in the General Plan, then the "ambient noise level +3 dBA" becomes the noise standard. Please see Appendix B for the ambient noise measurement logs and Ventura County significance threshold determination.

Table 2 Project Specific Significance Thresholds (dBA – L_{eq} 1H)

Receptor	Nighttime (10:00 PM – 6:00 AM)		
	Ambient Noise Level	General Plan Noise Threshold	Project Specific Noise Threshold
R1	52.2	45.0	55.2
R2	52.2	45.0	55.2
R3	52.2	45.0	55.2

Note: Per Ventura County guidance, when the measured ambient noise levels exceed the designated threshold, then the threshold becomes the "ambient noise level +3 decibels (dB)."

5.0 PROJECT OPERATIONAL IMPACTS

This section discusses the inputs, methodologies, and the results of the noise models used to predict Project noise impacts to nearby receptors. Specifically, noise impacts resulting from nighttime facility operations (mobile equipment, liquid and solid waste processing, etc.) are assessed.

5.1 Project Noise Source Characterization

In order to characterize the Project industrial noise sources, this NIA uses a combination of noise monitoring and documented Ventura County reference data to determine the noise level generated by proposed nighttime industrial operations. On April 24th, 2017, noise monitoring was conducted at the Patriot Environmental Services Anaheim facility. The Anaheim facility is similar to this Project because it too receives and treats non-hazardous wastewater using many of the same processes (mixing tanks, pumps, etc.) that are proposed for use at the Facility. Noise measurements of a centrifuge dewatering unit operating at a similar wastewater processing facility in Ventura County are also utilized. For mobile equipment (i.e. front-end loader) noise levels, documented reference noise source information from the Ventura County Construction Guidelines was utilized.

Table 3 below summarizes the noise source data utilized to model noise levels generated by the Project. Additional information regarding the sources, including the noise measurement logs, are included in Appendix C.

Table 3 Industrial Noise Source Data

Noise Source	Description	Source Type	L_{eq} @ 50-feet (dBA)	Basis
Front-End Loader	Mobile equipment operating in the solid-waste mixing areas	Area	79.0	Ventura County Construction Guidelines
General Site Noise Sources	Pumps utilized to transfer liquids between tanks and other non-specific industrial sources located throughout the Facility	Area	55.5	Patriot Anaheim Facility Noise Monitoring
Mixing Tanks	Various mixing tanks located throughout the Facility	Point	54.9	Patriot Anaheim Facility Noise Monitoring
Centrifuges Dewatering Units	Various centrifuges located throughout the Facility	Point	74.3	Measurement at Similar Facility
Employee Parking	Employee's/employee vehicles make noise during arrival and departure.	Area	Predicted By Model	ISO 9613-2

Note: Transfer pumps were modeled as area sources within the tank farm areas, as their exact location will not be decided until the onsite tank farms are constructed and the site is operational.

5.2 Project Noise Impact Calculation Methodology

Using the source data shown in Table 3, SoundPLAN Essential 3.0 (SoundPLAN) computer noise model software was utilized to determine the expected noise impacts to nearby receptors from Facility nighttime operations. Source-receptor geometry, noise source data, terrain information (e.g. elevations, surface conditions), and obstructions (e.g. onsite buildings, large tank farms, and walls) were modeled. SoundPLAN models industrial and parking lot noise impacts at receptors based on the International Organization for Standardization's (ISO) "ISO 9613-2" standard for calculating outdoor sound propagation. Figure 5 (Appendix A) shows the modeled source-receptor geometry and nighttime noise impacts as modeled in SoundPLAN. The nighttime industrial model output files are included in Appendix E.

The following assumptions were utilized in the industrial source model:

- The most dominant noise sources (i.e. centrifuges, mixing tanks) are modeled as point sources in the appropriate locations. Front-end loader operations are modeled as an area sources within the mixing areas. General site noise sources (transfer pumps, other non-specific industrial sources) were also modeled as area sources because this measurement includes a variety of low intensity sources that are expected to occur throughout the onsite tank farms, but the precise location of specific sources is not yet known. The industrial model source-geometry figure (Figure 5) in Appendix A displays the locations of these modeled noise sources.
- The two onsite (2) parking areas are modeled as parking lots to account for noise generated by the ingress and egress of employee vehicles. Employees vehicles will arrive and depart the site during each of the three (3) shift changes.
- Because the area is relatively flat, terrain elevations are not included with the exception of the mixing area/pit. The mixing area slopes downward from east to west to a maximum depth of approximately 5-feet. This is where the front-end loader will operate during nighttime processing operations. This mixing pit provides some amount of noise attenuation by partially blocking line-of-sight between the equipment and nearby receptors, primarily Receptor 1.
- All noise sources (loader, pumps, mixing tanks, centrifuges) are conservatively assumed to all operate simultaneously during the nighttime peak hour.
- Reference noise spectrums from the SoundPLAN Essential 3.0 database were utilized to more accurately account for the frequency distribution of each industrial source. The diesel engine wheeled loader reference spectrum was utilized for the front-end loader and the average industrial spectrum (this spectrum is the average of about 150 industrial sources, such as compressors, fans, and coolers) was utilized for the other modeled sources.
- The Facilities buildings (office, lab, employee changing room, and hazardous materials storage building) were included in the model as permanent noise obstructions (i.e. buildings). The five (5) large tank farms located onsite throughout the Facility were also included as "industrial area" volume attenuation areas approximately 13 feet (4 meters) tall.
- The proposed landscape areas were also included as "foliage" ground absorption attenuation areas along the appropriate Facility boundaries, which provides a very small amount of added attenuation as noise propagates through them. Paved areas were also included as hard surfaces, which slightly increase noise levels due to increased noise reflection.
- The approximately 6-foot high wooden fence surrounding Receptor 1 was included as an existing wall. Conservatively, a reflection loss factor of 1.0 was included for this wall which is appropriate for barriers not designed for noise protection purposes (1.0 is the minimum reflection loss factor). As described previously, this two-story residence has few windows and no doors in areas facing the Facility.

5.3 Project Noise Impact Results

Table 4 presents the results of the industrial source nighttime noise prediction model for the receptors near the Facility (R1, R2 and R3). The modeled nighttime noise impact at each receptor is compared to the applicable Project significance thresholds presented in Table 2. Modeling files are included in Appendix E and industrial model results are displayed on Figure 5 (Appendix A). Note that all impacts are below the applicable nighttime significance threshold.

Table 4 Industrial Source Nighttime Noise Impacts (dBA – L_{eq} 1H)

Receptor	Ambient Noise	Project Noise	Total Noise	Threshold	Significant?
Receptor 1	52.2	36.0	52.3	55.2	No
Receptor 2	52.2	36.6	52.3	55.2	No
Receptor 3	52.2	29.1	52.2	55.2	No

6.0 MITIGATIONS

As presented in Section 5.3, all Project impacts are below the applicable significance thresholds. Therefore, no mitigation is required.

7.0 CONCLUSIONS

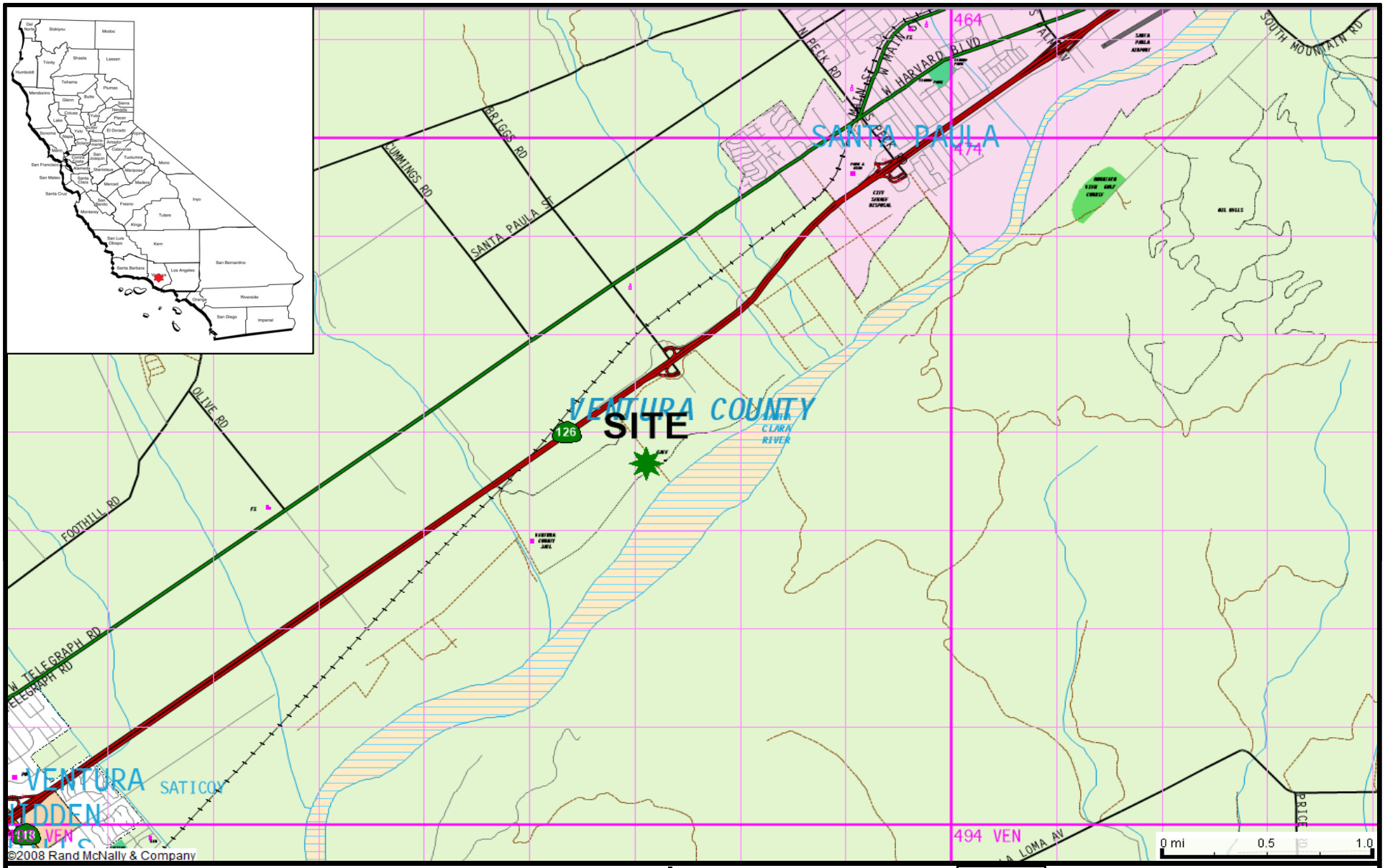
As shown in Table 4, Project noise impacts are less than the applicable thresholds. Table 4 also shows that the existing ambient noise level dominates the noise environment in this area (ambient levels are 7.2 dBA over the designated Ventura County nighttime significance threshold of 45 dBA). However, it is important to note that the Project's nighttime noise impacts are below the unadjusted significance threshold (i.e. 45 dBA).

This NIA finds that:

- Project daytime and evening industrial noise impacts are expected to be reduced or remain unchanged as a result of the Project.
- Project nighttime industrial noise impacts are less than significant at the nearby sensitive receptors (dwellings, schools, hospitals, nursing homes, churches, and libraries) without mitigation.
- The Project will result in a Class III, less than significant, noise impact.

APPENDIX A

FIGURES



Source: 2008 Rand McNally & Company

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FIGURE 1	REGIONAL LOCATION MAP Patriot Environmental Services 815 Mission Rock Road Santa Paula, California 93060		
PROJECT #:	PA09.16.01	DATE:	3/23/17
SCALE:	as shown	DRAWN BY:	GPS

Source: Google Earth 2016

Facility Boundary

- Long-Duration (24-Hours) Noise Monitoring Locations

N

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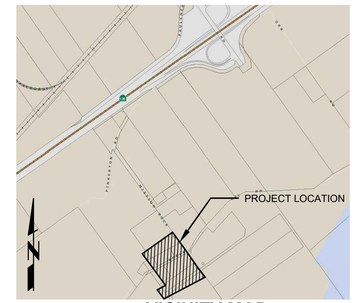
FIGURE 2	FACILITY/RECEPTOR LOCATION MAP Patriot Environmental Services 815 Mission Rock Road Santa Paula, California 93060		
PROJECT #:	PA09.16.01	DATE:	4/11/17
SCALE:	as shown	DRAWN BY:	GPS

NCZ0 ZONE: M3 10,000 SQ. FT.
GENERAL PLAN: EXISTING COMMUNITY



VICINITY MAP
N.T.S.

LEGEND

- CUP BOUNDARY 6.3 ACRE ±
- LOT LINE
- PARCEL LINE
- 6 FT HIGH CHAINLINK FENCE
- 6 FT HIGH CORRUGATED METAL FENCE
- EASEMENTS
- EXISTING AC./CONCRETE
- PROPOSED AC./CONCRETE
- LANDSCAPE AREA
- GRAVEL SURFACE
- TP-1 — LOCATION OF BACKHOE EXPLORATION TEST PIT
  - N = NEW
  - E = EXISTING
- TRAFFIC ARROW
- FIRE HYDRANT (FH)
- EDISON POWER POLE
- BERM
- "DAY TANK" IN USE CHEMICAL ON CONTAINMENT
- COMPRESSED GAS CYLINDER
- ABANDONED OIL WELL
- ACTIVE OIL WELL
- DRAINAGE DIRECTION
- SS □ SAFETY SHOWER/EYEWASH
- SEWER LINE TO OXNARD
- TP-2 — LOCATION OF BACKHOE PERCOLATION TEST PIT

ID	2010 Approved CUP Equipment	ID	2017 Proposed Equipment	N/E
A	Receiving Bays (4)	A	Receiving Bays (4)	E
B	Trash/Grit Removal Unit	B	Trash/Grit Removal Unit	E
		CL1-5	Clarifier Units (5)	E
		D	Mixing Tanks (6+)	N
D1	Centrifuge Unit	D1	Centrifuge Unit	E
D2	Centrifuge Unit	D2	Centrifuge Unit	E
D3	Centrifuge Unit	D3	Centrifuge Unit	E
D4	Belt Press			
E	Electro-Coagulation Unit	E	Electro-Coagulation Unit or other Metal Removal Unit	N
F1	Ozone Unit #1	F1	Ozone Unit	N
F2	Ozone Unit #2			
G	UV/Oxidation Unit	G	GEM Unit	N
H	Double Wide Office Trailer	H	1056 sq. ft. portable trailer (office)	N
I	Temporary Office Trailer			
J	Laboratory/Receiving Office	J	648 sq. ft. portable trailer (lab)	N
K	Maintenance Shed	K	Maintenance Shed	E
L	Employee Changing Room	L	864 sq. ft. portable trailer (employee changing room)	N
M	Break Room (old receiving office)			
N1	Sea Container (records storage)	N1	Sea Container (records storage)	E
N2	Sea Container (parts storage)	N2	Sea Container (parts storage)	E
N3	Sea Container (parts storage)	N3	Sea Container (parts storage)	E
N4	Sea Container (parts storage)			
N5	Sea Container (parts storage)			
N6	Sea Container (parts storage)			
N7	Sea Container (parts storage)			
O	Sea Container (chemical storage trailer)			
P	Auger			
Q	CKD Silo			
AA	3 – concrete pads	AA	3 – concrete pads	E
BB	2-Plate Presses on concrete Blocks	BB	2-Shaker Units (screens)	N
CC	Old Office (removed)			
DD	Old Air Stripper Unit (removed)			
EE	Old Tool Shed			
FF	Old Carbon Filters			
GG	Old Frac Tank			
HH	Old Skim Tanks (2) w/ concrete secondary containment	HH	Skim Tanks (2)	N
II	4 – Old Frac Tanks			
1	10 – 5000 gallon process tanks	1	10 – 20,000 gallon waste receiving tanks	E
2	7 – 5000 gallon process tanks	2	10 – 20,000 gallon process tanks	E
3	20 – 5000 gallon process tanks	3	5 – 20,000 gallon process tanks	E
4	40 – 5000 gallons process tanks	4	10 – 20,000 gallon waste receiving tanks	N
5	Pond #1 (surface impoundment) (filled in)			
6	20 – 5000 gallon process tanks	5	14 – 20,000 gallon process tanks	E
7	Pond #2 (surface impoundment			
8	10,000 gallons process tank	6	6 - 6,000 gallon poly process tanks	N
9	10,000 gallons process tank			
10	10,000 gallons process tank			
11	Offloading pump			
12	Sand Filters (6)	12	Sand Filters (6 to 8)	N
13	Sand Filters (6)	13	Portable Water Tanks	N
14	Shipping Pit	14	Shipping Pit (Not Used)	E
15	10,000 gallons process tank			
16	Carbon Filters (2)	16	Carbon Filters	N
17	Micron Filtration Pods	17	Filter Units (organo-clay)	N
18	Diesel Fuel Tank (w/secondary containment)	18	Diesel Fuel Tank (w/secondary containment)	E
19	5 – 5000 gallon process tanks	19	pH Adjustment Tanks	N
TBD	Five Receiving Bays: Bay-3, Industrial Bay, Domestic Bay, and (2) Screening Bays			
TBD	Stockpile storage and recycle area;	20	Stockpile storage and recycle area;	E
TBD	Two reverse Osmosis Units;	21	Two reverse osmosis units (or equivalent technology)	N
TBD	One Control Device;	22	One VCAPCD Control Device;	E
TBD	30- Water Processing Tanks			
TBD	All Awnings and concrete pads	23	New 4,852 square foot concrete pad	N
TBD	Three foot deep grass storm water holding basin;			
		25	610 sq. ft. hazardous materials storage building	N
		26	oil/water separator	N
	Total Approved Process Tanks = 143		Total Proposed Process Tanks = 95	

N/E – New or Existing on Site

PROJECT SITE ADDRESS: 815 MISSION ROCK RD, SANTA PAULA, CA

NOTE:
FACILITY IS WITHIN 100-YEAR FLOODPLAIN PER FEMA REVISED PRELIMINARY FIRM 06111C0778F (12/22/15) EXCEPT FOR AREA NOTED.

30 0 30 60
SCALE OF FEET

APPLICANT:
RI-NU SERVICES LLC.
15218 SUMMIT AVE., SUITE 300
#601 FONTANA, CA 92336
P:(951)-323-7200

PROPERTY OWNER:
SANTA CLARA WASTE WATER CO.
2775 NORTH VENTURA RD.
SUITE 209
OXNARD, CA 93036
P:(909)-641-4418

APN: 099-0-060-565 :	ACRE 6.97
TOTAL:	6.97

ENGINEER:
SESPE CONSULTING INC.
ROB DAL FARRA
374 POLI ST.
SUITE 200
VENTURA, CA 93001
P:805-275-1515

TOTAL PARCEL AREA	= 303,613 SQF
CUP AREA	= 274,655 SQF
NET STRUCTURE COVERAGE	= 27,211 SQF OR 9.0%
PERVIOUS AREA WITHIN CUP	= 138,902 SQF OR 50.6%
IMPERVIOUS AREA WITHIN CUP	= 135,753 SQF OR 49.4%
LANDSCAPE AREA WITHIN CUP	= 26,862 SQF OR 9.8%

SESPE CONSULTING, INC.
374 Poli Street, Ste. 200 • Ventura, CA 93001
(805) 275-1515 • www.sespeconsulting.com

RI-NU WASTE WATER TREATMENT FACILITY
PROPOSED SITE PLAN - SEPTIC

SCALE: HORIZ. AS SHOWN
VERT. AS SHOWN
DRAWN BY: G.CAMUS
DATE: 11/11/2020

ri→nu Services, LLC.

FIGURE NUMBER 1

S:\GR10 – Green Compass\CUP Application 2016 – SCWW\CAD\Site Plan\GR10 –RI–NU–Site–Plan–11–4–20 (septic).dwg Nov 11, 2020, 11:55am GJC

VAPOR RECOVERY IF NEEDED

COMPOST/WOODCHIP BIO-F LTER

NON-CWT WASTE STREAMS

CENTRIFUGE

CAUSTIC SODA

SLUDGE TO ENCLOSED BIN

DOMESTIC WASTE

DOMESTIC

SCREEN BOX

MIXING TANK

FINAL EFFLUENT TANKS (NON-CWT)

SUBCATEGORY A

INDUSTRIAL - METALS

SCREEN BOX

HOLDING TANKS

SOLIDS TO O&G MIXING TANK FOR DEWATERING (DWG P-2)

SUBCAT A INF S.P.

CAUSTIC SODA

POLYMER

CLARIFIER

SOLIDS TO O&G MIXING TANK FOR DEWATERING (DWG P-2)

FILTERS

GAC VESSELS

SUBCAT A EFF S.P.

SUBCATEGORY C

INDUSTRIAL - ORG

SCREEN BOX

HOLDING TANKS

SOLIDS TO O&G MIXING TANK FOR DEWATERING (DWG P-2)

SUBCAT C INF S.P.

CLARIFIER

BYPASS

OZONE GEN

OZONE CONTACT TANKS

FILTERS

GAC VESSELS

SUBCAT C EFF S.P.

DOMESTIC & NON-CWT STREAMS

Compliance S.P.

CAUSTIC SODA

Compliance S.P.

FINAL EFFLUENT TANKS - CWT

SUBCAT D EFF S.P.

TO TRUCKS FOR OFFSITE DISPOSAL

EFFLUENT FROM O&G TRAINS (DWG P-2)

S.P. Sampling Point

SUBCAT A EFF S.P. Sampling Point – Subcategory Demonstration Test

Compliance S.P. Compliance Sampling Point

INNOVATIVE TREATMENT
P.O. BOX 3970
FULLERTON, CA 92834
(714) 745-4692

TITLE: CWT & DOMESTIC WASTE TREATMENT FACILITY

DESCRIPTION: PIPING & INSTRUMENTATION DIAGRAM
INDUSTRIAL & DOMESTIC WASTE TREATMENT TRAINS

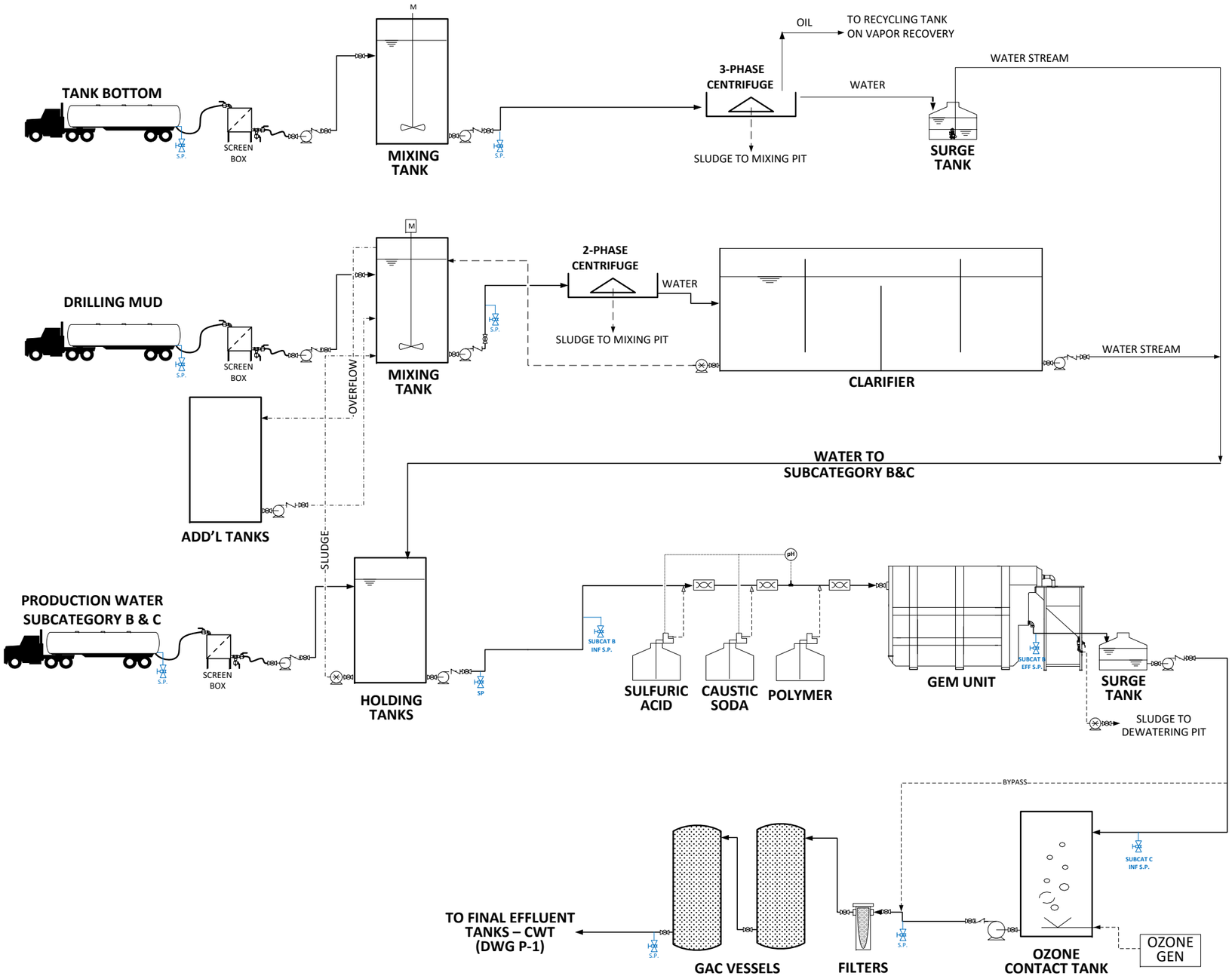
SCALE: NONE

DESIGNED BY: AL

DRAWN BY: AL

DATE: 4/5/18

DRAWING No.: P-1



S.P. Sampling Point

SUBCAT B INF S.P. Sampling Point – Subcategory Demonstration Test

Compliance S.P. Compliance Sampling Point

NOTE: SLUDGE PRODUCED IN THE DEWATERING PITS WILL BE DISPOSED AT A LOCAL LANDFILL

INNOVATIVE TREATMENT
P.O. BOX 3970
FULLERTON, CA 92834
(714) 745-4692

TITLE	CWT & DOMESTIC WASTE TREATMENT FACILITY
DESCRIPTION	PIPING & INSTRUMENTATION DIAGRAM OIL & GAS TREATMENT TRAIN
SCALE	NONE
DESIGNED BY	AL
DRAWN BY	AL
DATE	4/5/18
DRAWING No.	P-2

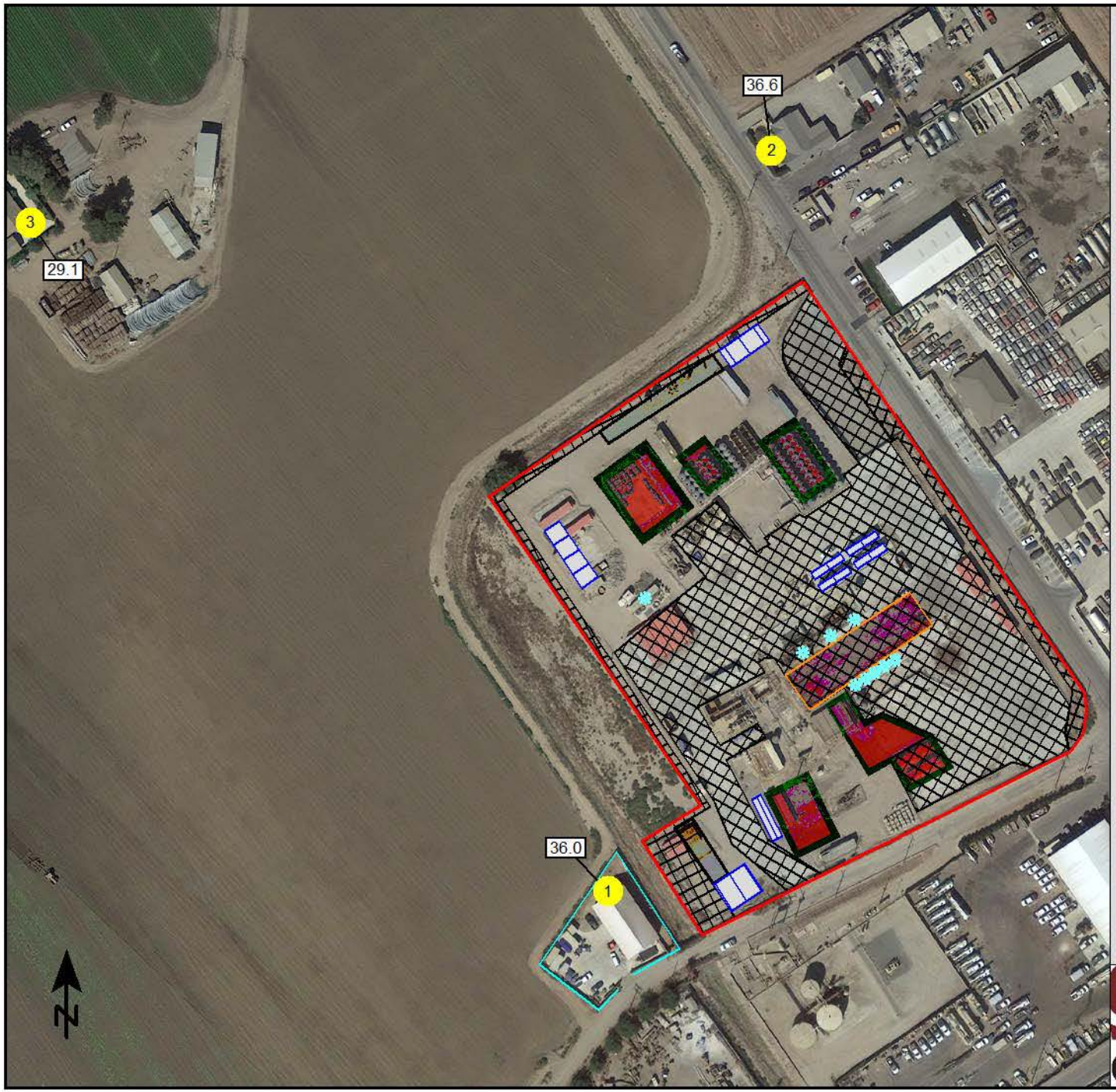


FIGURE 5
Industrial Model Results
Nighttime (dBA - Leq 1H)

Time Slice Analyzed:
Nighttime = 10:00 PM-6:00 AM

Receptors:
#1 = Receptor 1 (R1)
#2 = Receptor 2 (R2)
#3 = Receptor 3 (R3)

Facility Nighttime Noise Sources:
-Front-End Loader
-General Site Noise Sources (pumps, etc.)
-Mixing Tanks
-Dewatering Centrifuges

Signs and symbols

- Facility Boundary
- Below Grade Mixing Area/Pit
- Landscaping/Concrete
- Tank Farms
- 6-Foot Fence
- Buildings/Structures
- Receptor
- Point Sources (mixing tanks, centrifuges)
- Area Sources (loader, general site sources)
- Parking Lots

1 : 2035

0 10 20 40 60 80 m

SESPE CONSULTING, INC.

APPENDIX B

REGULATORY REFERENCE

4. County Health and Safety/Loss Prevention (General Service Agency) is responsible for monitoring *hazardous materials* in the work place for all County employees through the Hazardous Materials Abatement Program.
5. CEO-Risk Management, Health, Safety & Loss Prevention (HSLP) will continue administration of the Asbestos Management Program which provides a full range of asbestos abatement surveillance guidance and regulatory compliance advisory services applicable to all County owned facilities and operations.
6. The County Agricultural Commissioner's Office is responsible for enforcing all pesticide regulations, issuing licenses to applicators, distributors and dealers who handle pesticides and conducting inspections of all application and distribution facilities.
7. The County Environmental Health Division will continue to work with the appropriate State agencies to assess the public health and environmental impacts of identified waste disposal sites in the County, including abandoned and illegal sites.
8. The County Sheriff's Department Office of Emergency Services, in cooperation with the County Fire Protection District will annually review and revise the County *Multihazard Functional Plan*'s Major Hazardous Materials Incident Contingency section.
9. The County Public Works Agency Environmental & Energy Resources Department will maintain a CHWMP that includes goals, policies, programs and an implementation schedule for management of household *hazardous waste* for action by the County and participating cities.
10. The County Sheriff's Department Office of Emergency Services, will coordinate with local, state and federal agencies regarding off shore oil incidents and onshore oil pipeline incidents and annually update the County *Multihazard Functional Plan*'s Off Shore Oil Incidents Contingency section.
11. The Environmental Health Division is responsible to implement the requirements of Division 20, Chapter 6.5, Section 25189.5 (Health and Safety Code), involving any illegal discharge or threatened illegal discharge of a *hazardous waste* within the County.
12. The Environmental & Energy Resources Department and the Environmental Health Division will continue to coordinate with the Ventura Regional Sanitation District and local cities on the Household Hazardous Waste Program, which involves a) the collection of unused household products and pesticides that are considered hazardous, and b) a community education program on the safe use and disposal of household chemical products.

2.16 Noise

For purposes of this Plan, "noise" can be defined as any sound having an intensity (in terms of volume, pitch or duration) at the point of human perception that has the potential to stress or damage the organs of human hearing or to cause unwanted or unhealthy physiological effects, or is otherwise considered unwanted or annoying by the listener. The effects of noise accumulate over time, so it is necessary to deal not only with the intensity of sound but also the duration of human exposure to the sound.

Noise can be annoying and physically harmful to human beings and to animals. Human exposure to intense noise can result in irreversible hearing damage, and has been linked to other physiological effects including headaches, nausea, irritability, constriction of peripheral blood vessels, changes in heart and respiratory rates and in glandular and gastrointestinal activity and increased muscular tension. The effects of noise exposure in residential environments can include coughs and hoarseness caused by the strain of shouting above the noise. Noise can also affect accuracy at work, and has been found to be linked to job-related accidents and absenteeism.

High levels of noise can have effects on animals that are similar to those on humans, in terms of tissue damage, changes in blood pressure and chemistry, and hormonal changes. Hatching failures (in birds) and other changes in reproductive processes have also been reported. Additional effects on wildlife can include panicking, disruption of breeding and nesting behavior, birth defects, changes in migratory patterns, and even changes in the size of bodily organs. Noise can also mask animals' auditory signals and interfere with some animals' communication of necessary information. Adverse effects of noise on

farm animals can include changes in milk production, incubation behavior, mating behavior, and animal size and weight.

Noise can also have adverse effects on materials and structures, particularly as a result of sonic booms and related aircraft noises. These aircraft generated noises can excite buildings to vibrate and can break windows and crack plaster.

While any number of individual measures have been proposed, mitigation measures for identifiable noise problems fall into three categories:

- Reduction of the noise at its source.
- Modification of the path of the noise.
- Reduction of noise at the receiver with various types of insulation.

Noise is directly associated with human activity, and is primarily a function of traffic, machinery and airports. On a generalized basis, motor vehicles, as a group, are the most pervasive contributors to urban noise, while aircraft, railroads and certain high intensity industrial noise generators may produce the most aggravated community annoyance reactions. Due to wide distribution and the types of machinery used, industrial sources are the second greatest noise generator. Airports are regarded as the third greatest noise generator. Other significant noise sources are powered gardening equipment, amplified music, power tools and air conditioners.

Land uses considered *noise sensitive uses* include residential, educational, and health facilities, research institutions, certain recreational, and entertainment facilities (typically, indoor theaters and parks for passive activities) and churches. Uses considered less sensitive to noise include commercial and industrial facilities and certain noise-generating recreational facilities such as playgrounds and gymnasiums.

The goal, policies and programs that apply to noise are as follows:

2.16.1 Goal

To protect the health, safety and general welfare of County residents by elimination or avoidance of adverse noise impacts on existing and future *noise sensitive uses.*

2.16.2 Policies

1. All *discretionary development* shall be reviewed for noise compatibility with surrounding uses. Noise compatibility shall be determined from a consistent set of criteria based on the standards listed below. An acoustical analysis by a qualified acoustical engineer shall be required of *discretionary developments* involving noise exposure or noise generation in excess of the established standards. The analysis shall provide documentation of existing and projected noise levels at on-site and off-site receptors, and shall recommend noise control measures for mitigating adverse impacts.

   (1) *Noise sensitive uses* proposed to be located near highways, truck routes, heavy industrial activities and other relatively continuous noise sources shall incorporate noise control measures so that:

      a. Indoor noise levels in habitable rooms do not exceed CNEL 45.

      b. Outdoor noise levels do not exceed CNEL 60 or L_{eq}1H of 65 dB(A) during any hour.

   (2) *Noise sensitive uses* proposed to be located near railroads shall incorporate noise control measures so that:

      a. Guidelines (1)a. and (1)b. above are adhered to.

      b. Outdoor noise levels do not exceed L_{10} of 60 dB(A).

   (3) *Noise sensitive uses* proposed to be located near airports:

      a. Shall be prohibited if they are in a CNEL 65 or greater, noise contour.

      b. Shall be permitted in the CNEL 60 to CNEL 65 noise contour area only if means will be taken to ensure interior noise levels of CNEL 45 or less.

(4) Noise generators, proposed to be located near any *noise sensitive use*, shall incorporate noise control measures so that ongoing outdoor noise levels received by the noise sensitive receptor, measured at the exterior wall of the building, does not exceed any of the following standards:

a. L_{eq}1H of 55dB(A) or ambient noise level plus 3dB(A), whichever is greater, during any hour from 6:00 a.m. to 7:00 p.m.

b. L_{eq}1H of 50dB(A) or ambient noise level plus 3dB(A), whichever is greater, during any hour from 7:00 p.m. to 10:00 p.m.

c. L_{eq}1H of 45dB(A) or ambient noise level plus 3dB(A), whichever is greater, during any hour from 10:00 p.m. to 6:00 a.m.

Section 2.16.2(4) is not applicable to increased traffic noise along any of the roads identified within the 2020 Regional Roadway Network (Figure 4.2.3) Public Facilities Appendix of the Ventura County General Plan (see 2.16.2-1(1)). In addition, State and Federal highways, all railroad line operations, aircraft in flight, and public utility facilities are noise generators having Federal and State regulations that preempt local regulations.

(5) Construction noise shall be evaluated and, if necessary, mitigated in accordance with the County Construction Noise Threshold Criteria and Control Plan.

2. Discretionary development which would be impacted by noise, or generate project related noise which cannot be reduced to meet the standards prescribed in Policy 2.16.2-1., shall be prohibited. This policy does not apply to noise generated during the construction phase of a project.

3. The priorities for noise control shall be as follows:

(1) Reduction of noise emissions at the source.

(2) Attenuation of sound transmission along its path, using barriers, landforms modification, dense plantings, and the like.

(3) Rejection of noise at the reception point via noise control building construction, hearing protection or other means.

2.16.3 Programs

1. The Oxnard and Camarillo Airport Master Plans recommend the preparation of noise abatement plans, the formation of local noise abatement committees with input from local citizens, and distribution of a periodic newsletter documenting noise abatement policies to aircraft operators and other interested parties. The airport plans also recommend periodic sampling measurements and updating of the CNEL noise model parameters, and discussion of alternative approaches for noise abatement.

   In addition, the Oxnard plan recommends publication of a map of recommended noise abatement flight tracks and operating procedures, for distribution to area airports and other interested parties.

2. The Public Works Agency will continue to work with CalTrans and City transportation offices to optimize signal timings and arterial stop sign location so that stop-go truck traffic is minimized in areas surrounded by noise-sensitive uses.

3. The noise *goals, policies* and *programs,* as well as the noise appendix, will be reviewed by the Planning Division as needed.

4. The Public Works Agency will prepare a proposal for consideration by the Board of Supervisors to study the feasibility of constructing noise barriers in areas containing existing *noise sensitive uses* which are or will be significantly impacted by traffic noise.

5. The Building and Safety Division will continue to enforce Appendix Chapter 35 of the Uniform Building Code (UBC) and UBC Appendix 3501 of the Ventura County Building Code for the purposes of protecting persons within new hotels, motels, apartment houses, and dwelling units from effects of excessive noise including external community noise.

6. The Building and Safety Division and Public Works Agency shall prepare a budgetary proposal for Board consideration to amend the County Building Code, including Excavation and Grading Standards, to impose the noise criteria and mitigation measures contained within the County Construction Noise Threshold Criteria and Control Plan.

2.17 Civil Disturbance

Civil unrest, terrorism, and national security emergency hazards are forms of civil disturbance, which are of major public concern and necessitate a planned and coordinated response by a number of public agencies.

Civil Unrest

Civil unrest is the spontaneous disruption of normal, orderly conduct and activities in urban areas, or outbreak of rioting or violence that is of a large-scale nature. Civil unrest can be spurred by specific events, such as large sporting events or criminal trials, or can be the result of long-term disfavor with authority. Civil unrest is usually noted by the fact that normal on-duty police and safety forces cannot adequately deal with the situation until additional resources can be acquired. This is the time period when civil unrest can grow to large proportions.

Threat to law enforcement and safety personnel can be severe and bold in nature. Securing of *essential facilities* and services is necessary. Looting and fires can take place as a result of perceived or actual non-intervention by authorities.

The various agencies that are vested with providing emergency response services within their respective jurisdictions are very adept at dealing with ordinary and routine emergency incidents. There are, however, incidents and circumstances that by their very nature exceed the ability and capacity of a single jurisdiction to cope with the situation. When this occurs, a request for additional resources is initiated and is accommodated through mutual aid agreements. Incidents, whether they are natural (e.g., flooding, earthquakes), or civil disturbances that occur simultaneously in a widespread manner affecting multiple jurisdictions, require a greater degree of coordination and organization. The Ventura County Law Enforcement Mutual Aid Manual addresses the mechanics of mutual aid activation and level of response. It also speaks to the establishment of a unified command structure organized to deal with incidents that affect the entire operational area whether in a direct or indirect fashion.

Active participation in the unified command and incident command system is essential if a coordinated effort is to be initiated and maintained.

The entire County, consisting of residential, industrial and commercial properties, is vulnerable to the effects of civil unrest.

Terrorism

Terrorism is defined as the use of fear for intimidation, usually for political goals. Terrorism is a crime where the threat of violence is often as effective as the commission of the violent act itself. Terrorism affects us through fear, physical injuries, economic losses, psychological trauma, and erosion of faith in government. Terrorism is not an ideology. Terrorism is a strategy used by individuals or groups to achieve their goals.

In the wake of the 1993 World Trade Center bombing in New York and the Oklahoma City bombing in 1995, terrorism became a serious concern for emergency management, emergency responders, and the public at large. However, the 2001 attack on the World Trade Center and the Pentagon has now elevated our concern about terrorism to a level we never imagined, and requires us to be prepared to respond to situations that go beyond the terrorist incident scenarios that we are familiar with.

Terrorists espouse a wide range of causes. They can be for or against almost any issue, religious belief, political position, or group of people of one national origin or another. Because of the tremendous variety of causes supported by terrorists and the wide variety of potential targets, there is no place that is truly safe from terrorism. Throughout California there is nearly limitless number of potential targets, depending on the perspective of the terrorist. Some of these targets include: medical facilities/clinics, religious facilities, government offices, public places (such as shopping centers), schools, power plants, refineries, utility infrastructures, water storage facilities, dams, private homes of prominent individuals, financial institutions and other businesses.

operating under load or at near full power. In addition to the minute-by-minute variations in noise producing activities, construction projects are carried out in several different phases.

Figure 2. Typical Construction Equipment Noise

Equipment Type Noise Source	Dominant Noise Components[1]	50-Foot Noise Level (L_{eq}) dBA[2, 3]	Noise Level Range (L_p) dBA[2, 3]	50-Foot Maximum Noise Level (L_{max}) dBA[2 3]
Air Compressor (portable)[4]	E, C, H, I	81	76-89	89
Air Compressor (stationary)	E, C, H, I	82	76-89	89
Auger, Drilled Shaft Rig	E, C, F, I, W	82	76-89	89
Backhoe	E, C, F, I, H, W	85	81-90	90
Bar Bender	E, P, W	82	78-88	85
Chain Saw	E, W, C	85	72-88	88
Compactor	E, C, F, I, W	82	81-85	85
Concrete Batch Plant	W, E, C	92	80-96	96
Concrete Mixer (small trailer)	W, E, C	67	65-68	68
Concrete Mixer Truck	E, C, F, W, T	85	69-89	89
Concrete Pump Trailer	E, C, H	82	74-84	84
Concrete Vibrator	W, E, C	76	68-81	81
Crane, Derrick	E, C, F, I, T	88	79-90	90
Crane, Mobile	E, C, F, I, T	83	80-85	85
Dozer (Bulldozer)	E, C, F, I, H	80	77-90	90
Excavator	E, C, F, I, H, W	87	83-92	92
Forklift	E, C, I, W	84	81-86	86
Front End Loader	E, C, F, I, H	79	77-90	90
Generator	E, C	78	71-87	87
Gradall	E, C, F, I, W	82	78-85	85
Grader	E, C, F, I, W	85	79-89	89
Grinder	W	80	75-82	82
Hydraulic Hammer	W, E, C, H	102	99-105	105
Impact Wrench	W, P	85	75-85	85
Jack Hammer	P, W, E, C	82	75-88	88
Paver	E, D, F, I	89	82-92	92
Pile Driver (Impact/ Sonic/ Hydraulic)	W, P, E	101 / 96 / 65	94-107 / 90-99 / 65	107 / 99 / 65
Pavement Breaker	W, E, P	82	75-85	85
Pneumatic Tool	P, W, E, C	85	78-88	88
Pump	E, C	76	68-80	80
Rock Drill	W, E, P	98	83-99	99
Roller	E, C, F, I, W	74	70-83	83
Sand Blaster	W, E, C, H, I	85	80-87	87
Saw, Electric	W	78	59-80	80
Scraper	E, C, F, I, W	88	82-91	91
Shovel	E, C, F, I, W	82	77-90	90
Tamper	W, E, C	86	85-88	88
Tractor	E, C, F, I, W	82	77-90	90
Trencher		83	81-85	85
Trucks (Under Load)	E, C, F, I, T	88	81-95	95
Water Truck	W, E, C, F, I, T	90	89-94	94
Other Equipment with Diesel	E, C, F, I	82	75-88	88

Note 1. Ranked noisy components. C=Casing, E=Exhaust, F=Fan, H=Hydraulics, I=Intake air, P=Pneumatic exhaust, T=Transmission, W=Work tool.
Note 2. Table based on EPA studies and measured data from various construction equipment and manufacturer's data.
Note 3. Equipment noise levels are at 50 feet from individual construction equipment and with no other noise contributors.
Note 4. Portable air compressor rated at 75 cfm or greater and operating at greater than 50 psi.

Appendix B
Estimating Construction Project Noise

For project planning purposes, where the potential for noise impacts exist, it is possible to estimate the potential construction noise impacts in advance by developing an inventory of noisy construction equipment and processes for the various stages and phases of the project. Such screening methods assist construction project managers and estimators in planning for the potential need for noise mitigation.

Construction Equipment Inventory

An inventory of the number and type of noisy construction equipment to be used during planned daytime, evening and nighttime construction activities, their associated noise emissions, and other relevant information can be included on Figure B-2, Construction Phase Receptor Noise Estimation Worksheet. Using this form, construction noise levels for the various phases of construction can be estimated using the phase's equipment inventory, the typical 50-foot equipment noise levels (listed in Figure A-1 of Appendix A) along with typical by-phase construction equipment use factors, provided in Figures A-1 through A-5 of Appendix A.

Construction Noise Estimates

Calculations can be performed to estimate the daytime, evening and nighttime maximum (L_{max}) and one-hour energy average (L_{eq}) noise levels expected at the noise-sensitive location, based on the typical maximum equipment noise levels listed in Figure A-1 in Appendix A. The calculations are to be made for the various activities and locations where project construction noise will result in the greatest noise impact (*noise levels at other sensitive locations can also be calculated, if necessary*). The calculations and results should be entered on a form similar to Figure B-2, the Construction Phase Receptor Noise Estimation Worksheet. The result of a sample construction noise calculation is provided in Figure B-1.

The following calculation procedures may be used to estimate the construction noise by phase.

1. Calculate each phase's L_{max} according to the following method:

   L_{max} [equipment type] = ML – 20 $\log_{10}$ (D/50)

   where:

   ML = Typical single equipment maximum noise level (L_{max}) at 50 feet, in dBA. (*This may be replaced by a measured, under-load, maximum noise level*).

   D = Distance from the equipment to the noise-sensitive location, in feet.

   Repeat the above calculation for each item of potentially noisy equipment. Then, select the noisiest individual pieces of equipment that operate in their loudest mode at the very same time and combine them logarithmically to estimate the overall maximum construction noise level (L_{max}) at the noise-sensitive location(s) for each project phase, as follows:

   L_{max} [overall project at receptor] = 10 $\log_{10}(\Sigma 10^{(L_{max}\text{ [equipment type]} / 10)})$

2. Calculate each phase's one-hour L_{eq} according to the method recommended by the U.S. Federal Highway Administration ("Highway Construction Noise: Measurement, prediction and mitigation," U.S. Department of Transportation, Federal Highway Administration Special Report, March 1977), as follows:

   First, the construction phase's one-hour L_{eq} is to be calculated at the sensitive receptor location for each item of potentially noisy equipment using the following equation:

   $$L_{eq}(h) \text{ [equipment type]} = ML - 20 \log_{10} (D/50) + 10 \log_{10} (N \times HP/100)$$

   where:

   ML = Typical single equipment maximum noise level (L_{max}) at 50 feet, in dBA. (*This may be replaced by a measured, under-load, maximum noise level*).

   D = Shortest distance (feet) from the equipment type to the nearest noise-sensitive location, or if a more sensitive receptor is further away, to the noise-sensitive receptor with the greatest impact. If the distance is measured in meters, use the ratio D/15 instead of D/50.

   N = Maximum number of the same equipment type operating hourly on the project during the construction phase.

   HP = "Hourly percentage," expressed as the greatest nominal percent of time that the equipment is operated under load at the project site. This factor is based on EPA values or is estimated based on past experience with similar projects. Thus, the effective usage factor is (EUF) = N x HP/100.

   Repeat the above calculations for each item of potentially noisy equipment. Then, the individual contribution of every item of equipment are to be combined logarithmically to obtain the overall construction hourly L_{eq} at the noise-sensitive location(s) for each project phase, as follows:

   $$L_{eq}(h) \text{ [overall project at receptor]} = 10 \log_{10} (\Sigma 10^{(\text{one-hour Leq [equipment type]} / 10)})$$

3. The calculated L_{max} and $L_{eq}(h)$ levels can then be compared with the construction noise threshold criteria. Where it is estimated that the criteria would be exceeded, noise mitigation planning can be undertaken.

APPENDIX C

AMBIENT NOISE LEVEL DETERMINATION

Ambient Noise Summary

Receptor 1 (R1)

Serial Number	BGI040008	UNIT REV	R12N
Start Time	10:05:49 12-Apr-2017		
Run Length	24:00:00 5529600		

Microphone Information		
Description	Units	Value
Sensitivity	dB	29
Polarization	Volts	0
Meter Range	dB	120
Max Level	dB	140
Meas. Floor	dB	-20

Calibration Information			
Description		Units	Value
Pre-Cal	Level	dB	113.9
	Date		10:02:56 12-Apr-2017
Post-Cal	Level	dB	113.9
	Date		10:06:16 13-Apr-2017
ReCert	Date		Unavailable

Configuration Information			
Description	Units	Meter 1	Meter 2
Integration Threshold	dB	OFF	OFF
Exchange Rate	dB	3	3
Criterion Level	dB	90	85
Upper Limit Level	dB	140	140
Projected Time	Hrs	24	24
Weighting		A	A
Time Response		SLOW	SLOW

Measurement	Units	Meter 1 Broadband	Meter 2 Broadband
Lavg	dB	54	54
Lmax	dB	84.8	84.8
Lmin	dB	48.9	48.9
Lpk	dB	100	100
TWA	dB	58.8	58.7
PTWA	dB	58.8	58.7
DOSE	%	0.08	0.24
PDOSE	%	0.08	0.24
SEL	dB	103.4	103.3
EXP	p2s	9	9

Ambient Noise Summary

Receptor 1 (R1)

Measurement	Units	Value
LDN	dB	59.6
CNEL	dB	59.3
TAKTMAX (5sec)	dB	N/A
LC-A	dB	N/A

Exceedence	Units	Value
L01	dB	59.2
L10	dB	55.3
L50	dB	53
L90	dB	51.4

		Meter 1			Meter 2		
		Count	Percent	Time	Count	Percent	Time
Overload	(OL)	0	0	00:00:00	0	0	00:00:00
Under-Range	(UR)	0	0	00:00:00	0	0	00:00:00
Upper Limit	(UL)	0	0	00:00:00	0	0	00:00:00

Exceedence Table

	0	1	2	3	4	5	6	7	8	9
0	84.8	59.2	57.7	57	56.6	56.3	56	55.8	55.6	55.4
10	55.3	55.1	55	54.9	54.7	54.6	54.5	54.4	54.4	54.3
20	54.2	54.2	54.1	54	54	53.9	53.9	53.8	53.8	53.8
30	53.7	53.7	53.6	53.6	53.6	53.5	53.5	53.4	53.4	53.4
40	53.3	53.3	53.3	53.2	53.2	53.2	53.1	53.1	53.1	53
50	53	53	52.9	52.9	52.9	52.8	52.8	52.7	52.7	52.7
60	52.6	52.6	52.6	52.5	52.5	52.5	52.4	52.4	52.4	52.3
70	52.3	52.2	52.2	52.2	52.1	52.1	52	52	52	51.9
80	51.9	51.8	51.8	51.7	51.7	51.7	51.6	51.6	51.5	51.5
90	51.4	51.4	51.3	51.3	51.2	51.2	51	51	50.9	50.7

Ambient Noise Data

Receptor 1 (R1)

Study	Study Time	Session Time	OL Status	Lavg Meter1	Lpk Meter1	Lmax Meter1	Lmin Meter1
Study 1	0:01:00	0:01:00		53.9	92.6	60	50.8
	0:02:00	0:02:00		52.9	82.4	56.6	51.2
	0:03:00	0:03:00		51.3	72.1	55.1	49.7
	0:04:00	0:04:00		52.4	72.9	54.1	50.8
	0:05:00	0:05:00		54.1	74.5	57.8	51.5
	0:06:00	0:06:00		56.9	73.7	61.3	54.3
	0:07:00	0:07:00		55.2	71.6	59.2	51.9
	0:08:00	0:08:00		55.1	71.3	58.1	51.4
	0:09:00	0:09:00		55.2	74.4	58.6	51.7
	0:10:00	0:10:00		54.1	68.1	55.8	51.8
	0:11:00	0:11:00		54.4	70.2	57	51.4
	0:12:00	0:12:00		55	80.6	63.8	51.6
	0:13:00	0:13:00		52.5	73	55.1	51.2
	0:14:00	0:14:00		52.1	68.9	54	50.3
	0:15:00	0:15:00		52.2	70.2	55.3	51
	0:16:00	0:16:00		53.1	69.9	55.4	51.3
	0:17:00	0:17:00		53.8	70.9	55.6	52.6
	0:18:00	0:18:00		54.8	71.4	56.7	51.9
	0:19:00	0:19:00		56.2	72.4	59.3	54.6
	0:20:00	0:20:00		54.7	73.4	56.7	53.2
	0:21:00	0:21:00		55.8	73	59.8	53.2
	0:22:00	0:22:00		54.5	72.6	58.8	52.1
	0:23:00	0:23:00		52.3	72.3	54.5	50.7
	0:24:00	0:24:00		55	71.6	58	52.1
	0:25:00	0:25:00		52.3	69.4	55.4	50.8
	0:26:00	0:26:00		51.9	68	53.9	49.9
	0:27:00	0:27:00		52.1	68.6	54.4	50.9
	0:28:00	0:28:00		53.3	70	56.4	51.4
	0:29:00	0:29:00		53.2	76.6	61.1	51.1
	0:30:00	0:30:00		56.8	80.5	65.6	50.8
	0:31:00	0:31:00		55.9	76.3	60.7	51.5
	0:32:00	0:32:00		54.2	76.1	58.6	51.5
	0:33:00	0:33:00		62.2	84.3	71.4	51.5
	0:34:00	0:34:00		52.2	69.4	54.2	50.6
	0:35:00	0:35:00		52.1	77.9	55.5	50.8
	0:36:00	0:36:00		56.4	76.9	62.8	52
	0:37:00	0:37:00		61.3	82.9	70.5	50.8
	0:38:00	0:38:00		52.9	70.1	55.7	51.6
	0:39:00	0:39:00		53.2	69.2	56.3	50.9
	0:40:00	0:40:00		54.5	75.9	61.1	50.6
	0:41:00	0:41:00		52.4	69.8	55.8	50.6
	0:42:00	0:42:00		52.5	69	56.7	51.2
	0:43:00	0:43:00		51.9	66.7	53.7	50.4
	0:44:00	0:44:00		52.1	66.6	53.1	50.8
	0:45:00	0:45:00		51.9	65.5	52.8	50.4
	0:46:00	0:46:00		52.1	65.5	53	51.1
	0:47:00	0:47:00		51.7	67.9	55.2	50.4
	0:48:00	0:48:00		57.7	83.2	63.8	50.2
	0:49:00	0:49:00		51.9	66.3	53.4	50.8
	0:50:00	0:50:00		51.8	66.3	53.9	50.6
	0:51:00	0:51:00		52.3	71.7	55.7	50.7
	0:52:00	0:52:00		52.4	67.7	53.5	50.9
	0:53:00	0:53:00		52.7	65.8	53.9	51.9
	0:54:00	0:54:00		52.3	75.9	57.2	50.6
	0:55:00	0:55:00		54.3	73.7	58.6	51.7
	0:56:00	0:56:00		55.2	75.1	60.9	52
	0:57:00	0:57:00		52.8	66.4	53.8	51.1
	0:58:00	0:58:00		52.4	67	53.6	50.9
	0:59:00	0:59:00		53	67	54.6	51.1
	1:00:00	1:00:00		52.3	76	55.8	51
	1:01:00	1:01:00		52	69.5	54.3	50.5
	1:02:00	1:02:00		51.8	65.4	53.3	50.6
	1:03:00	1:03:00		52.3	67.7	53.7	50.8
	1:04:00	1:04:00		51.7	67	53.1	50.9
	1:05:00	1:05:00		53.7	69.1	55.9	51.9

Start: 10:05:49 AM 4/12/2017
Stop: 10:05:49 AM 4/13/2017

24-Hour Measurement Summary

	Day	Evening	Night
Peak Hour:	58.3	54.3	53.4
Average Hour:	54.7	53.8	52.2

Ambient Noise Data

Receptor 1 (R1)

Study	Study Time	Session Time	OL Status	Lavg Meter1	Lpk Meter1	Lmax Meter1	Lmin Meter1
	1:06:00	1:06:00		52.9	77.7	55.9	51.5
	1:07:00	1:07:00		52.2	66.8	53.7	50.8
	1:08:00	1:08:00		53.1	69.8	55.9	51.4
	1:09:00	1:09:00		53.1	67.1	54.8	51.8
	1:10:00	1:10:00		56.2	76	62.7	50.2
	1:11:00	1:11:00		51.9	71.3	53.9	50.3
	1:12:00	1:12:00		52.9	71.9	55.6	51.7
	1:13:00	1:13:00		56.4	76.3	60.4	52.6
	1:14:00	1:14:00		54.1	73.9	60.1	51.7
	1:15:00	1:15:00		55.9	75	60.3	51.6
	1:16:00	1:16:00		52.6	79.6	58.7	50.7
	1:17:00	1:17:00		52.1	67.8	55.2	50.5
	1:18:00	1:18:00		53.4	69.7	56.6	51.2
	1:19:00	1:19:00		55.9	84.9	63.9	50.6
	1:20:00	1:20:00		52.2	66.3	54	50.8
	1:21:00	1:21:00		56.3	75.7	61.6	51
	1:22:00	1:22:00		52.5	71.5	54.6	50.7
	1:23:00	1:23:00		56.3	74.4	60.4	51.9
	1:24:00	1:24:00		52.4	69.7	54.5	50.4
	1:25:00	1:25:00		52.4	67.1	53.7	51.3
	1:26:00	1:26:00		57.7	83.5	65.8	52.6
	1:27:00	1:27:00		53.1	68.6	55.3	51.4
	1:28:00	1:28:00		55	76.1	62.2	52.4
	1:29:00	1:29:00		59.7	83.6	67.6	52.7
	1:30:00	1:30:00		55.9	75.8	62.7	50.5
	1:31:00	1:31:00		60.9	82.4	65.6	52.3
	1:32:00	1:32:00		53	68.7	57	50.8
	1:33:00	1:33:00		58.8	82.3	64.6	50.9
	1:34:00	1:34:00		53.2	70.3	58.3	51.1
	1:35:00	1:35:00		54.3	70.8	58.2	50.7
	1:36:00	1:36:00		52.6	69.5	56.6	48.9
	1:37:00	1:37:00		51.6	72.3	55.4	49.2
	1:38:00	1:38:00		56	75	62.5	52.6
	1:39:00	1:39:00		53.7	71.8	57.2	52.1
	1:40:00	1:40:00		52.5	67.7	54.3	50.7
	1:41:00	1:41:00		53	70.5	56	51.2
	1:42:00	1:42:00		51.9	65.9	53.3	50.7
	1:43:00	1:43:00		52.9	70.4	56.1	51.6
	1:44:00	1:44:00		56.7	77	60.4	53.6
	1:45:00	1:45:00		56.2	76.4	59.1	54.2
	1:46:00	1:46:00		54.9	70.3	57.6	52.8
	1:47:00	1:47:00		53.8	78	59	52.2
	1:48:00	1:48:00		53.6	76.4	58.6	51.3
	1:49:00	1:49:00		55.4	83	64.4	52.4
	1:50:00	1:50:00		55.1	70.5	58.9	52.6
	1:51:00	1:51:00		56.1	71.8	57.9	54.9
	1:52:00	1:52:00		55.4	73.4	57.6	54.2
	1:53:00	1:53:00		55.6	73.9	58.3	52.5
	1:54:00	1:54:00		56.5	73.5	60.7	51.3
	1:55:00	1:55:00		52.1	69.5	55	50.7
	1:56:00	1:56:00		52.5	68.9	55.4	50.9
	1:57:00	1:57:00		51.9	67.4	54.2	50.6
	1:58:00	1:58:00		52.5	71.1	54.4	51.3
	1:59:00	1:59:00		52.6	71.6	55.1	50.1
	2:00:00	2:00:00		53.2	71.3	56.6	51.2
	2:01:00	2:01:00		52.7	69.1	54.4	51
	2:02:00	2:02:00		52.4	68	53.7	50.8
	2:03:00	2:03:00		52.4	72.7	53.9	50.8
	2:04:00	2:04:00		51.3	68.5	54	49.6
	2:05:00	2:05:00		54.5	70.7	58	50.7
	2:06:00	2:06:00		55.9	71.9	57.3	54.7
	2:07:00	2:07:00		55.6	70.2	57.2	52
	2:08:00	2:08:00		52.4	66.3	53.8	50.7
	2:09:00	2:09:00		52.5	70.3	54.5	50.4
	2:10:00	2:10:00		53.1	68.3	56.1	51.1
	2:11:00	2:11:00		53.2	72.5	56	51.4

Ambient Noise Data

Receptor 1 (R1)

Study	Study Time	Session Time	OL Status	Lavg Meter1	Lpk Meter1	Lmax Meter1	Lmin Meter1
	2:12:00	2:12:00		52.5	75.8	56.5	50.8
	2:13:00	2:13:00		51.9	68.3	53.1	50.7
	2:14:00	2:14:00		52.9	71.1	55	51.3
	2:15:00	2:15:00		53.3	72.3	58	51.1
	2:16:00	2:16:00		53.2	70.6	54.5	51.8
	2:17:00	2:17:00		54.1	73.5	57.7	52.3
	2:18:00	2:18:00		54.2	81.1	60.6	51
	2:19:00	2:19:00		54.6	76.6	56.7	52.7
	2:20:00	2:20:00		53.9	70.1	55.4	51.8
	2:21:00	2:21:00		54.6	71	58.1	53.1
	2:22:00	2:22:00		53.5	73.2	56.7	51.6
	2:23:00	2:23:00		54.1	71.6	56.9	52.3
	2:24:00	2:24:00		53	68	54.3	51.6
	2:25:00	2:25:00		53.1	74.5	58	51.3
	2:26:00	2:26:00		56.8	77.4	62.4	53.2
	2:27:00	2:27:00		53.9	72.5	56.8	52.3
	2:28:00	2:28:00		54.4	73.4	56	53.4
	2:29:00	2:29:00		54.8	74.6	58.4	51.8
	2:30:00	2:30:00		53.5	74.1	55.7	50.8
	2:31:00	2:31:00		54.5	74.6	57.9	51
	2:32:00	2:32:00		54.7	74.1	57	52.4
	2:33:00	2:33:00		54.2	70	56.3	52.2
	2:34:00	2:34:00		56.2	70.1	57.3	52.8
	2:35:00	2:35:00		54.1	70.1	57.3	51
	2:36:00	2:36:00		52.7	67.5	54.4	50.5
	2:37:00	2:37:00		52.5	71.6	56.2	51.1
	2:38:00	2:38:00		52.8	66.9	53.7	51.3
	2:39:00	2:39:00		52.1	66.8	53.4	50.5
	2:40:00	2:40:00		55.5	77.4	63.6	51.1
	2:41:00	2:41:00		56	83.5	62.4	50.8
	2:42:00	2:42:00		54.7	75.7	57.4	52.1
	2:43:00	2:43:00		53.1	71.6	54.8	51.3
	2:44:00	2:44:00		52.1	69.2	54.6	50.2
	2:45:00	2:45:00		52.3	74.5	56.1	50.7
	2:46:00	2:46:00		53.2	70.2	55.8	51.7
	2:47:00	2:47:00		53.8	75.7	58.8	51.2
	2:48:00	2:48:00		55.8	70.3	57	54.5
	2:49:00	2:49:00		56.4	70.8	57.8	54.9
	2:50:00	2:50:00		54.4	72.6	56.5	52.2
	2:51:00	2:51:00		56.9	73.6	62.1	54.6
	2:52:00	2:52:00		54.4	73.6	58.9	51.7
	2:53:00	2:53:00		53.7	74.2	59	51.5
	2:54:00	2:54:00		57.2	74.6	64.4	51.6
	2:55:00	2:55:00		57.5	75.1	65.2	53.4
	2:56:00	2:56:00		56.4	71.8	60	54
	2:57:00	2:57:00		56.2	76.4	58.8	54.8
	2:58:00	2:58:00		53.6	70.5	56.8	51.5
	2:59:00	2:59:00		53.2	69.9	55.2	51.7
	3:00:00	3:00:00		60.2	84.4	67.7	51.9
	3:01:00	3:01:00		52.8	73	56.5	51.5
	3:02:00	3:02:00		53.5	73.2	56.5	51.8
	3:03:00	3:03:00		55.2	71.9	58.7	52.3
	3:04:00	3:04:00		55.3	71.8	57.4	52.3
	3:05:00	3:05:00		58.6	86.6	65	55.9
	3:06:00	3:06:00		54.4	74	57.8	53
	3:07:00	3:07:00		53.1	80.4	58.5	51.3
	3:08:00	3:08:00		53.2	70.5	55.1	51.6
	3:09:00	3:09:00		53.3	68	54.6	52.2
	3:10:00	3:10:00		54.5	71.9	57.7	52.5
	3:11:00	3:11:00		54	68.7	54.9	52.6
	3:12:00	3:12:00		53.4	72.4	54.4	52.2
	3:13:00	3:13:00		53.6	71.4	57.1	51
	3:14:00	3:14:00		54.1	77.6	57.9	52.3
	3:15:00	3:15:00		55.2	74.5	60.3	52.4
	3:16:00	3:16:00		54.9	70.6	57.3	53.2
	3:17:00	3:17:00		55.9	70.9	58.3	53.9

Ambient Noise Data

Receptor 1 (R1)

Study	Study Time	Session Time	OL Status	Lavg Meter1	Lpk Meter1	Lmax Meter1	Lmin Meter1
	3:18:00	3:18:00		55.6	71.9	57	54
	3:19:00	3:19:00		55.6	71.4	57.1	53.8
	3:20:00	3:20:00		57.7	77.2	61.2	52.9
	3:21:00	3:21:00		53.3	70.3	56.9	51.3
	3:22:00	3:22:00		53.7	70.3	56.2	51.9
	3:23:00	3:23:00		52.8	69.4	54.5	51.3
	3:24:00	3:24:00		53.5	68.4	54.9	52.3
	3:25:00	3:25:00		53.5	77.7	58.8	51.1
	3:26:00	3:26:00		53.3	73.3	58.9	51.1
	3:27:00	3:27:00		54.4	73.3	59.7	52.1
	3:28:00	3:28:00		54.5	76.6	60.3	52.9
	3:29:00	3:29:00		53.1	70.1	55	51.7
	3:30:00	3:30:00		53.9	70.8	55.8	52.3
	3:31:00	3:31:00		54.6	75.2	57	52.1
	3:32:00	3:32:00		54.4	83.8	60.2	52.1
	3:33:00	3:33:00		53.9	72.3	56.2	52.7
	3:34:00	3:34:00		52.9	70	54.3	51.3
	3:35:00	3:35:00		53	69.5	54.5	51.4
	3:36:00	3:36:00		53.5	67.4	54.4	51.7
	3:37:00	3:37:00		53.6	69.2	55.7	51.4
	3:38:00	3:38:00		56.6	75.2	59.6	54.5
	3:39:00	3:39:00		56.9	82	61.3	53.8
	3:40:00	3:40:00		56.3	79.1	61.6	51.7
	3:41:00	3:41:00		53.6	70.7	55.3	51.7
	3:42:00	3:42:00		54	68.6	56.3	52.7
	3:43:00	3:43:00		55.4	71.8	59.4	51.8
	3:44:00	3:44:00		53.9	72.9	57.7	52.3
	3:45:00	3:45:00		54.1	70.7	55.4	52.7
	3:46:00	3:46:00		54.1	71.4	58	51.3
	3:47:00	3:47:00		52.6	67	53.8	50.9
	3:48:00	3:48:00		53	73.1	55.4	51.5
	3:49:00	3:49:00		54.4	78.2	59.6	52.3
	3:50:00	3:50:00		54.5	75.7	57	51.9
	3:51:00	3:51:00		54.8	83	60.9	53
	3:52:00	3:52:00		55.2	74.1	60.5	52.6
	3:53:00	3:53:00		54.1	73.4	55.7	52.7
	3:54:00	3:54:00		54	72.2	55.8	52
	3:55:00	3:55:00		52.9	72.5	55.2	51.4
	3:56:00	3:56:00		53.9	68.7	55.2	52.6
	3:57:00	3:57:00		54	74.8	57	52.2
	3:58:00	3:58:00		54.2	69.9	57.7	51.5
	3:59:00	3:59:00		53.8	73.9	57	52
	4:00:00	4:00:00		54.3	69.8	57.5	52.7
	4:01:00	4:01:00		53.9	75.1	58.2	51.9
	4:02:00	4:02:00		56.2	72.5	58.7	54.1
	4:03:00	4:03:00		55.9	71.6	57.4	53.1
	4:04:00	4:04:00		53.8	78.8	59.4	52
	4:05:00	4:05:00		53.9	74.5	56.3	52.3
	4:06:00	4:06:00		54.1	72.9	56.7	52.1
	4:07:00	4:07:00		55.4	73.6	59.2	52.7
	4:08:00	4:08:00		56.1	71.1	57.4	54.5
	4:09:00	4:09:00		55.5	70.2	57.6	53.1
	4:10:00	4:10:00		54.7	71.3	56.4	52.2
	4:11:00	4:11:00		54.6	73.9	57.8	52.6
	4:12:00	4:12:00		57.3	79.1	61.6	52.5
	4:13:00	4:13:00		57.1	77.7	59.6	53.1
	4:14:00	4:14:00		58.1	74.1	60.6	56.2
	4:15:00	4:15:00		55.5	72.8	58.7	51.5
	4:16:00	4:16:00		54.3	70.3	56.1	52.8
	4:17:00	4:17:00		55.1	69.6	56.9	53.3
	4:18:00	4:18:00		55.5	74	59.7	53
	4:19:00	4:19:00		58.3	79.8	65.1	52.4
	4:20:00	4:20:00		57.3	73.7	60.5	54.5
	4:21:00	4:21:00		55.8	75	61.1	52.7
	4:22:00	4:22:00		54.3	71.3	56.9	51.8
	4:23:00	4:23:00		56.3	76.3	59.4	52.8

Ambient Noise Data

Receptor 1 (R1)

Study	Study Time	Session Time	OL Status	Lavg Meter1	Lpk Meter1	Lmax Meter1	Lmin Meter1
	4:24:00	4:24:00		53.6	78.6	58.7	52.1
	4:25:00	4:25:00		53.9	71.5	54.9	52.9
	4:26:00	4:26:00		54.2	70.7	56.9	52.5
	4:27:00	4:27:00		54.7	70	56.2	53
	4:28:00	4:28:00		54.1	80.8	62.2	51.3
	4:29:00	4:29:00		53.5	69.4	55.1	51.6
	4:30:00	4:30:00		53.8	70.6	55.6	51.5
	4:31:00	4:31:00		54	73.6	58.2	52.2
	4:32:00	4:32:00		53.8	73.6	57.9	51.9
	4:33:00	4:33:00		57.6	78.9	63.7	52.4
	4:34:00	4:34:00		54.8	81.2	60.4	52.8
	4:35:00	4:35:00		54.4	74.3	59.8	52
	4:36:00	4:36:00		53.7	75.5	56.6	51.7
	4:37:00	4:37:00		52.9	67.8	54.6	51.3
	4:38:00	4:38:00		53.3	68	54.5	52.2
	4:39:00	4:39:00		53.1	69.4	55.9	51.3
	4:40:00	4:40:00		58.8	80.1	66.9	51.7
	4:41:00	4:41:00		52.9	74.6	55.2	51.4
	4:42:00	4:42:00		53.9	69.1	55.7	52.6
	4:43:00	4:43:00		54.1	73	56.2	52.4
	4:44:00	4:44:00		53.9	69.8	55.6	52.8
	4:45:00	4:45:00		55.7	72.1	59	53.7
	4:46:00	4:46:00		53.4	70	54.6	51.9
	4:47:00	4:47:00		53.8	71.1	55.6	51.7
	4:48:00	4:48:00		54.7	70.6	57.2	52.5
	4:49:00	4:49:00		54.4	69.6	55.5	53.1
	4:50:00	4:50:00		54.4	69.8	56.8	52.8
	4:51:00	4:51:00		56.6	86.9	65.1	53.1
	4:52:00	4:52:00		56.7	79.2	62.4	52.5
	4:53:00	4:53:00		53.9	70.5	56.3	52.3
	4:54:00	4:54:00		55.7	74.4	59.5	53
	4:55:00	4:55:00		54.7	71.7	56.6	52.1
	4:56:00	4:56:00		53.7	68.1	55.1	52.4
	4:57:00	4:57:00		54.1	72.9	55.9	52.5
	4:58:00	4:58:00		55	70	56.7	53.5
	4:59:00	4:59:00		55.2	71.2	57.1	51.8
	5:00:00	5:00:00		55.6	82.4	62.1	52.5
	5:01:00	5:01:00		54.1	70	56	53
	5:02:00	5:02:00		53.6	67.4	56	51.5
	5:03:00	5:03:00		54	68.9	56.1	52.3
	5:04:00	5:04:00		53.1	69.4	55.2	51.5
	5:05:00	5:05:00		54.1	73.2	56.7	51.6
	5:06:00	5:06:00		55	76.3	57.2	53.3
	5:07:00	5:07:00		54.6	71.4	56	53.6
	5:08:00	5:08:00		59.9	80.9	64.3	51.8
	5:09:00	5:09:00		53.8	68.9	55.4	52.1
	5:10:00	5:10:00		55.7	71.1	57.6	54.2
	5:11:00	5:11:00		54.9	70.3	56.3	52.7
	5:12:00	5:12:00		56.3	72	59.6	54.6
	5:13:00	5:13:00		55.9	70.4	57.7	53.2
	5:14:00	5:14:00		53.5	69.6	55.3	52.6
	5:15:00	5:15:00		57.8	76.2	62.1	52.7
	5:16:00	5:16:00		55.3	72.4	59.2	53.4
	5:17:00	5:17:00		54.6	70.4	56.9	52.8
	5:18:00	5:18:00		53.3	72.6	58.6	50.5
	5:19:00	5:19:00		59.8	80.7	66.4	54.1
	5:20:00	5:20:00		57.1	74.4	61.7	54
	5:21:00	5:21:00		54.2	75.4	57.1	52.6
	5:22:00	5:22:00		55.2	75.2	60.8	52.3
	5:23:00	5:23:00		58.3	79.1	65.2	53.7
	5:24:00	5:24:00		54.3	69.8	56.4	52.9
	5:25:00	5:25:00		54.2	70	56.9	52.5
	5:26:00	5:26:00		54.8	72	56.5	53.6
	5:27:00	5:27:00		56.6	71.3	58	54.8
	5:28:00	5:28:00		57	72.3	59.4	53.6
	5:29:00	5:29:00		56.5	78.9	59.5	54.1

Ambient Noise Data

Receptor 1 (R1)

Study	Study Time	Session Time	OL Status	Lavg Meter1	Lpk Meter1	Lmax Meter1	Lmin Meter1
	5:30:00	5:30:00		56.4	74.1	59.7	54
	5:31:00	5:31:00		55.7	75.8	59.7	53.7
	5:32:00	5:32:00		55.9	71.9	57.7	54.4
	5:33:00	5:33:00		56.7	74.6	61.9	54.5
	5:34:00	5:34:00		55.5	74	58.1	54.1
	5:35:00	5:35:00		56.1	70.1	57.5	53.8
	5:36:00	5:36:00		55.3	74.4	57.4	53.6
	5:37:00	5:37:00		53.9	76.1	58.2	51.9
	5:38:00	5:38:00		55.5	77.7	58	53.8
	5:39:00	5:39:00		57.1	74.2	60.9	54.1
	5:40:00	5:40:00		59.4	87.2	68.1	52.9
	5:41:00	5:41:00		55.4	74.5	59.1	52
	5:42:00	5:42:00		54.5	69.5	56.6	52.9
	5:43:00	5:43:00		55.3	71.1	57.4	53.1
	5:44:00	5:44:00		56.1	71	59	54.1
	5:45:00	5:45:00		55.5	72.7	59.2	51.7
	5:46:00	5:46:00		54.8	71.7	56.6	53.3
	5:47:00	5:47:00		54.6	75	57.6	52.3
	5:48:00	5:48:00		53.9	73.3	57.8	51.9
	5:49:00	5:49:00		57.1	80.7	67	52.7
	5:50:00	5:50:00		71.7	100	84.8	53.8
	5:51:00	5:51:00		53.3	70.3	55.5	51.7
	5:52:00	5:52:00		54.4	69.1	56.2	52.1
	5:53:00	5:53:00		55.7	73.5	59.6	52.3
	5:54:00	5:54:00		56.5	75.9	62.8	52.1
	5:55:00	5:55:00		63.2	88.5	71.5	53.7
	5:56:00	5:56:00		53.5	70.8	55.8	51.6
	5:57:00	5:57:00		54.9	73.2	56.8	53
	5:58:00	5:58:00		56.1	74.7	58.2	53.6
	5:59:00	5:59:00		54.9	72.5	58.2	52.8
	6:00:00	6:00:00		55	71.1	57.5	53.4
	6:01:00	6:01:00		55.7	70.9	57.6	53.6
	6:02:00	6:02:00		57.2	73.3	61.7	54.6
	6:03:00	6:03:00		56	70.1	57.9	54.3
	6:04:00	6:04:00		56.9	73.2	58.6	55.1
	6:05:00	6:05:00		55.3	74.7	58.4	53.2
	6:06:00	6:06:00		56.8	80.2	61.2	54.6
	6:07:00	6:07:00		57.5	75.1	62.3	54.7
	6:08:00	6:08:00		56.6	76	59.7	54.6
	6:09:00	6:09:00		56	72.2	57.6	53.9
	6:10:00	6:10:00		56.2	72.1	58.3	53.4
	6:11:00	6:11:00		55.4	75.1	59	53.6
	6:12:00	6:12:00		54.9	71.6	57.3	52.7
	6:13:00	6:13:00		55.4	70.2	57	53.8
	6:14:00	6:14:00		55.4	73.6	59.6	53.5
	6:15:00	6:15:00		55.4	71.9	58.2	52.9
	6:16:00	6:16:00		55.5	70.9	57.7	53
	6:17:00	6:17:00		55.5	74.7	60.3	53.3
	6:18:00	6:18:00		53.8	68.6	55.1	52.5
	6:19:00	6:19:00		54.3	70.2	56.6	52.2
	6:20:00	6:20:00		53.7	69.5	56.7	51.7
	6:21:00	6:21:00		54.7	70.9	56.2	53.5
	6:22:00	6:22:00		55.4	71.5	57	53.7
	6:23:00	6:23:00		54.2	69.6	56.5	52.6
	6:24:00	6:24:00		54.3	72	55.9	52.6
	6:25:00	6:25:00		53.6	70.8	56.8	51.3
	6:26:00	6:26:00		54.9	70.2	56.8	53.8
	6:27:00	6:27:00		54.3	70.4	56.3	52.3
	6:28:00	6:28:00		54.8	70	56.9	53
	6:29:00	6:29:00		54.2	69.5	55.9	52.2
	6:30:00	6:30:00		55.3	70.2	57.6	53.6
	6:31:00	6:31:00		55.4	71.5	56.5	54.3
	6:32:00	6:32:00		56.2	78	58.6	54.5
	6:33:00	6:33:00		56.3	73	58.5	54.6
	6:34:00	6:34:00		54.7	70.9	57.2	53.4
	6:35:00	6:35:00		54	70.8	55.9	52.3

Ambient Noise Data

Receptor 1 (R1)

Study	Study Time	Session Time	OL Status	Lavg Meter1	Lpk Meter1	Lmax Meter1	Lmin Meter1
	6:36:00	6:36:00		55.7	73.1	59.1	53.2
	6:37:00	6:37:00		55.3	70.6	58.3	53.6
	6:38:00	6:38:00		54	69.8	56.4	52.3
	6:39:00	6:39:00		54.5	69.5	56.2	53.3
	6:40:00	6:40:00		53.7	68.7	55.2	52.5
	6:41:00	6:41:00		55.1	71	56.5	52.3
	6:42:00	6:42:00		54.4	68.8	56.3	52.8
	6:43:00	6:43:00		54.3	68.9	56	52.6
	6:44:00	6:44:00		53.9	69	55.8	51.2
	6:45:00	6:45:00		59.9	81.9	68.4	53.5
	6:46:00	6:46:00		53.9	68.5	54.9	52.9
	6:47:00	6:47:00		54.8	71.9	57.4	53.3
	6:48:00	6:48:00		54.3	69.3	56.7	51.7
	6:49:00	6:49:00		54.2	68.9	55.7	53.3
	6:50:00	6:50:00		55.1	69.6	57.1	53.4
	6:51:00	6:51:00		54.8	73.9	56.4	53.5
	6:52:00	6:52:00		53.7	69	55	52.2
	6:53:00	6:53:00		54.3	71.9	56.9	52.3
	6:54:00	6:54:00		56.7	74	60.5	54
	6:55:00	6:55:00		56	76.7	62.2	53.9
	6:56:00	6:56:00		54.3	71	56.5	52.6
	6:57:00	6:57:00		54.3	71.2	57	51.4
	6:58:00	6:58:00		54.5	71.1	57.4	52.6
	6:59:00	6:59:00		55.8	72	57.4	54
	7:00:00	7:00:00		55.3	78	60.2	50.7
	7:01:00	7:01:00		55.5	70.5	58.6	51.9
	7:02:00	7:02:00		56.1	70.9	58.2	53.3
	7:03:00	7:03:00		54	70.1	56	52.1
	7:04:00	7:04:00		55	72.2	59.9	52.4
	7:05:00	7:05:00		54.7	70.8	56.6	52.7
	7:06:00	7:06:00		54.7	71	58.5	52.8
	7:07:00	7:07:00		55.5	77.4	59.9	53
	7:08:00	7:08:00		55.4	69.8	57.3	51.9
	7:09:00	7:09:00		54.5	69.3	56.8	52.1
	7:10:00	7:10:00		56.2	73.7	60	53.1
	7:11:00	7:11:00		54.2	70.8	56.1	52.4
	7:12:00	7:12:00		52.8	66.3	54.1	51.8
	7:13:00	7:13:00		55.1	70.4	56.9	53.2
	7:14:00	7:14:00		54.5	72.5	58.2	52.5
	7:15:00	7:15:00		53	67.5	54.5	51.2
	7:16:00	7:16:00		54.2	69.8	57.3	52.1
	7:17:00	7:17:00		53.3	68.1	54.7	52.1
	7:18:00	7:18:00		53.7	69.9	56.5	52.4
	7:19:00	7:19:00		54.1	69	55.8	52.7
	7:20:00	7:20:00		53.5	68.1	55.2	51.8
	7:21:00	7:21:00		54.8	72.3	59	51.9
	7:22:00	7:22:00		53.9	69.5	55.7	52.3
	7:23:00	7:23:00		53.5	69.1	55.8	51.7
	7:24:00	7:24:00		53.6	70	54.8	51.9
	7:25:00	7:25:00		54.4	69.8	56.9	51.6
	7:26:00	7:26:00		53.6	68.8	55.9	52.4
	7:27:00	7:27:00		52.9	67.5	53.9	51.8
	7:28:00	7:28:00		53.5	70.8	57	50.8
	7:29:00	7:29:00		54.6	72.6	56.8	52.7
	7:30:00	7:30:00		54.9	70.3	56.8	53.8
	7:31:00	7:31:00		55.6	70.6	56.8	53.6
	7:32:00	7:32:00		54.5	69.1	56.2	53.4
	7:33:00	7:33:00		53.2	68	55	51.7
	7:34:00	7:34:00		52.4	67.9	54.3	50.1
	7:35:00	7:35:00		53.7	68.3	55.6	52
	7:36:00	7:36:00		53.7	68	55	51.8
	7:37:00	7:37:00		53.1	68.9	55.1	50.9
	7:38:00	7:38:00		53.7	70.7	55.5	52.4
	7:39:00	7:39:00		54.6	70.2	55.9	53.2
	7:40:00	7:40:00		52.7	68	54.5	51
	7:41:00	7:41:00		53.2	67.5	55.4	52.1

Ambient Noise Data

Receptor 1 (R1)

Study	Study Time	Session Time	OL Status	Lavg Meter1	Lpk Meter1	Lmax Meter1	Lmin Meter1
	7:42:00	7:42:00		53.9	71.3	56.7	51.6
	7:43:00	7:43:00		53.8	68.3	55.4	52.4
	7:44:00	7:44:00		52.6	68.4	55.1	51.1
	7:45:00	7:45:00		53.8	71.2	56.9	52.3
	7:46:00	7:46:00		54.5	71.6	57.3	52.7
	7:47:00	7:47:00		56	71.9	57.8	53.9
	7:48:00	7:48:00		56	74.7	60.1	53.7
	7:49:00	7:49:00		55.3	70.8	57.2	53.3
	7:50:00	7:50:00		53.4	68.7	54.4	52.2
	7:51:00	7:51:00		52.9	66.7	54	51.1
	7:52:00	7:52:00		52.9	69.6	55.5	50.6
	7:53:00	7:53:00		53.6	67.9	55.9	51.7
	7:54:00	7:54:00		53.4	68.6	54.6	51.7
	7:55:00	7:55:00		52.8	69.2	54.9	51.3
	7:56:00	7:56:00		53.6	68.3	55.2	52.4
	7:57:00	7:57:00		52.6	68.4	55.3	50.2
	7:58:00	7:58:00		55.2	80.7	66.9	51.1
	7:59:00	7:59:00		54	70.2	56	51.9
	8:00:00	8:00:00		54.2	70.1	56	52.2
	8:01:00	8:01:00		54	69.5	56.6	52.8
	8:02:00	8:02:00		53.3	70.5	58.7	51.3
	8:03:00	8:03:00		52.5	68.7	53.6	50.8
	8:04:00	8:04:00		52.1	69.8	53.1	50.9
	8:05:00	8:05:00		52.1	66.8	53.1	51.3
	8:06:00	8:06:00		53.4	68.1	55	51.9
	8:07:00	8:07:00		52.7	68.6	54.6	51.7
	8:08:00	8:08:00		53.8	69.2	55.4	51.4
	8:09:00	8:09:00		54.5	69.8	56.3	53.3
	8:10:00	8:10:00		53.7	68.8	55.5	52.4
	8:11:00	8:11:00		53	67.4	54.9	52.2
	8:12:00	8:12:00		53	67.3	53.8	52.3
	8:13:00	8:13:00		53.2	67.8	54.1	52
	8:14:00	8:14:00		53.7	67.4	54.9	52.3
	8:15:00	8:15:00		53.4	67	54.5	52.7
	8:16:00	8:16:00		53.5	67.7	54.8	52.7
	8:17:00	8:17:00		53.4	67.6	54.6	52.4
	8:18:00	8:18:00		53.4	67.2	54.6	52.4
	8:19:00	8:19:00		53.4	67.6	54.6	52.3
	8:20:00	8:20:00		52.6	67.2	53.6	51.3
	8:21:00	8:21:00		53.3	67.6	54.2	51.8
	8:22:00	8:22:00		53	67	54.1	51.7
	8:23:00	8:23:00		54	69	58.1	52.7
	8:24:00	8:24:00		53.9	67.8	55.8	52.6
	8:25:00	8:25:00		53.4	67.2	54.6	52.1
	8:26:00	8:26:00		53.4	77	58.5	52
	8:27:00	8:27:00		53.6	67.8	55.5	52
	8:28:00	8:28:00		54.5	72.2	57.1	52.9
	8:29:00	8:29:00		53.9	68.1	55.3	52.9
	8:30:00	8:30:00		53.8	67.3	55.4	52.6
	8:31:00	8:31:00		54.1	68.1	55.8	53.1
	8:32:00	8:32:00		54.1	68.9	55.5	53.1
	8:33:00	8:33:00		53.9	71.9	55.3	52.8
	8:34:00	8:34:00		54.5	68.6	55.6	53.7
	8:35:00	8:35:00		54.3	68.9	55.8	53.1
	8:36:00	8:36:00		54.2	74	56.5	52.8
	8:37:00	8:37:00		54.5	77.1	57.3	53.4
	8:38:00	8:38:00		54.8	92.9	62.7	53.1
	8:39:00	8:39:00		54.1	67.9	55	53.1
	8:40:00	8:40:00		55.6	70.9	59	53.1
	8:41:00	8:41:00		58.9	77.8	65.2	54.1
	8:42:00	8:42:00		54.4	69.5	56.4	52.5
	8:43:00	8:43:00		54.5	68.5	55.9	53.4
	8:44:00	8:44:00		55	78.8	58.4	53.4
	8:45:00	8:45:00		54.1	70.8	55.2	52.6
	8:46:00	8:46:00		54.3	68.6	56.5	52.6
	8:47:00	8:47:00		54.3	68.6	55.6	52.2

Ambient Noise Data

Receptor 1 (R1)

Study	Study Time	Session Time	OL Status	Lavg Meter1	Lpk Meter1	Lmax Meter1	Lmin Meter1
	8:48:00	8:48:00		54.3	69.5	56.4	52.7
	8:49:00	8:49:00		53	67.6	54	52.1
	8:50:00	8:50:00		53.4	68	54.3	52.7
	8:51:00	8:51:00		53.9	68.4	55.2	52.6
	8:52:00	8:52:00		53.9	68.1	55.1	53
	8:53:00	8:53:00		53.4	67.6	54.4	52.5
	8:54:00	8:54:00		53.7	68.1	55.1	52.6
	8:55:00	8:55:00		54	67.6	55.3	52.6
	8:56:00	8:56:00		53.3	68.1	55	52
	8:57:00	8:57:00		54.1	68.6	55.8	53
	8:58:00	8:58:00		53.4	68.2	54.3	52.3
	8:59:00	8:59:00		53.9	68.4	55.3	52.6
	9:00:00	9:00:00		54.1	67.9	55.1	52.8
	9:01:00	9:01:00		54	68.3	54.7	53.2
	9:02:00	9:02:00		53.9	68.8	55.2	53
	9:03:00	9:03:00		53.6	67.8	54.7	52.7
	9:04:00	9:04:00		53.5	67.7	55	52.3
	9:05:00	9:05:00		54	69	56.5	52.7
	9:06:00	9:06:00		53.9	68.3	55.2	52.7
	9:07:00	9:07:00		54.1	68	55.2	53.3
	9:08:00	9:08:00		53.7	67.5	54.5	53
	9:09:00	9:09:00		54.1	68.6	55.8	52.7
	9:10:00	9:10:00		53.9	68	54.8	52.4
	9:11:00	9:11:00		54.2	68.5	55.3	52.7
	9:12:00	9:12:00		54.1	67.7	55.2	53
	9:13:00	9:13:00		54	69.9	56.8	53.1
	9:14:00	9:14:00		54.5	70.3	57.8	52.3
	9:15:00	9:15:00		54.3	69.8	56	52.9
	9:16:00	9:16:00		53.7	67.6	54.9	52.3
	9:17:00	9:17:00		53.8	68.1	54.5	53
	9:18:00	9:18:00		54	67.9	55	52.8
	9:19:00	9:19:00		53.6	70.3	56.1	52.1
	9:20:00	9:20:00		54.2	68.8	56.2	52.9
	9:21:00	9:21:00		54.2	69.9	56	53
	9:22:00	9:22:00		53.7	68	54.7	52.5
	9:23:00	9:23:00		53.9	68.4	55.2	51.9
	9:24:00	9:24:00		53.8	68.1	55	52.6
	9:25:00	9:25:00		53.5	67.6	54.9	52.4
	9:26:00	9:26:00		53.9	67.8	55.1	51.8
	9:27:00	9:27:00		53.7	67.9	55.3	52.9
	9:28:00	9:28:00		53.9	68.2	55	53
	9:29:00	9:29:00		54.3	68.9	55.6	53.4
	9:30:00	9:30:00		53.7	69.3	55.3	52.3
	9:31:00	9:31:00		53.9	68.5	55.2	52.9
	9:32:00	9:32:00		53.5	67.4	54.2	52.7
	9:33:00	9:33:00		53.8	68.3	55.1	52.4
	9:34:00	9:34:00		53.9	68.7	55.7	52.4
	9:35:00	9:35:00		54.2	68.4	54.9	53.1
	9:36:00	9:36:00		53.8	68.2	54.9	52.7
	9:37:00	9:37:00		53.7	67.3	54.7	52.5
	9:38:00	9:38:00		53.5	67.8	54.7	52.2
	9:39:00	9:39:00		54.4	68.4	56	53.3
	9:40:00	9:40:00		53.7	67.1	55.3	52.9
	9:41:00	9:41:00		53.4	66.5	54.1	52.6
	9:42:00	9:42:00		53.8	69	56.1	52.3
	9:43:00	9:43:00		53.3	69.3	54.5	52.4
	9:44:00	9:44:00		53	67	53.7	52.2
	9:45:00	9:45:00		53.5	68.5	55.3	52.5
	9:46:00	9:46:00		52.8	66.6	54	51.7
	9:47:00	9:47:00		53.4	67.2	54.3	52.6
	9:48:00	9:48:00		53.5	68.1	55.1	52.4
	9:49:00	9:49:00		53.3	68.8	54.1	52.2
	9:50:00	9:50:00		53	66.7	53.8	52.3
	9:51:00	9:51:00		53.3	66.9	54	52.4
	9:52:00	9:52:00		52.9	66.4	53.5	51.5
	9:53:00	9:53:00		53.1	67.1	54.3	51.5

Ambient Noise Data

Receptor 1 (R1)

Study	Study Time	Session Time	OL Status	Lavg Meter1	Lpk Meter1	Lmax Meter1	Lmin Meter1
	9:54:00	9:54:00		53.3	67.6	54.5	52.5
	9:55:00	9:55:00		53.3	67.2	54.1	52.5
	9:56:00	9:56:00		53.4	67.4	53.9	52.7
	9:57:00	9:57:00		53.4	69.9	54.4	52
	9:58:00	9:58:00		53.7	70.1	56.1	52.7
	9:59:00	9:59:00		53.5	67.2	54.7	52.3
	10:00:00	10:00:00		53.2	67.5	54.5	51.5
	10:01:00	10:01:00		53.3	68.3	55.1	51.8
	10:02:00	10:02:00		52.4	66	53.8	51.2
	10:03:00	10:03:00		52.9	66.7	53.9	52
	10:04:00	10:04:00		53.2	66.7	54	52.1
	10:05:00	10:05:00		53.1	67.3	54.1	52
	10:06:00	10:06:00		52.6	65.9	53.9	51.2
	10:07:00	10:07:00		52.8	66	53.7	51.8
	10:08:00	10:08:00		54.1	69.4	56.7	52.6
	10:09:00	10:09:00		53	66.7	54	51.6
	10:10:00	10:10:00		53	66.7	54	52.1
	10:11:00	10:11:00		53.5	67.2	54.1	52.8
	10:12:00	10:12:00		53.1	68.1	53.9	52
	10:13:00	10:13:00		53.4	67.9	54.9	52.4
	10:14:00	10:14:00		53.7	67.6	54.5	52.7
	10:15:00	10:15:00		53.4	68.1	54.9	52.3
	10:16:00	10:16:00		53.8	67.7	55	52.7
	10:17:00	10:17:00		53.7	69.1	54.9	52.9
	10:18:00	10:18:00		53.8	68.4	54.8	52.5
	10:19:00	10:19:00		53.8	68.1	55.4	52.4
	10:20:00	10:20:00		53.3	67.2	54.2	52
	10:21:00	10:21:00		53.5	67	54.2	52.7
	10:22:00	10:22:00		53.5	67.4	54.5	52.9
	10:23:00	10:23:00		53.4	67.1	54.1	52.8
	10:24:00	10:24:00		53.6	67.7	54.5	52.7
	10:25:00	10:25:00		53.6	68.5	54.6	52.4
	10:26:00	10:26:00		53.4	67.3	54.3	52.7
	10:27:00	10:27:00		53.2	67.2	54.1	51.9
	10:28:00	10:28:00		53.4	67.1	54.4	52.4
	10:29:00	10:29:00		52.7	66.3	53.6	51.7
	10:30:00	10:30:00		53.6	67.2	54.5	52.6
	10:31:00	10:31:00		53.6	70.4	56	52.7
	10:32:00	10:32:00		54.3	68	55.2	53.4
	10:33:00	10:33:00		53.4	67.5	54.3	52.4
	10:34:00	10:34:00		53.7	67.8	54.4	53.1
	10:35:00	10:35:00		53.8	67.8	54.6	52.7
	10:36:00	10:36:00		53.6	67.6	54.6	52.8
	10:37:00	10:37:00		53.9	67.3	54.7	52.9
	10:38:00	10:38:00		53.3	67	53.9	52.4
	10:39:00	10:39:00		53.2	67.8	53.8	52.4
	10:40:00	10:40:00		52.9	66.1	53.7	52
	10:41:00	10:41:00		52.9	66.6	54	52
	10:42:00	10:42:00		52.9	67	53.6	52.1
	10:43:00	10:43:00		53.5	67.7	54.3	52.7
	10:44:00	10:44:00		53.5	67.7	54.1	52.8
	10:45:00	10:45:00		53.3	67.5	53.9	52.3
	10:46:00	10:46:00		53.3	67	54	52.4
	10:47:00	10:47:00		53.3	67.4	54.1	52.6
	10:48:00	10:48:00		53	66.4	53.8	52.2
	10:49:00	10:49:00		53.2	67.3	54.4	52.3
	10:50:00	10:50:00		53.9	68.6	54.8	53.1
	10:51:00	10:51:00		53.4	66.6	54.3	52.7
	10:52:00	10:52:00		53.3	67.1	54.3	52.1
	10:53:00	10:53:00		53	67.3	53.7	52.4
	10:54:00	10:54:00		53.1	66.6	53.7	52.6
	10:55:00	10:55:00		52.5	66.7	53.5	51.7
	10:56:00	10:56:00		53.2	66.8	54.1	51.7
	10:57:00	10:57:00		53	66.3	53.8	52.3
	10:58:00	10:58:00		53.3	67.3	53.9	52.6
	10:59:00	10:59:00		53.2	67.4	54.1	52

Ambient Noise Data

Receptor 1 (R1)

Study	Study Time	Session Time	OL Status	Lavg Meter1	Lpk Meter1	Lmax Meter1	Lmin Meter1
	11:00:00	11:00:00		53	66.7	53.7	52
	11:01:00	11:01:00		53.3	67.2	54.2	52.3
	11:02:00	11:02:00		52.9	66	53.8	51.5
	11:03:00	11:03:00		52.9	66.8	53.6	51.9
	11:04:00	11:04:00		52.7	66.2	53.6	52
	11:05:00	11:05:00		52.9	66.9	54	51.7
	11:06:00	11:06:00		52.9	68.1	55.4	52
	11:07:00	11:07:00		53.4	68	55.1	52.2
	11:08:00	11:08:00		52.8	67.4	53.8	51.9
	11:09:00	11:09:00		52.8	66.4	53.3	52.2
	11:10:00	11:10:00		52.6	70.2	53.6	51.9
	11:11:00	11:11:00		52.9	68.5	53.8	51.6
	11:12:00	11:12:00		52.8	67.4	53.8	51.5
	11:13:00	11:13:00		53.3	70	54.1	52.8
	11:14:00	11:14:00		52.9	66.5	53.3	52.3
	11:15:00	11:15:00		53	66.8	54.3	51.5
	11:16:00	11:16:00		52.9	67	54	51.9
	11:17:00	11:17:00		52.7	67	53.5	51.7
	11:18:00	11:18:00		52.6	66.5	53.4	51.6
	11:19:00	11:19:00		53	66.8	53.8	52.2
	11:20:00	11:20:00		52.9	67.3	54	51.7
	11:21:00	11:21:00		53	67.1	54.4	51.8
	11:22:00	11:22:00		52.6	66.6	53.7	51.5
	11:23:00	11:23:00		53.2	68	54.3	51.4
	11:24:00	11:24:00		52.4	66.5	53.9	51.8
	11:25:00	11:25:00		52.9	66.8	54.3	51.7
	11:26:00	11:26:00		52.9	67.8	54.1	51.9
	11:27:00	11:27:00		52.4	66.5	52.9	51.7
	11:28:00	11:28:00		53	67.9	54.8	51.9
	11:29:00	11:29:00		52.7	67.3	53.9	51.8
	11:30:00	11:30:00		53.2	70	54.6	52
	11:31:00	11:31:00		53.1	66.9	54.2	52.3
	11:32:00	11:32:00		53.3	67.5	54.2	52.6
	11:33:00	11:33:00		53.5	68.3	54.2	52.6
	11:34:00	11:34:00		52.8	68.6	53.3	52.1
	11:35:00	11:35:00		52.9	66.7	53.5	51.9
	11:36:00	11:36:00		53.3	67.9	54.1	52.2
	11:37:00	11:37:00		53.4	68	54.7	52.7
	11:38:00	11:38:00		53.6	68	54.4	52.9
	11:39:00	11:39:00		53.3	67.7	54.2	52.6
	11:40:00	11:40:00		52.9	66.9	53.4	52.4
	11:41:00	11:41:00		53.1	66.9	53.8	52.4
	11:42:00	11:42:00		53	67	54.3	52.3
	11:43:00	11:43:00		53	66.8	53.8	52.5
	11:44:00	11:44:00		53	66.8	53.6	52.5
	11:45:00	11:45:00		53.2	68.5	55.4	52.4
	11:46:00	11:46:00		54.1	71.2	55.3	53.5
	11:47:00	11:47:00		53.3	70.9	55.6	52.2
	11:48:00	11:48:00		52.9	66.8	53.5	52.3
	11:49:00	11:49:00		53	67.1	53.6	52.2
	11:50:00	11:50:00		52.7	66.2	53.1	52
	11:51:00	11:51:00		52.5	66.3	53.3	51.9
	11:52:00	11:52:00		52.5	66.7	53.2	51.9
	11:53:00	11:53:00		52.4	65.9	53	51.9
	11:54:00	11:54:00		53.1	67.1	53.9	52.4
	11:55:00	11:55:00		53.1	69	54.4	52.3
	11:56:00	11:56:00		52.7	66	53.8	52
	11:57:00	11:57:00		52.7	66	53.9	51.8
	11:58:00	11:58:00		52.7	66.1	53.6	52.1
	11:59:00	11:59:00		52.9	66.3	53.5	52.3
	12:00:00	12:00:00		52.9	67.2	53.6	52.2
	12:01:00	12:01:00		53	66.4	54.3	52
	12:02:00	12:02:00		53.1	67.2	54.5	51.9
	12:03:00	12:03:00		53.2	67.2	55.2	52.2
	12:04:00	12:04:00		52.8	67.3	54.7	51.9
	12:05:00	12:05:00		53	68.6	54.1	52

Ambient Noise Data

Receptor 1 (R1)

Study	Study Time	Session Time	OL Status	Lavg Meter1	Lpk Meter1	Lmax Meter1	Lmin Meter1
	12:06:00	12:06:00		52.6	67.7	54.2	51.7
	12:07:00	12:07:00		52.7	65.8	53.5	51.9
	12:08:00	12:08:00		52.7	66.1	53.7	51.9
	12:09:00	12:09:00		53.2	68	54.4	52.4
	12:10:00	12:10:00		52.4	66.5	53	51.9
	12:11:00	12:11:00		52.6	66.7	53.6	51.9
	12:12:00	12:12:00		52.3	66.5	53.5	51.6
	12:13:00	12:13:00		52.8	66.3	53.6	52.1
	12:14:00	12:14:00		52.8	67.3	54.4	51.3
	12:15:00	12:15:00		52.3	66.4	53.4	51.3
	12:16:00	12:16:00		52	66.1	52.7	51.1
	12:17:00	12:17:00		52.2	70.7	54.4	51.3
	12:18:00	12:18:00		51.9	66.7	53.4	50.9
	12:19:00	12:19:00		52.1	70.4	53.8	50.7
	12:20:00	12:20:00		52.8	68.8	55	51.4
	12:21:00	12:21:00		51.5	65.1	52.3	50.6
	12:22:00	12:22:00		51.7	66.1	52.8	50.7
	12:23:00	12:23:00		51.6	66.2	52.9	50.6
	12:24:00	12:24:00		51.4	64.8	52.4	50.1
	12:25:00	12:25:00		51.9	67.1	52.9	50.8
	12:26:00	12:26:00		51.4	65.1	52.4	50.2
	12:27:00	12:27:00		51.4	65.2	52.2	51
	12:28:00	12:28:00		51.8	66.4	53.5	50.8
	12:29:00	12:29:00		51.9	65.5	52.4	51.4
	12:30:00	12:30:00		52.1	65.6	53.3	51.3
	12:31:00	12:31:00		51.9	65.7	52.9	51.1
	12:32:00	12:32:00		52.1	66.8	52.6	51.2
	12:33:00	12:33:00		51.8	66.5	52.6	50.8
	12:34:00	12:34:00		52	65.5	52.9	51
	12:35:00	12:35:00		51.8	65.9	52.6	51
	12:36:00	12:36:00		52.3	66	53.3	51.6
	12:37:00	12:37:00		51.7	65.9	52.9	51
	12:38:00	12:38:00		52	65.6	53	50.9
	12:39:00	12:39:00		51.5	65.3	52.2	50.6
	12:40:00	12:40:00		51.9	65.3	52.8	51.1
	12:41:00	12:41:00		51.7	65.4	52.4	51.1
	12:42:00	12:42:00		51.6	65.1	52.6	50.7
	12:43:00	12:43:00		51.5	65.8	52.4	50.7
	12:44:00	12:44:00		51.5	64.8	52.4	50.8
	12:45:00	12:45:00		51.8	65.4	52.8	50.4
	12:46:00	12:46:00		51.6	65.3	52.4	50.9
	12:47:00	12:47:00		51.8	65.2	52.5	51.3
	12:48:00	12:48:00		51.6	65.9	52.5	50.9
	12:49:00	12:49:00		51.6	65.9	53.4	50.8
	12:50:00	12:50:00		51.5	64.7	52.6	50.7
	12:51:00	12:51:00		51.3	64.1	52	50.5
	12:52:00	12:52:00		52	66.7	53.2	50.8
	12:53:00	12:53:00		51.5	65.3	52.1	51
	12:54:00	12:54:00		51.7	65.3	52.5	50.6
	12:55:00	12:55:00		51.6	65.3	52.9	50.4
	12:56:00	12:56:00		51.7	65.9	52.2	50.8
	12:57:00	12:57:00		52.1	69.6	55	50.2
	12:58:00	12:58:00		52.1	66.1	53.3	50.3
	12:59:00	12:59:00		51.8	66.1	53	50.4
	13:00:00	13:00:00		51.5	65.1	52.6	50.8
	13:01:00	13:01:00		51.5	65.3	52.4	50.6
	13:02:00	13:02:00		51.4	65.7	52	50.6
	13:03:00	13:03:00		50.9	63.9	51.8	49.7
	13:04:00	13:04:00		51.8	65.8	53.1	51.1
	13:05:00	13:05:00		51.8	65.1	52.4	51.2
	13:06:00	13:06:00		51.7	65.8	52.6	51
	13:07:00	13:07:00		51.8	65.7	52.9	51
	13:08:00	13:08:00		51.3	65.1	52.3	50.2
	13:09:00	13:09:00		51.5	66.1	52.8	50.5
	13:10:00	13:10:00		51.7	65.7	53.2	50.2
	13:11:00	13:11:00		51.8	65.5	52.7	51

Ambient Noise Data

Receptor 1 (R1)

Study	Study Time	Session Time	OL Status	Lavg Meter1	Lpk Meter1	Lmax Meter1	Lmin Meter1
	13:12:00	13:12:00		52.2	66.9	54.6	51.3
	13:13:00	13:13:00		51.9	65.3	52.6	51.3
	13:14:00	13:14:00		51.8	65.7	52.6	51
	13:15:00	13:15:00		51.6	65.3	52.5	50.8
	13:16:00	13:16:00		51.4	65.6	52.2	50.5
	13:17:00	13:17:00		51.3	64.8	52.1	50.6
	13:18:00	13:18:00		52.1	66.2	52.8	51
	13:19:00	13:19:00		51.6	65.7	52.5	50.6
	13:20:00	13:20:00		52	66.7	54.1	50.6
	13:21:00	13:21:00		51.6	66.6	53.1	50.4
	13:22:00	13:22:00		51.8	66.4	52.9	51
	13:23:00	13:23:00		51.2	64.6	52.1	50.5
	13:24:00	13:24:00		51.8	66.4	53.3	51.1
	13:25:00	13:25:00		51.7	66.1	53.3	50.8
	13:26:00	13:26:00		51.5	64.7	52.1	50.9
	13:27:00	13:27:00		51.6	65.2	52.2	50.4
	13:28:00	13:28:00		51.3	66.9	53.8	49.7
	13:29:00	13:29:00		51.5	65.1	52.7	50.3
	13:30:00	13:30:00		51.3	66.5	52	50.6
	13:31:00	13:31:00		51.5	66	52.2	50.2
	13:32:00	13:32:00		51.4	65.7	52.6	50.4
	13:33:00	13:33:00		51.5	67.8	53.9	50.6
	13:34:00	13:34:00		52.2	66.7	54.3	50.6
	13:35:00	13:35:00		50.7	64.4	51.3	49.8
	13:36:00	13:36:00		51.1	64.8	52.2	49.6
	13:37:00	13:37:00		51.2	64.5	52	50.2
	13:38:00	13:38:00		50.9	65.1	51.8	50
	13:39:00	13:39:00		51	64.8	52.3	49.6
	13:40:00	13:40:00		51.2	66.9	52.9	50.1
	13:41:00	13:41:00		51.3	64.7	52.1	50.7
	13:42:00	13:42:00		51.3	65.9	52.7	50.4
	13:43:00	13:43:00		51.5	64.9	52.5	50.6
	13:44:00	13:44:00		51.7	66.1	52.3	50.9
	13:45:00	13:45:00		51.7	65.2	52.8	50.8
	13:46:00	13:46:00		52.4	67.5	54.5	51.5
	13:47:00	13:47:00		52.2	66.8	54	51.6
	13:48:00	13:48:00		52.1	65.6	52.8	51.6
	13:49:00	13:49:00		51.9	65.6	52.6	51.1
	13:50:00	13:50:00		52.2	67.1	53.4	51.4
	13:51:00	13:51:00		51.4	65.1	52	50.7
	13:52:00	13:52:00		52.1	65.8	53.1	50.7
	13:53:00	13:53:00		52.5	66.3	52.9	52.1
	13:54:00	13:54:00		51.8	66.5	52.3	51.3
	13:55:00	13:55:00		52.2	66.5	52.9	51.5
	13:56:00	13:56:00		51.8	66.3	52.5	51.3
	13:57:00	13:57:00		52.3	66	53.1	51.7
	13:58:00	13:58:00		51.9	65.7	52.7	51.4
	13:59:00	13:59:00		51.7	65.2	52.5	51
	14:00:00	14:00:00		52.2	67.4	54.6	51.7
	14:01:00	14:01:00		52.9	67.3	54.6	52.1
	14:02:00	14:02:00		52.3	65.9	52.8	51.9
	14:03:00	14:03:00		52.5	66.1	53	51.9
	14:04:00	14:04:00		52.4	65.8	52.9	52
	14:05:00	14:05:00		52.1	66.2	52.6	51.6
	14:06:00	14:06:00		52	66.7	52.4	51.3
	14:07:00	14:07:00		51.6	65.4	52	51.1
	14:08:00	14:08:00		51.6	65.7	52.6	51.1
	14:09:00	14:09:00		51.5	67.8	53.9	50.4
	14:10:00	14:10:00		52.1	66.2	52.8	51.1
	14:11:00	14:11:00		51.7	65.5	52.4	51.1
	14:12:00	14:12:00		51.6	65.5	52.4	50.7
	14:13:00	14:13:00		52.2	65.6	52.8	51.7
	14:14:00	14:14:00		52.1	65.9	52.6	51.5
	14:15:00	14:15:00		51.7	65.1	52.5	51
	14:16:00	14:16:00		52.5	69.9	53.6	51.9
	14:17:00	14:17:00		52.1	70.8	53.3	51.2

Ambient Noise Data

Receptor 1 (R1)

Study	Study Time	Session Time	OL Status	Lavg Meter1	Lpk Meter1	Lmax Meter1	Lmin Meter1
	14:18:00	14:18:00		51.7	66.3	52.7	51.1
	14:19:00	14:19:00		51.7	65.9	52.7	50.9
	14:20:00	14:20:00		51.4	67.6	51.8	51
	14:21:00	14:21:00		51.7	64.7	52.3	51.1
	14:22:00	14:22:00		52	65.4	52.9	51.5
	14:23:00	14:23:00		52	65.5	52.6	51.4
	14:24:00	14:24:00		51.9	66.1	53.2	50.8
	14:25:00	14:25:00		51.2	65.7	52.3	50.3
	14:26:00	14:26:00		51.2	64.4	51.6	50.7
	14:27:00	14:27:00		51.3	64.4	51.9	50.5
	14:28:00	14:28:00		51.1	66.4	51.8	50.3
	14:29:00	14:29:00		51.1	65.4	51.9	50.5
	14:30:00	14:30:00		51.5	65.3	51.9	50.9
	14:31:00	14:31:00		51.5	65.2	52.4	50.6
	14:32:00	14:32:00		51.6	65.5	52.7	51
	14:33:00	14:33:00		51.7	66.3	52.7	51.1
	14:34:00	14:34:00		51.5	65.5	52.5	50.9
	14:35:00	14:35:00		51.9	66.4	52.3	51.4
	14:36:00	14:36:00		51.5	66.1	52.1	50.8
	14:37:00	14:37:00		51.5	65.7	52	50.9
	14:38:00	14:38:00		51.7	65.7	52.4	50.7
	14:39:00	14:39:00		51.6	65.3	52.3	51.1
	14:40:00	14:40:00		51.4	65.2	52	51
	14:41:00	14:41:00		52.2	66.1	53.2	51.2
	14:42:00	14:42:00		51.8	65.1	52.3	50.9
	14:43:00	14:43:00		51.4	65.7	52.3	50.9
	14:44:00	14:44:00		53.4	67.5	55.1	51.2
	14:45:00	14:45:00		53.2	70	54.7	52.4
	14:46:00	14:46:00		53.1	69.2	55.1	52.4
	14:47:00	14:47:00		53.1	66.3	53.7	52.3
	14:48:00	14:48:00		52	66.2	52.4	51.5
	14:49:00	14:49:00		52.1	65.4	52.5	51.5
	14:50:00	14:50:00		52.3	66.2	52.7	52
	14:51:00	14:51:00		52	65.6	52.4	51.6
	14:52:00	14:52:00		51.9	65.1	52.3	51.3
	14:53:00	14:53:00		52.6	65.9	53.3	52.1
	14:54:00	14:54:00		52.4	67	53.1	51.5
	14:55:00	14:55:00		52.3	66.5	52.8	51.9
	14:56:00	14:56:00		52.8	66.1	53.3	52.2
	14:57:00	14:57:00		52.8	67.1	53.1	52.4
	14:58:00	14:58:00		53	67.6	53.4	52.4
	14:59:00	14:59:00		53.1	66.7	53.8	52.4
	15:00:00	15:00:00		52.6	67	53.1	52.1
	15:01:00	15:01:00		52.5	67	52.9	52.1
	15:02:00	15:02:00		52.4	65.6	52.9	51.9
	15:03:00	15:03:00		52.3	66.8	52.9	51.6
	15:04:00	15:04:00		52.5	66	52.8	52
	15:05:00	15:05:00		52.4	65.6	52.9	52
	15:06:00	15:06:00		52.5	66.7	52.9	52
	15:07:00	15:07:00		52.3	66.1	52.8	51.2
	15:08:00	15:08:00		52	65.6	52.4	51.5
	15:09:00	15:09:00		51.6	65.5	52.3	51.1
	15:10:00	15:10:00		52	66	52.4	51.5
	15:11:00	15:11:00		51.9	69.7	53	51.3
	15:12:00	15:12:00		51.7	69.2	52.3	51.2
	15:13:00	15:13:00		51.6	64.8	52.1	51.1
	15:14:00	15:14:00		51.7	64.7	52.4	51.1
	15:15:00	15:15:00		51.7	65.1	52.3	51.3
	15:16:00	15:16:00		51.2	64.5	51.7	50.7
	15:17:00	15:17:00		51.3	64.5	52	50.5
	15:18:00	15:18:00		51.4	65.5	52.4	50.6
	15:19:00	15:19:00		51.4	64.9	52.4	50.7
	15:20:00	15:20:00		51	64.2	52.1	50.4
	15:21:00	15:21:00		51.9	67.2	52.9	51
	15:22:00	15:22:00		52	66.9	53.4	51
	15:23:00	15:23:00		51	64.8	52	50.4

Ambient Noise Data

Receptor 1 (R1)

Study	Study Time	Session Time	OL Status	Lavg Meter1	Lpk Meter1	Lmax Meter1	Lmin Meter1
	15:24:00	15:24:00		51.8	67.1	54	50.5
	15:25:00	15:25:00		51.9	65.5	53	51
	15:26:00	15:26:00		51.1	64.5	51.7	50.6
	15:27:00	15:27:00		51	64.8	51.8	50.5
	15:28:00	15:28:00		51.1	65	52.1	50.4
	15:29:00	15:29:00		51.6	65.4	52.2	50.9
	15:30:00	15:30:00		51.5	65.6	52.5	50.5
	15:31:00	15:31:00		50.9	64.2	51.4	50.4
	15:32:00	15:32:00		51.2	64.5	51.6	50.5
	15:33:00	15:33:00		51.3	64.6	52.3	50.1
	15:34:00	15:34:00		51.4	65.5	52.1	50.7
	15:35:00	15:35:00		50.9	64	51.6	50.3
	15:36:00	15:36:00		51.2	64.7	52.2	50.7
	15:37:00	15:37:00		50.9	64.1	51.6	50.4
	15:38:00	15:38:00		51.3	64.5	51.9	50.6
	15:39:00	15:39:00		51.3	64.6	51.9	50.8
	15:40:00	15:40:00		51.3	64.7	51.7	50.8
	15:41:00	15:41:00		51	64.2	52.1	50.5
	15:42:00	15:42:00		51.9	67.4	54	51
	15:43:00	15:43:00		51.6	66.2	52.4	51
	15:44:00	15:44:00		51.2	64.9	52.1	50.7
	15:45:00	15:45:00		51.9	66.6	52.4	51.4
	15:46:00	15:46:00		51.6	65.1	52.5	50.4
	15:47:00	15:47:00		52.1	66.8	52.5	51.6
	15:48:00	15:48:00		51.7	65.6	53.1	51
	15:49:00	15:49:00		51.6	65.7	52.4	51
	15:50:00	15:50:00		51.4	65.8	53	50.3
	15:51:00	15:51:00		51.9	66.2	53.1	51
	15:52:00	15:52:00		51.6	65	52.4	50.9
	15:53:00	15:53:00		51.7	64.9	52.2	51.1
	15:54:00	15:54:00		51.4	64.6	52.5	50.8
	15:55:00	15:55:00		51.5	65.8	52.3	50.9
	15:56:00	15:56:00		51.3	64.8	52	50.6
	15:57:00	15:57:00		51.3	64.5	52.1	50.8
	15:58:00	15:58:00		51.3	65.7	51.8	50.7
	15:59:00	15:59:00		51.6	65.3	52.2	51.2
	16:00:00	16:00:00		51.6	65.8	52.6	50.8
	16:01:00	16:01:00		52.4	68.5	54.5	51.1
	16:02:00	16:02:00		52.5	66	53.7	51.5
	16:03:00	16:03:00		51.7	64.5	52.3	50.9
	16:04:00	16:04:00		51.7	65.5	52.2	51
	16:05:00	16:05:00		51.8	65.8	52.4	50.9
	16:06:00	16:06:00		51.9	65.2	53	51.2
	16:07:00	16:07:00		52.3	65.4	53.1	51.7
	16:08:00	16:08:00		52	65.6	52.6	51.4
	16:09:00	16:09:00		52.4	66	53.1	51.9
	16:10:00	16:10:00		51.9	64.9	52.7	51.1
	16:11:00	16:11:00		52.1	65.5	52.9	51.6
	16:12:00	16:12:00		51.9	67.1	53.7	51
	16:13:00	16:13:00		52	65.9	52.6	51.1
	16:14:00	16:14:00		51.8	65.6	52.3	51.2
	16:15:00	16:15:00		51.7	64.8	52.3	50.9
	16:16:00	16:16:00		51.4	66.2	52.2	50.5
	16:17:00	16:17:00		52.3	67	54.4	50.6
	16:18:00	16:18:00		51.4	64.7	52.3	50.6
	16:19:00	16:19:00		51.3	64.9	52	50.7
	16:20:00	16:20:00		51.1	64.6	51.7	50.8
	16:21:00	16:21:00		51.3	65.3	52.3	50.6
	16:22:00	16:22:00		51.4	64.7	52.1	50.6
	16:23:00	16:23:00		51.4	65.9	52.1	50.5
	16:24:00	16:24:00		51	64.4	51.4	50.5
	16:25:00	16:25:00		51.2	67.6	52.9	50.7
	16:26:00	16:26:00		51.4	64.7	52.6	50.9
	16:27:00	16:27:00		51.7	66.3	53.7	50.8
	16:28:00	16:28:00		51.7	65.3	52.5	50.9
	16:29:00	16:29:00		51.7	65.6	53.1	50.8

Ambient Noise Data

Receptor 1 (R1)

Study	Study Time	Session Time	OL Status	Lavg Meter1	Lpk Meter1	Lmax Meter1	Lmin Meter1
	16:30:00	16:30:00		51.9	65.6	52.6	50.8
	16:31:00	16:31:00		51.6	65.7	52.5	50.9
	16:32:00	16:32:00		51.8	65.6	52.5	51.4
	16:33:00	16:33:00		51.4	65.1	52	50.8
	16:34:00	16:34:00		51.5	65.3	52	50.9
	16:35:00	16:35:00		51.6	65.7	52.4	50.9
	16:36:00	16:36:00		52.7	68.4	53.7	51.1
	16:37:00	16:37:00		51.7	65.3	53.1	51.1
	16:38:00	16:38:00		52	65.5	52.5	51.3
	16:39:00	16:39:00		51.8	64.8	52.2	51.2
	16:40:00	16:40:00		51.9	65.5	52.5	51.3
	16:41:00	16:41:00		52	65.6	52.7	51.2
	16:42:00	16:42:00		51.9	65.9	52.8	51.3
	16:43:00	16:43:00		51.7	64.7	52.2	51.1
	16:44:00	16:44:00		52.1	66.3	53	51.4
	16:45:00	16:45:00		51.9	65.2	52.5	51.5
	16:46:00	16:46:00		51.6	65.4	52.3	50.8
	16:47:00	16:47:00		51.6	65.5	52.2	51
	16:48:00	16:48:00		51.5	64.6	52	51
	16:49:00	16:49:00		51.7	65.7	52.3	51.1
	16:50:00	16:50:00		51.6	65.2	52.3	51.1
	16:51:00	16:51:00		51.5	64.7	52	51
	16:52:00	16:52:00		51.6	64.7	52.2	51.3
	16:53:00	16:53:00		51.7	64.8	52.2	51.1
	16:54:00	16:54:00		51.6	65.4	52.3	51.2
	16:55:00	16:55:00		51.5	64.6	51.9	51.1
	16:56:00	16:56:00		51.8	65.5	52.6	51.1
	16:57:00	16:57:00		51.8	65.1	52.5	51.1
	16:58:00	16:58:00		52.3	66	53.4	51.8
	16:59:00	16:59:00		52	66	52.6	51.6
	17:00:00	17:00:00		52	65.4	52.5	51.7
	17:01:00	17:01:00		52	65.3	52.6	51.7
	17:02:00	17:02:00		51.9	65.1	52.6	51.2
	17:03:00	17:03:00		51.4	64.4	52.1	50.8
	17:04:00	17:04:00		51.4	64.5	52.1	50.7
	17:05:00	17:05:00		51.9	65.2	53	51.3
	17:06:00	17:06:00		52.2	65.7	52.7	51.8
	17:07:00	17:07:00		52.7	66	53.3	52.1
	17:08:00	17:08:00		52.7	66.5	53.3	52.2
	17:09:00	17:09:00		52.4	65.7	52.9	52
	17:10:00	17:10:00		52.5	65.6	53	52.1
	17:11:00	17:11:00		52.5	65.8	53	52.1
	17:12:00	17:12:00		52.3	65.5	52.9	51.9
	17:13:00	17:13:00		52.6	67.2	53.8	51.8
	17:14:00	17:14:00		52.8	68.8	54.3	51.8
	17:15:00	17:15:00		52.2	65.9	52.9	51.5
	17:16:00	17:16:00		52.2	65.9	53	51.4
	17:17:00	17:17:00		52.6	66.5	53.3	51.8
	17:18:00	17:18:00		52.5	67.3	54.4	51.7
	17:19:00	17:19:00		53.4	70	56.1	51.7
	17:20:00	17:20:00		52	66	52.8	51.5
	17:21:00	17:21:00		51.8	65.6	53	51
	17:22:00	17:22:00		51.4	65	52.1	50.8
	17:23:00	17:23:00		51.6	64.7	52.6	50.9
	17:24:00	17:24:00		51.6	65.3	52.5	51
	17:25:00	17:25:00		51.9	65.4	53	51.1
	17:26:00	17:26:00		51.5	64.8	52.1	50.8
	17:27:00	17:27:00		51.8	64.8	52.5	50.8
	17:28:00	17:28:00		52.4	65.6	53.1	51.9
	17:29:00	17:29:00		52.4	66.5	53.6	51.7
	17:30:00	17:30:00		52.4	66.3	52.9	52
	17:31:00	17:31:00		52.5	67.1	53	52
	17:32:00	17:32:00		51.9	65.7	52.6	51.5
	17:33:00	17:33:00		51.8	66.1	52.7	51.1
	17:34:00	17:34:00		52.2	66.3	52.6	51.9
	17:35:00	17:35:00		52.5	65.6	52.9	52

Ambient Noise Data

Receptor 1 (R1)

Study	Study Time	Session Time	OL Status	Lavg Meter1	Lpk Meter1	Lmax Meter1	Lmin Meter1
	17:36:00	17:36:00		52.8	65.8	53.2	52.3
	17:37:00	17:37:00		52.9	66.4	53.5	52.4
	17:38:00	17:38:00		52.8	66.3	53.3	52.4
	17:39:00	17:39:00		52.6	66.3	53	52.2
	17:40:00	17:40:00		52.7	66	53.2	52.1
	17:41:00	17:41:00		51.9	65.4	52.6	51.4
	17:42:00	17:42:00		51.8	66	52.2	51.3
	17:43:00	17:43:00		52	71.1	56.4	51.2
	17:44:00	17:44:00		51.6	65.3	52.1	51
	17:45:00	17:45:00		51.6	65.9	52.2	51.1
	17:46:00	17:46:00		52.6	67.9	53.7	51.8
	17:47:00	17:47:00		52.7	66.5	53.6	52.3
	17:48:00	17:48:00		53.1	67.4	53.5	52.5
	17:49:00	17:49:00		53.8	73.1	56.3	53
	17:50:00	17:50:00		53.8	68	54.3	52.9
	17:51:00	17:51:00		53.5	66.9	53.9	53.1
	17:52:00	17:52:00		53.3	67.5	53.8	52.7
	17:53:00	17:53:00		53	67	53.6	52.5
	17:54:00	17:54:00		52.8	66.4	53.4	52.2
	17:55:00	17:55:00		53	69.6	56.3	52
	17:56:00	17:56:00		52.9	70.1	55	52.1
	17:57:00	17:57:00		52.2	66.3	52.8	51.7
	17:58:00	17:58:00		52.7	67.2	53.4	52.1
	17:59:00	17:59:00		52.6	66.3	53.2	51.9
	18:00:00	18:00:00		51.8	65.5	52.3	51.2
	18:01:00	18:01:00		51.7	65.1	52.1	51.1
	18:02:00	18:02:00		52.1	65.5	52.9	51.7
	18:03:00	18:03:00		52.3	66.4	53.1	51.7
	18:04:00	18:04:00		52.5	65.7	53.2	52
	18:05:00	18:05:00		52.5	66.5	53.1	52
	18:06:00	18:06:00		52.1	65.6	52.8	51.6
	18:07:00	18:07:00		52.2	66.8	52.8	51.7
	18:08:00	18:08:00		52.3	65.9	53.3	51.6
	18:09:00	18:09:00		52	65.9	52.7	51.3
	18:10:00	18:10:00		52.5	66.6	53.2	52.1
	18:11:00	18:11:00		52.7	66.2	53.2	52.3
	18:12:00	18:12:00		52.7	66.5	53.2	52.1
	18:13:00	18:13:00		52.4	65.9	52.9	51.9
	18:14:00	18:14:00		52.1	66.2	52.7	51.3
	18:15:00	18:15:00		52.3	65.5	52.9	51.9
	18:16:00	18:16:00		52.5	66.1	53	52
	18:17:00	18:17:00		53.1	67.5	54.3	52.4
	18:18:00	18:18:00		53	67.2	53.6	52.4
	18:19:00	18:19:00		52.8	66.6	53.3	52.4
	18:20:00	18:20:00		53	67.4	53.7	52.5
	18:21:00	18:21:00		53.1	67.6	53.5	52.5
	18:22:00	18:22:00		53.1	66.8	53.7	52.5
	18:23:00	18:23:00		53.2	66.9	54.3	52.7
	18:24:00	18:24:00		53	66.8	53.5	52.4
	18:25:00	18:25:00		53.1	67	54.1	52.4
	18:26:00	18:26:00		53.5	68.3	54.9	52.9
	18:27:00	18:27:00		52.4	66.3	53.3	51.8
	18:28:00	18:28:00		52.5	66.8	52.9	52.1
	18:29:00	18:29:00		52.7	65.8	53.2	52.1
	18:30:00	18:30:00		52.9	66.8	53.4	52.5
	18:31:00	18:31:00		53.3	67.2	54	52.7
	18:32:00	18:32:00		53.5	67.1	53.9	53.1
	18:33:00	18:33:00		53.2	66.6	53.8	52.7
	18:34:00	18:34:00		53.3	67.3	53.9	52.8
	18:35:00	18:35:00		53.3	69.5	54.1	52.7
	18:36:00	18:36:00		53.8	67.3	54.6	53
	18:37:00	18:37:00		53.2	66.9	53.6	52.8
	18:38:00	18:38:00		53.6	67.3	54.3	53
	18:39:00	18:39:00		53.3	67	53.6	52.8
	18:40:00	18:40:00		53.5	67.8	54.1	52.8
	18:41:00	18:41:00		53.2	67.4	53.8	52.8

Ambient Noise Data

Receptor 1 (R1)

Study	Study Time	Session Time	OL Status	Lavg Meter1	Lpk Meter1	Lmax Meter1	Lmin Meter1
	18:42:00	18:42:00		53.5	66.7	54.2	52.9
	18:43:00	18:43:00		53.3	67.4	53.9	52.7
	18:44:00	18:44:00		53.1	67	54.4	52.1
	18:45:00	18:45:00		53.9	68.5	55.2	52.7
	18:46:00	18:46:00		54.6	68.2	55.5	53.6
	18:47:00	18:47:00		54.4	69.6	56.1	53.5
	18:48:00	18:48:00		54.5	70.1	55.5	53.8
	18:49:00	18:49:00		54.5	68.2	55.3	54
	18:50:00	18:50:00		54.3	69.7	55.1	53.6
	18:51:00	18:51:00		53.6	74.8	54.2	52.8
	18:52:00	18:52:00		53.5	67.1	54.3	52.9
	18:53:00	18:53:00		53.6	67.6	54.1	52.9
	18:54:00	18:54:00		53.8	68.2	54.7	53.1
	18:55:00	18:55:00		55.1	68.8	56.4	54.1
	18:56:00	18:56:00		55.7	75.8	61.5	54
	18:57:00	18:57:00		55	70.8	60.9	53.5
	18:58:00	18:58:00		53.6	67.1	54.1	53.1
	18:59:00	18:59:00		54	68.8	55.1	53.3
	19:00:00	19:00:00		54.2	70.1	56.9	53.2
	19:01:00	19:01:00		54.3	72.3	58.2	53.3
	19:02:00	19:02:00		55.1	69.3	56.1	53.8
	19:03:00	19:03:00		54.4	69	55.9	53.4
	19:04:00	19:04:00		54.1	68.4	54.8	53.3
	19:05:00	19:05:00		55.5	72.3	57.2	53.8
	19:06:00	19:06:00		55	69.7	56.2	53.5
	19:07:00	19:07:00		53.6	67.5	54.4	53.2
	19:08:00	19:08:00		53.6	68.7	56.4	53
	19:09:00	19:09:00		53.8	68.3	54.6	53
	19:10:00	19:10:00		53.5	67.7	55	52.5
	19:11:00	19:11:00		53.7	67.8	54.3	53
	19:12:00	19:12:00		53	66.9	53.7	51.9
	19:13:00	19:13:00		52.6	66.3	53.2	52.1
	19:14:00	19:14:00		53.3	68.1	53.8	52.4
	19:15:00	19:15:00		53.2	67.9	53.7	52.8
	19:16:00	19:16:00		53.6	71.1	55.6	52.7
	19:17:00	19:17:00		53.5	69.5	54.2	52.6
	19:18:00	19:18:00		53.8	71.6	54.4	53.4
	19:19:00	19:19:00		53.6	67.7	54	53.3
	19:20:00	19:20:00		53.6	70.4	54.5	52.5
	19:21:00	19:21:00		53.9	69.8	55	53.2
	19:22:00	19:22:00		54.1	69.2	55.6	53.5
	19:23:00	19:23:00		54.3	68.5	55.4	53.7
	19:24:00	19:24:00		53.7	67.5	55.1	53.1
	19:25:00	19:25:00		53.2	67.4	53.6	52.5
	19:26:00	19:26:00		53.5	67.3	55.3	52.8
	19:27:00	19:27:00		54.2	68.4	55.3	53.5
	19:28:00	19:28:00		54.4	77.6	58.2	53.7
	19:29:00	19:29:00		54.5	69.2	57.7	53.6
	19:30:00	19:30:00		53.9	67.7	55.3	53.5
	19:31:00	19:31:00		54	67.8	54.6	53.4
	19:32:00	19:32:00		55.1	70.8	59.3	53.8
	19:33:00	19:33:00		54.8	70.6	55.9	54
	19:34:00	19:34:00		54.6	69	55.6	53.9
	19:35:00	19:35:00		53.9	69.6	54.5	53.4
	19:36:00	19:36:00		53.9	68.1	54.6	53.4
	19:37:00	19:37:00		53.9	71.4	56.6	53.3
	19:38:00	19:38:00		53.5	68.7	55.3	53
	19:39:00	19:39:00		54.2	68	55.2	53
	19:40:00	19:40:00		53.5	66.9	54.2	52.6
	19:41:00	19:41:00		53.3	68.4	53.7	52.7
	19:42:00	19:42:00		53.9	69.3	55.1	53.3
	19:43:00	19:43:00		53.9	69.1	55	53.2
	19:44:00	19:44:00		54.8	72.7	59.5	53.1
	19:45:00	19:45:00		55.3	75.9	62.6	53.6
	19:46:00	19:46:00		53.5	68.5	54.6	52.5
	19:47:00	19:47:00		52.9	67.4	54	52.3

Ambient Noise Data

Receptor 1 (R1)

Study	Study Time	Session Time	OL Status	Lavg Meter1	Lpk Meter1	Lmax Meter1	Lmin Meter1
	19:48:00	19:48:00		52.8	68.6	53.7	52
	19:49:00	19:49:00		53.3	68.3	54.1	52.4
	19:50:00	19:50:00		53.5	67.8	54.9	52.6
	19:51:00	19:51:00		54.5	82.8	63.6	52.6
	19:52:00	19:52:00		53.1	67.5	53.5	52.6
	19:53:00	19:53:00		54.3	70.6	59.4	52.8
	19:54:00	19:54:00		53	67.2	53.7	52.2
	19:55:00	19:55:00		52.7	69.2	53.2	52.1
	19:56:00	19:56:00		52.7	70	54	52.2
	19:57:00	19:57:00		52.7	65.8	53.1	52.4
	19:58:00	19:58:00		52.8	67.1	53.3	52.3
	19:59:00	19:59:00		52.4	65.8	53.1	51.8
	20:00:00	20:00:00		52.3	69.5	52.8	51.7
	20:01:00	20:01:00		52.4	66.9	53.1	51.7
	20:02:00	20:02:00		52.7	68.9	54.6	52.1
	20:03:00	20:03:00		53.1	67.5	53.4	52.7
	20:04:00	20:04:00		53.3	66.5	53.8	52.8
	20:05:00	20:05:00		53	67.3	53.3	52.7
	20:06:00	20:06:00		53	66	53.5	52.5
	20:07:00	20:07:00		52.9	66.7	53.4	52.5
	20:08:00	20:08:00		53.1	68.6	54.3	52.7
	20:09:00	20:09:00		52.9	67.4	53.3	52.4
	20:10:00	20:10:00		53.5	69.8	56.9	52.5
	20:11:00	20:11:00		53.4	68.5	54.5	52.4
	20:12:00	20:12:00		52.5	66	53.1	51.8
	20:13:00	20:13:00		53	68.9	54.9	52.3
	20:14:00	20:14:00		53.7	67.1	54.4	53.1
	20:15:00	20:15:00		53.9	68.2	54.8	53
	20:16:00	20:16:00		54.4	71.6	56.3	53.6
	20:17:00	20:17:00		53.4	68.1	54.8	52.2
	20:18:00	20:18:00		53.3	68.2	54.7	52.2
	20:19:00	20:19:00		53.9	68.3	54.9	53.1
	20:20:00	20:20:00		54.4	70.8	56.4	53.2
	20:21:00	20:21:00		53.5	67.5	54.4	52.7
	20:22:00	20:22:00		53.4	67.7	54.4	52.4
	20:23:00	20:23:00		53.6	75.1	55	52
	20:24:00	20:24:00		53.7	71.3	55.4	52.9
	20:25:00	20:25:00		53.7	79.7	61	52.3
	20:26:00	20:26:00		54.2	72.9	56.7	52.9
	20:27:00	20:27:00		53.9	73	55.9	52.8
	20:28:00	20:28:00		53.7	71	55	52.7
	20:29:00	20:29:00		53.7	75.2	57	52.7
	20:30:00	20:30:00		54.3	75.6	58.7	52.6
	20:31:00	20:31:00		54	74.7	57.7	52.4
	20:32:00	20:32:00		53.5	72.2	58.4	52.1
	20:33:00	20:33:00		52.6	69	54.3	52.1
	20:34:00	20:34:00		53	67	54	52.2
	20:35:00	20:35:00		53.1	67.9	54	52.4
	20:36:00	20:36:00		53.2	69.8	56.2	52.2
	20:37:00	20:37:00		54.3	75.6	59.8	53
	20:38:00	20:38:00		54	68.9	56.8	52.8
	20:39:00	20:39:00		53.9	69.6	55.7	52.9
	20:40:00	20:40:00		53.7	70.2	55.9	52.9
	20:41:00	20:41:00		54.8	73.9	57	53.6
	20:42:00	20:42:00		56.8	81.4	64.4	54.1
	20:43:00	20:43:00		54.3	71.8	56.1	53.2
	20:44:00	20:44:00		54.4	76.4	59.2	52.7
	20:45:00	20:45:00		53.5	68.6	55	52.6
	20:46:00	20:46:00		53.2	67.3	54.5	52.8
	20:47:00	20:47:00		53.1	68	54.1	52.7
	20:48:00	20:48:00		53.8	68.8	55.4	53
	20:49:00	20:49:00		53.2	68.4	55.7	52.2
	20:50:00	20:50:00		54.1	72.3	56.6	52.3
	20:51:00	20:51:00		54.4	76.7	59.3	52.5
	20:52:00	20:52:00		54.8	74.5	59.3	52.3
	20:53:00	20:53:00		54.4	72.2	57.3	52.6

Ambient Noise Data

Receptor 1 (R1)

Study	Study Time	Session Time	OL Status	Lavg Meter1	Lpk Meter1	Lmax Meter1	Lmin Meter1
	20:54:00	20:54:00		54.3	74.2	57.3	51.5
	20:55:00	20:55:00		53.5	68.7	56	51.5
	20:56:00	20:56:00		54.2	75.3	58.4	52.5
	20:57:00	20:57:00		53.9	70.9	56.3	52.8
	20:58:00	20:58:00		54.2	74.5	57.8	52.4
	20:59:00	20:59:00		53.5	72.4	58.1	52
	21:00:00	21:00:00		53.4	67.8	55.8	52.3
	21:01:00	21:01:00		53.7	73.1	55.8	52.2
	21:02:00	21:02:00		53.9	73.9	57.5	52.5
	21:03:00	21:03:00		54.7	75.6	57.1	52.8
	21:04:00	21:04:00		54.8	78	58.3	52.6
	21:05:00	21:05:00		54.4	75.4	57.8	52.3
	21:06:00	21:06:00		53.6	69.6	56.2	52.4
	21:07:00	21:07:00		53.9	74.9	57.5	52.4
	21:08:00	21:08:00		53.6	72.8	55.6	52
	21:09:00	21:09:00		53.1	74.1	55	51.9
	21:10:00	21:10:00		52.9	74.5	55.1	51.8
	21:11:00	21:11:00		54.1	74.3	57.5	51.9
	21:12:00	21:12:00		53.6	73.7	56.7	52
	21:13:00	21:13:00		52.5	69.8	53.9	51.5
	21:14:00	21:14:00		52.4	66.5	54	51.4
	21:15:00	21:15:00		53.3	73.9	56.7	51.1
	21:16:00	21:16:00		52.6	67.2	54.4	51.8
	21:17:00	21:17:00		52.7	72.7	55.5	52.1
	21:18:00	21:18:00		54.2	72.9	56.7	52.5
	21:19:00	21:19:00		54.1	71.2	56	52.7
	21:20:00	21:20:00		53.6	69.8	55.4	52.6
	21:21:00	21:21:00		53.4	68.5	55.4	52.3
	21:22:00	21:22:00		53.9	70.4	56.8	52.3
	21:23:00	21:23:00		53.7	73.4	56	52.4
	21:24:00	21:24:00		54.4	73.4	56.6	52.3
	21:25:00	21:25:00		53.9	70.8	56.1	52.5
	21:26:00	21:26:00		53.3	74.3	55.3	52.2
	21:27:00	21:27:00		53.7	75.1	56.2	52.4
	21:28:00	21:28:00		54.2	75.3	56.2	52.7
	21:29:00	21:29:00		53.7	74.7	56.4	52.4
	21:30:00	21:30:00		53.9	74.3	55.9	52.2
	21:31:00	21:31:00		54.1	74.3	57	51.8
	21:32:00	21:32:00		54.4	81.4	60.9	52.3
	21:33:00	21:33:00		54.9	85.5	65.4	52.3
	21:34:00	21:34:00		53.9	78.3	61.1	52
	21:35:00	21:35:00		53.1	71.9	56.9	52
	21:36:00	21:36:00		54.1	75.9	58.6	52
	21:37:00	21:37:00		54.1	72.6	55.9	52.7
	21:38:00	21:38:00		54.2	78.7	62.6	51.8
	21:39:00	21:39:00		53	71.5	55.1	51.7
	21:40:00	21:40:00		54.4	78.1	62	52.4
	21:41:00	21:41:00		56.4	77.6	59.9	51.7
	21:42:00	21:42:00		57.1	83.3	65.6	51.5
	21:43:00	21:43:00		53	74.6	57.3	51.6
	21:44:00	21:44:00		53.3	72.9	56.8	51.9
	21:45:00	21:45:00		52.4	74.1	54.6	51.2
	21:46:00	21:46:00		52.4	69.2	55.2	51.1
	21:47:00	21:47:00		52.1	68.6	54.9	50.8
	21:48:00	21:48:00		53	75.3	58	50.8
	21:49:00	21:49:00		52.8	72.5	55.8	51.9
	21:50:00	21:50:00		53.1	74.4	57.4	51.8
	21:51:00	21:51:00		53.1	67.3	55	51.6
	21:52:00	21:52:00		53.3	74.6	57.2	51.5
	21:53:00	21:53:00		52.9	74.1	57.2	51.3
	21:54:00	21:54:00		53.5	74.8	57.9	52
	21:55:00	21:55:00		53.2	74	55	51.7
	21:56:00	21:56:00		53.1	71.8	56.2	52
	21:57:00	21:57:00		53.4	74.9	58.8	51.8
	21:58:00	21:58:00		54.3	78	60.6	51.5
	21:59:00	21:59:00		52.5	75	57.9	51.1

Ambient Noise Data

Receptor 1 (R1)

Study	Study Time	Session Time	OL Status	Lavg Meter1	Lpk Meter1	Lmax Meter1	Lmin Meter1
	22:00:00	22:00:00		52.1	67.1	54.2	51.1
	22:01:00	22:01:00		52.9	72.8	56.1	51.5
	22:02:00	22:02:00		53.6	75.7	57.7	51.6
	22:03:00	22:03:00		55.8	76.9	59.6	52.3
	22:04:00	22:04:00		53.3	70.3	57.2	51.6
	22:05:00	22:05:00		55.2	82.9	62.1	53
	22:06:00	22:06:00		54.3	80.1	60	52.4
	22:07:00	22:07:00		53.6	74	58.7	52.2
	22:08:00	22:08:00		54.5	80.6	63	52.5
	22:09:00	22:09:00		53	73.1	54.9	51.7
	22:10:00	22:10:00		54.6	71.8	57	52.5
	22:11:00	22:11:00		53.1	75.1	55.4	51.8
	22:12:00	22:12:00		52.8	73	55.3	51.7
	22:13:00	22:13:00		53.5	73.6	56	51.5
	22:14:00	22:14:00		52.9	71.2	54.9	51.9
	22:15:00	22:15:00		54	70.2	59.7	52.2
	22:16:00	22:16:00		53.5	72.8	56.1	52.6
	22:17:00	22:17:00		53.8	71.2	57	52.3
	22:18:00	22:18:00		52.9	68.9	54.9	51.6
	22:19:00	22:19:00		59.8	82.6	66	51.6
	22:20:00	22:20:00		52	65.9	53.4	51
	22:21:00	22:21:00		53.6	76.8	61.1	51.4
	22:22:00	22:22:00		52.7	70.9	56.7	50.9
	22:23:00	22:23:00		53.4	77.4	60.8	51.4
	22:24:00	22:24:00		53.3	76.7	59.4	51.9
	22:25:00	22:25:00		55	79.9	62.3	51.6
	22:26:00	22:26:00		53.1	76.6	60.3	51.1
	22:27:00	22:27:00		52.5	71.4	55.5	50.9
	22:28:00	22:28:00		53.1	74.7	57.9	51.7
	22:29:00	22:29:00		53.9	72.6	57.1	51.5
	22:30:00	22:30:00		52.6	68.4	55.6	51.3
	22:31:00	22:31:00		51.9	65.6	52.8	51.2
	22:32:00	22:32:00		52.6	67.7	54.8	51.6
	22:33:00	22:33:00		52.4	66.7	53.9	51.5
	22:34:00	22:34:00		51.8	65.9	52.7	50.7
	22:35:00	22:35:00		51.2	65.5	51.9	50.2
	22:36:00	22:36:00		51	65.3	51.6	50.5
	22:37:00	22:37:00		51.9	69	55.1	50.7
	22:38:00	22:38:00		51.8	69.1	54.4	50.6
	22:39:00	22:39:00		53	71.4	56.2	51.2
	22:40:00	22:40:00		53.4	73.7	58	50.9
	22:41:00	22:41:00		51.6	65.1	52.8	50.8
	22:42:00	22:42:00		53.4	67.4	55	51.9
	22:43:00	22:43:00		52.5	70.1	55.6	50.6
	22:44:00	22:44:00		53.4	69.7	55.7	50.9
	22:45:00	22:45:00		52.7	72.7	56	51.4
	22:46:00	22:46:00		52.5	65.8	53.2	51.5
	22:47:00	22:47:00		53.9	78.2	59.4	52.2
	22:48:00	22:48:00		53.8	77.7	59.1	51.9
	22:49:00	22:49:00		52.6	71.7	55.9	51.3
	22:50:00	22:50:00		53.4	73.3	56.9	51.8
	22:51:00	22:51:00		53.2	71.1	56.9	52.1
	22:52:00	22:52:00		53.9	74.9	57.8	51.2
	22:53:00	22:53:00		52.5	72.2	55.5	51.2
	22:54:00	22:54:00		52.6	71.5	56.6	51.2
	22:55:00	22:55:00		51.9	67.4	52.7	50.7
	22:56:00	22:56:00		52.3	66.9	52.9	51.4
	22:57:00	22:57:00		52	68.2	53.5	50.4
	22:58:00	22:58:00		55.3	74.8	60	51
	22:59:00	22:59:00		54	79	62.8	51.6
	23:00:00	23:00:00		52.7	70.3	56.6	51.5
	23:01:00	23:01:00		53.3	74.7	58.9	51.9
	23:02:00	23:02:00		52	65.9	53.4	50.4
	23:03:00	23:03:00		51.9	67.5	53.1	50.3
	23:04:00	23:04:00		51.9	71.1	54.3	50.8
	23:05:00	23:05:00		52	69.4	54.3	50.7

Ambient Noise Data

Receptor 1 (R1)

Study	Study Time	Session Time	OL Status	Lavg Meter1	Lpk Meter1	Lmax Meter1	Lmin Meter1
	23:06:00	23:06:00		52.6	68.3	54.8	51.6
	23:07:00	23:07:00		53.3	69.9	54.5	52.4
	23:08:00	23:08:00		53	68.2	54.8	51.7
	23:09:00	23:09:00		53.8	74.1	58.8	52.3
	23:10:00	23:10:00		52.6	68.8	53.8	51.6
	23:11:00	23:11:00		53.5	70.2	55.4	52.2
	23:12:00	23:12:00		53.4	73.2	57.4	51.8
	23:13:00	23:13:00		54.5	71.6	56.4	52.5
	23:14:00	23:14:00		54	69.9	56.7	52.4
	23:15:00	23:15:00		53.1	74.4	58.2	51.3
	23:16:00	23:16:00		53.8	75.5	59.9	51.7
	23:17:00	23:17:00		52.8	68.3	55.9	51.7
	23:18:00	23:18:00		53.2	69.2	55	52.1
	23:19:00	23:19:00		54.6	81.7	61.6	52.4
	23:20:00	23:20:00		54.3	72.9	59.2	52.4
	23:21:00	23:21:00		54	73.6	56.7	53
	23:22:00	23:22:00		53.6	79.6	59.7	52
	23:23:00	23:23:00		53.5	79	59.2	51.8
	23:24:00	23:24:00		53.1	71.5	54.8	51.6
	23:25:00	23:25:00		56.2	86.1	64.5	52.3
	23:26:00	23:26:00		55.6	82.3	61.6	53.3
	23:27:00	23:27:00		54	69.5	56.6	52.8
	23:28:00	23:28:00		54.6	72	57.7	52.9
	23:29:00	23:29:00		54.9	72.2	57.5	52.5
	23:30:00	23:30:00		54.2	70.8	56.8	52.1
	23:31:00	23:31:00		54.8	73.4	58.5	51.3
	23:32:00	23:32:00		56.9	82.8	67.5	50.8
	23:33:00	23:33:00		66	88.2	73	55.1
	23:34:00	23:34:00		54.8	71.1	59.4	52.7
	23:35:00	23:35:00		54.1	77.8	58	52.7
	23:36:00	23:36:00		53.4	68.5	56.4	51.9
	23:37:00	23:37:00		52.7	67.9	54.8	51.5
	23:38:00	23:38:00		52.9	70.4	55.3	51.4
	23:39:00	23:39:00		53	66.8	54	52.2
	23:40:00	23:40:00		54.4	78.9	60.5	52.3
	23:41:00	23:41:00		53.8	76.1	57.8	52.6
	23:42:00	23:42:00		53.6	71.9	56.9	52.4
	23:43:00	23:43:00		58.1	74.8	62.2	53.2
	23:44:00	23:44:00		59.6	75.6	62.6	57.4
	23:45:00	23:45:00		55.8	71.6	58.8	52.9
	23:46:00	23:46:00		53.9	68.9	56	52.5
	23:47:00	23:47:00		55.1	79.1	62.4	51.4
	23:48:00	23:48:00		53.5	71	55.9	51.9
	23:49:00	23:49:00		54.8	75.1	58.9	53.4
	23:50:00	23:50:00		54.9	75.4	59.4	52.7
	23:51:00	23:51:00		55.1	77.3	60.7	52.5
	23:52:00	23:52:00		53.1	72.1	57.6	50.6
	23:53:00	23:53:00		52.5	66.4	54	51.3
	23:54:00	23:54:00		52.8	76.5	58.9	51
	23:55:00	23:55:00		53.9	73.2	58	51.4
	23:56:00	23:56:00		52.1	68.1	53.4	50.5
	23:57:00	23:57:00		52.1	72.4	54.7	51.1
	23:58:00	23:58:00		56.1	93	67.8	51.1
	23:59:00	23:59:00		53.1	78.5	59	50.7
	24:00:00	24:00:00		51.4	75.6	53.7	50.4

Ambient Noise Summary

Receptor 2 (R2)

Serial Number	BGI040008	UNIT REV	R12N
Start Time	10:16:21 13-Apr-2017		
Run Length	24:00:00 5529600		

Microphone Information		
Description	Units	Value
Sensitivity	dB	29
Polarization	Volts	0
Meter Range	dB	120
Max Level	dB	140
Meas. Floor	dB	-20

Calibration Information			
Description		Units	Value
Pre-Cal	Level	dB	113.7
	Date		10:14:06 13-Apr-2017
Post-Cal	Level	dB	113.9
	Date		10:17:35 14-Apr-2017
ReCert	Date		Unavailable

Configuration Information			
Description	Units	Meter 1	Meter 2
Integration Threshold	dB	OFF	OFF
Exchange Rate	dB	3	3
Criterion Level	dB	90	85
Upper Limit Level	dB	140	140
Projected Time	Hrs	24	24
Weighting		A	A
Time Response		SLOW	SLOW

Measurement	Units	Meter 1 Broadband	Meter 2 Broadband
Lavg	dB	57.1	57.1
Lmax	dB	82.7	82.7
Lmin	dB	32.7	32.7
Lpk	dB	104.5	104.5
TWA	dB	61.9	61.9
PTWA	dB	61.9	61.9
DOSE	%	0.15	0.48
PDOSE	%	0.15	0.48
SEL	dB	106.5	106.4
EXP	p2s	18	18

Ambient Noise Summary

Receptor 2 (R2)

Measurement	Units	Value
LDN	dB	64
CNEL	dB	63.9
TAKTMAX (5sec)	dB	N/A
LC-A	dB	N/A

Exceedence	Units	Value
L01	dB	66.4
L10	dB	60.4
L50	dB	53.8
L90	dB	46.9

		Meter 1			Meter 2		
		Count	Percent	Time	Count	Percent	Time
Overload	(OL)	0	0	00:00:00	0	0	00:00:00
Under-Range	(UR)	3600	0.06	00:00:56	3718	0.06	00:00:58
Upper Limit	(UL)	0	0	00:00:00	0	0	00:00:00

Exceedence Table

	0	1	2	3	4	5	6	7	8	9
0	82.7	66.4	64.9	63.9	63.2	62.7	62.2	61.7	61.3	60.8
10	60.4	60	59.6	59.3	59	58.7	58.4	58.2	58	57.7
20	57.5	57.3	57.1	57	56.8	56.6	56.5	56.3	56.2	56
30	55.9	55.7	55.6	55.5	55.4	55.3	55.1	55	54.9	54.8
40	54.7	54.6	54.5	54.4	54.3	54.2	54.1	54	53.9	53.9
50	53.8	53.7	53.6	53.5	53.4	53.3	53.2	53.1	53	52.9
60	52.8	52.7	52.6	52.4	52.3	52.2	52.1	51.9	51.8	51.6
70	51.5	51.3	51.2	51	50.8	50.7	50.5	50.3	50.1	49.9
80	49.6	49.4	49.1	48.9	48.6	48.3	48	47.8	47.5	47.2
90	46.9	46.6	46.1	45.7	45.2	44.7	44	43	41.7	39.7

Ambient Noise Data

Receptor 2 (R2)

Study	Study Time	Session Time	OL Status	Lavg Meter1	Lpk Meter1	Lmax Meter1	Lmin Meter1
Study 1	0:01:00	0:01:00		51.3	83.9	59.5	45.4
	0:02:00	0:02:00		57	76.9	63	49.2
	0:03:00	0:03:00		56.2	75.6	61.6	49.4
	0:04:00	0:04:00		55.7	74.9	61.2	50.4
	0:05:00	0:05:00		54.9	77.2	59.6	50
	0:06:00	0:06:00		57.2	77.9	63.5	50
	0:07:00	0:07:00		57.8	79.4	65.6	49.8
	0:08:00	0:08:00		59.2	79.5	66.1	48.5
	0:09:00	0:09:00		52.2	71.2	57.3	48.9
	0:10:00	0:10:00		50.7	66.7	54.1	47.4
	0:11:00	0:11:00		55.1	78.5	64	48.9
	0:12:00	0:12:00		57.7	82.8	66.5	50.7
	0:13:00	0:13:00		58.8	79.4	65.7	49.5
	0:14:00	0:14:00		51.4	68	53.3	49.5
	0:15:00	0:15:00		53	69.1	55.1	50.8
	0:16:00	0:16:00		57.1	79.7	64.1	48.5
	0:17:00	0:17:00		52.7	71.6	58.2	49.7
	0:18:00	0:18:00		58	78.8	66	50.9
	0:19:00	0:19:00		56	81.7	66	50.3
	0:20:00	0:20:00		54.5	73.2	59	50.2
	0:21:00	0:21:00		52.3	72.1	58.8	49.8
	0:22:00	0:22:00		54.1	77.3	60.7	50.3
	0:23:00	0:23:00		54.9	75.4	59.5	51.5
	0:24:00	0:24:00		51.4	67.2	54.8	49.1
	0:25:00	0:25:00		51	68.6	53.6	47.8
	0:26:00	0:26:00		51.4	69.2	56.5	48.7
	0:27:00	0:27:00		55.2	71.3	58.7	52.7
	0:28:00	0:28:00		54	72.2	59	50.4
	0:29:00	0:29:00		52.7	71.6	58.6	49.4
	0:30:00	0:30:00		52.8	75.8	57.8	49.9
	0:31:00	0:31:00		55.5	75.3	61.2	50.7
	0:32:00	0:32:00		58.7	85.7	68	50.4
	0:33:00	0:33:00		57.2	80.9	66	49.1
	0:34:00	0:34:00		56.5	77	63.9	50.1
	0:35:00	0:35:00		52.7	75.1	58.2	50.1
	0:36:00	0:36:00		53.4	74.9	58.3	50.3
	0:37:00	0:37:00		55.7	73	60	52.8
	0:38:00	0:38:00		56.6	77	63.1	52.8
	0:39:00	0:39:00		55.1	74.1	59.3	52
	0:40:00	0:40:00		53.8	72.1	59.6	48.5
	0:41:00	0:41:00		57.3	81.1	66	49
	0:42:00	0:42:00		56.1	80.6	62.2	48.8
	0:43:00	0:43:00		52.9	70.2	56.7	51.5
	0:44:00	0:44:00		54.5	71.2	56.3	51.1
	0:45:00	0:45:00		59.1	81.7	64.3	54.2
	0:46:00	0:46:00		52.9	71.6	58.6	48.6
	0:47:00	0:47:00		56.9	76.9	61.9	51.9
	0:48:00	0:48:00		56.9	80.6	64.9	50.4
	0:49:00	0:49:00		55.7	75.2	62.1	52.2
	0:50:00	0:50:00		54.6	71.3	58.2	51.1
	0:51:00	0:51:00		54.5	80.4	60	49.6
	0:52:00	0:52:00		55.1	75.4	61.7	49.7
	0:53:00	0:53:00		56.4	80	64.8	49.7
	0:54:00	0:54:00		57.8	82.9	67.5	49.9
	0:55:00	0:55:00		52.9	70.7	61.4	50.4
	0:56:00	0:56:00		54.9	73.4	61.2	51
	0:57:00	0:57:00		56.1	77.7	63.2	51.4
	0:58:00	0:58:00		56.8	79	62.7	51.2
	0:59:00	0:59:00		60	81.7	65.2	54.6
	1:00:00	1:00:00		56.8	74.2	60.5	51.8
	1:01:00	1:01:00		55.5	74	61.2	50
	1:02:00	1:02:00		53.6	72.6	56.7	50.8
	1:03:00	1:03:00		52.9	71.7	55.8	50.8
	1:04:00	1:04:00		55.5	78.4	61.2	52.1
	1:05:00	1:05:00		54.5	74.3	60	51.7

Start: 10:16:21 AM 4/13/2017
Stop: 10:16:21 AM 4/14/2017

24-Hour Measurement Summary

	Day	Evening	Night
Peak Hour:	63.5	56.2	58.6
Average Hour:	58.2	54.7	52.2

Ambient Noise Data

Receptor 2 (R2)

Study	Study Time	Session Time	OL Status	Lavg Meter1	Lpk Meter1	Lmax Meter1	Lmin Meter1
	1:06:00	1:06:00		54	71.6	56.1	48.7
	1:07:00	1:07:00		55.2	72.6	58.3	49.6
	1:08:00	1:08:00		56.6	74.3	61.3	53.4
	1:09:00	1:09:00		58.6	78	63.2	53.3
	1:10:00	1:10:00		55.9	73.3	60.6	52.7
	1:11:00	1:11:00		60.1	84.3	67.6	53.4
	1:12:00	1:12:00		66.7	89.3	76.9	52.5
	1:13:00	1:13:00		54.7	80.2	59.3	50.2
	1:14:00	1:14:00		55.9	78.8	60.4	50.2
	1:15:00	1:15:00		55.2	71.7	58.8	53.2
	1:16:00	1:16:00		59.7	81.6	64.5	54.4
	1:17:00	1:17:00		56.5	75.1	61.6	52.8
	1:18:00	1:18:00		54.5	71.7	58	51.2
	1:19:00	1:19:00		52.2	68.8	56	49.1
	1:20:00	1:20:00		56	73.9	60.5	52
	1:21:00	1:21:00		57	77.3	64.5	52.7
	1:22:00	1:22:00		55.1	73	59.2	51.3
	1:23:00	1:23:00		57.8	81.8	66.8	51.9
	1:24:00	1:24:00		58.1	80.2	64.4	53.1
	1:25:00	1:25:00		54.8	74.6	58.9	52.5
	1:26:00	1:26:00		57	74.3	60.3	54.6
	1:27:00	1:27:00		57.8	78.3	63.4	54.1
	1:28:00	1:28:00		55.9	72.5	58.5	52.9
	1:29:00	1:29:00		54	72.8	56.4	50.6
	1:30:00	1:30:00		59.6	81.1	67.6	52.8
	1:31:00	1:31:00		56.3	74.3	60.6	52.7
	1:32:00	1:32:00		56.3	73.3	60.1	53.6
	1:33:00	1:33:00		63.3	86.3	69.9	54.9
	1:34:00	1:34:00		57.9	74.5	63.3	52.5
	1:35:00	1:35:00		56.2	82.9	63.5	53.2
	1:36:00	1:36:00		55.8	71.5	59.4	52.7
	1:37:00	1:37:00		57.1	73.2	60.3	53.2
	1:38:00	1:38:00		55.9	73.4	61	52.5
	1:39:00	1:39:00		61.5	86.1	68.5	54
	1:40:00	1:40:00		58.3	78.1	64.5	52.7
	1:41:00	1:41:00		56.6	79.1	63.2	53.7
	1:42:00	1:42:00		56.2	72.5	58.6	53.1
	1:43:00	1:43:00		55.9	72.9	59.9	52.1
	1:44:00	1:44:00		58.3	77.6	62.1	53.7
	1:45:00	1:45:00		55.9	71.9	58.6	53.2
	1:46:00	1:46:00		56.2	74.8	59.2	52.9
	1:47:00	1:47:00		58	82	65	52.4
	1:48:00	1:48:00		66.4	96.9	74.2	56.8
	1:49:00	1:49:00		58.9	87.5	66.1	55.1
	1:50:00	1:50:00		58.2	75.4	61.9	54.9
	1:51:00	1:51:00		57.9	76.6	62.9	54.8
	1:52:00	1:52:00		61.8	85.6	67	55.4
	1:53:00	1:53:00		60.4	83.2	67.1	54.4
	1:54:00	1:54:00		57.8	77.1	61.7	54.7
	1:55:00	1:55:00		60.3	88.9	65.6	56.9
	1:56:00	1:56:00		67.9	100.6	75.8	55.5
	1:57:00	1:57:00		61.6	83.1	69.8	53.4
	1:58:00	1:58:00		59.1	81	66.9	54.8
	1:59:00	1:59:00		56.7	80	62.3	53.8
	2:00:00	2:00:00		55.4	74.4	58.1	53.2
	2:01:00	2:01:00		55.3	70.5	57.2	52.7
	2:02:00	2:02:00		56	72.4	58.5	53.1
	2:03:00	2:03:00		56.5	72.2	59.3	54.3
	2:04:00	2:04:00		55.2	72.6	58.4	53
	2:05:00	2:05:00		57.8	73.4	59.7	55.3
	2:06:00	2:06:00		58.2	79.4	66.3	53.5
	2:07:00	2:07:00		58.8	77.5	63.6	54.4
	2:08:00	2:08:00		60.1	79.3	63.5	56.3
	2:09:00	2:09:00		58.7	81.1	64.5	53.8
	2:10:00	2:10:00		58	73.6	63.2	55.1
	2:11:00	2:11:00		61.6	80.1	66.8	53.4

Ambient Noise Data

Receptor 2 (R2)

Study	Study Time	Session Time	OL Status	Lavg Meter1	Lpk Meter1	Lmax Meter1	Lmin Meter1
	2:12:00	2:12:00		57.8	79.7	64.8	51.9
	2:13:00	2:13:00		58.1	78.4	64.4	52.1
	2:14:00	2:14:00		58	79.1	65.8	53.2
	2:15:00	2:15:00		60.8	87.3	71.3	51.3
	2:16:00	2:16:00		58.5	78.7	67	53.8
	2:17:00	2:17:00		55.3	77.6	58.8	53.5
	2:18:00	2:18:00		55.9	76.1	63	51.4
	2:19:00	2:19:00		57.3	75.6	61.2	53.6
	2:20:00	2:20:00		56.3	77.9	64.8	50.9
	2:21:00	2:21:00		53	69.9	56	49.4
	2:22:00	2:22:00		59.1	79	65.4	49.8
	2:23:00	2:23:00		54.7	73	59.2	51.4
	2:24:00	2:24:00		54.4	71.3	58.7	49.3
	2:25:00	2:25:00		53.8	70.6	58	49.1
	2:26:00	2:26:00		52	68.8	54.3	49.3
	2:27:00	2:27:00		58.1	82.1	65.8	48.9
	2:28:00	2:28:00		55.5	77.4	61.9	51.1
	2:29:00	2:29:00		55.1	73	58.9	52.6
	2:30:00	2:30:00		53.4	70.5	57.9	50.3
	2:31:00	2:31:00		52.9	71.5	56.6	50
	2:32:00	2:32:00		53.9	71.1	58.4	51.1
	2:33:00	2:33:00		57.6	84.2	64.4	51.6
	2:34:00	2:34:00		55.3	75.4	61.6	51.4
	2:35:00	2:35:00		55.8	80.8	63.5	51
	2:36:00	2:36:00		57.1	78.7	65.1	50.4
	2:37:00	2:37:00		54.3	74	58.7	51.5
	2:38:00	2:38:00		54	75.5	60.5	50.4
	2:39:00	2:39:00		57.7	81.9	65.7	53.2
	2:40:00	2:40:00		54.8	71.9	61.9	51.5
	2:41:00	2:41:00		54.4	73.9	59.1	51.4
	2:42:00	2:42:00		59.7	82.1	65.5	51.1
	2:43:00	2:43:00		57.7	81.1	63.5	52.3
	2:44:00	2:44:00		54.3	73.1	60.5	50.8
	2:45:00	2:45:00		52.2	75	57.7	50.3
	2:46:00	2:46:00		58.9	84.6	67.8	51.6
	2:47:00	2:47:00		55.7	76	61.1	51.8
	2:48:00	2:48:00		59.4	78.3	65.5	53.5
	2:49:00	2:49:00		54.2	70.2	56.6	51.1
	2:50:00	2:50:00		59.9	82.1	67.9	53.7
	2:51:00	2:51:00		54.8	70.4	57.8	52.2
	2:52:00	2:52:00		56.5	76.3	63.3	52.1
	2:53:00	2:53:00		55.8	79.9	67.6	50.5
	2:54:00	2:54:00		59.2	85.7	69.9	53.1
	2:55:00	2:55:00		63.1	91.9	74.8	52.8
	2:56:00	2:56:00		57.1	74.1	59.7	54
	2:57:00	2:57:00		56	70.7	57.4	54.6
	2:58:00	2:58:00		57.2	73.8	59.1	54.8
	2:59:00	2:59:00		57.7	76	61.5	55.5
	3:00:00	3:00:00		57.5	73.9	60.3	55.5
	3:01:00	3:01:00		56.6	73	59.4	54.9
	3:02:00	3:02:00		58.3	76.3	60.9	56.6
	3:03:00	3:03:00		58.9	75.7	62.3	57
	3:04:00	3:04:00		59.2	77.9	64.1	56.6
	3:05:00	3:05:00		58.3	73	60.8	56.9
	3:06:00	3:06:00		62.5	82.8	69.5	57.9
	3:07:00	3:07:00		57.7	75.1	61	56.5
	3:08:00	3:08:00		58	78.7	62.7	56.9
	3:09:00	3:09:00		57.5	72.7	59.4	56.4
	3:10:00	3:10:00		58.2	73.5	60.7	55.2
	3:11:00	3:11:00		56.3	78.1	60.4	53.8
	3:12:00	3:12:00		55	81.3	61.7	52.1
	3:13:00	3:13:00		56.7	73.5	60.2	54
	3:14:00	3:14:00		60.3	82.3	67.6	56.1
	3:15:00	3:15:00		56	71.8	58.7	54
	3:16:00	3:16:00		57.1	80.9	65.9	52.8
	3:17:00	3:17:00		54.3	79	62	50.7

Ambient Noise Data

Receptor 2 (R2)

Study	Study Time	Session Time	OL Status	Lavg Meter1	Lpk Meter1	Lmax Meter1	Lmin Meter1
	3:18:00	3:18:00		58	85.8	65.2	51.7
	3:19:00	3:19:00		56.6	76.9	62.6	52.6
	3:20:00	3:20:00		58.5	80.1	68.4	51.6
	3:21:00	3:21:00		62.9	87.7	70.9	52.2
	3:22:00	3:22:00		60.3	81.1	66.8	50.5
	3:23:00	3:23:00		54.5	71.1	58.2	52.3
	3:24:00	3:24:00		57.7	79.3	62.8	51.9
	3:25:00	3:25:00		54.9	78.8	58.5	52.3
	3:26:00	3:26:00		55.9	76.3	61.8	52.4
	3:27:00	3:27:00		56.8	74.8	61.6	53.5
	3:28:00	3:28:00		54.7	80.4	62	51
	3:29:00	3:29:00		54.9	77.5	63	50.4
	3:30:00	3:30:00		54.1	74.7	59.1	50.8
	3:31:00	3:31:00		57.1	75.9	61.8	52
	3:32:00	3:32:00		53	74.3	58.6	49.7
	3:33:00	3:33:00		54.7	76.7	61	50
	3:34:00	3:34:00		55.6	76.5	61.9	49.9
	3:35:00	3:35:00		54.9	83.1	61	49.7
	3:36:00	3:36:00		56	75.5	64.8	51.5
	3:37:00	3:37:00		54.5	71.9	63.5	51.5
	3:38:00	3:38:00		55.2	75.6	60.6	53.1
	3:39:00	3:39:00		57.7	77.9	64.1	53
	3:40:00	3:40:00		57.1	80.3	64.8	51.3
	3:41:00	3:41:00		54.2	72.1	59.2	51.6
	3:42:00	3:42:00		53.7	73	59.5	50.7
	3:43:00	3:43:00		55.2	73.1	60.1	52
	3:44:00	3:44:00		53.9	73.3	55.7	51.7
	3:45:00	3:45:00		56.4	81.8	63.3	51.5
	3:46:00	3:46:00		57.4	84.1	67.2	52.7
	3:47:00	3:47:00		55.5	75.4	66.4	51.7
	3:48:00	3:48:00		53.1	79.3	57.4	51.5
	3:49:00	3:49:00		58.8	81.8	67.9	48.3
	3:50:00	3:50:00		56.2	78.7	65.1	51.3
	3:51:00	3:51:00		56.9	79.2	65.6	50
	3:52:00	3:52:00		54	74	61.5	51.7
	3:53:00	3:53:00		56.5	80.1	66.7	51.8
	3:54:00	3:54:00		53.3	70.9	57.6	51.1
	3:55:00	3:55:00		56.5	80.3	64.8	49.6
	3:56:00	3:56:00		56.5	78.9	62.1	50.5
	3:57:00	3:57:00		56.9	77.6	61.8	50.9
	3:58:00	3:58:00		55.4	74.3	61.1	52.1
	3:59:00	3:59:00		60.8	83.6	72.1	52.3
	4:00:00	4:00:00		55	76.3	61.2	50.6
	4:01:00	4:01:00		53.3	73.7	57.1	50.9
	4:02:00	4:02:00		57.1	78	61.2	52.8
	4:03:00	4:03:00		56.9	79.2	62.6	51.5
	4:04:00	4:04:00		56.1	77.3	64	48.4
	4:05:00	4:05:00		53.9	72	58.9	50.1
	4:06:00	4:06:00		55.6	77.9	63.1	51.5
	4:07:00	4:07:00		59.2	78.8	63.8	53.7
	4:08:00	4:08:00		53.5	70.6	59	51
	4:09:00	4:09:00		54.6	76.7	58.5	51
	4:10:00	4:10:00		56.6	76.5	62.9	50.8
	4:11:00	4:11:00		56.6	75.6	60.5	53.5
	4:12:00	4:12:00		58.3	78.9	64.3	51.4
	4:13:00	4:13:00		53.2	74.1	57.4	50.2
	4:14:00	4:14:00		57.1	82.4	63.3	52.3
	4:15:00	4:15:00		54.3	79	59.2	51.5
	4:16:00	4:16:00		56.2	77.2	61.4	53.2
	4:17:00	4:17:00		58.5	79	66.9	52.3
	4:18:00	4:18:00		53.7	73.7	59.6	49.5
	4:19:00	4:19:00		53.6	71.9	59.5	49.1
	4:20:00	4:20:00		51.9	67.8	54.9	50.6
	4:21:00	4:21:00		56.2	84.6	63.1	50.1
	4:22:00	4:22:00		54.6	75.8	58.8	51.7
	4:23:00	4:23:00		58.6	78.6	63.5	53.3

Ambient Noise Data

Receptor 2 (R2)

Study	Study Time	Session Time	OL Status	Lavg Meter1	Lpk Meter1	Lmax Meter1	Lmin Meter1
	4:24:00	4:24:00		55.4	76.2	58.9	51.9
	4:25:00	4:25:00		52.5	68.5	54.7	51.2
	4:26:00	4:26:00		54.2	77.4	62.5	50.6
	4:27:00	4:27:00		56.1	77.2	64	52.9
	4:28:00	4:28:00		55.7	74.9	61.2	53.5
	4:29:00	4:29:00		54.6	74.9	58.1	52.6
	4:30:00	4:30:00		54.6	74.1	59.3	51.8
	4:31:00	4:31:00		57.6	79.4	64.6	51.5
	4:32:00	4:32:00		54.9	72.9	59.3	51.2
	4:33:00	4:33:00		55.2	71.7	56.9	53.6
	4:34:00	4:34:00		64.8	86.4	74	55.1
	4:35:00	4:35:00		57.2	77.5	66	51.1
	4:36:00	4:36:00		56.7	75.5	63.4	51
	4:37:00	4:37:00		55.5	75.1	62.5	51.5
	4:38:00	4:38:00		55.8	72.9	60.2	50.9
	4:39:00	4:39:00		56.9	75.8	61.4	53.4
	4:40:00	4:40:00		61.1	84.7	70.9	52.8
	4:41:00	4:41:00		55.3	76.5	59.1	52.7
	4:42:00	4:42:00		53.2	68.6	55.5	51.7
	4:43:00	4:43:00		55.4	73.3	59.5	52.6
	4:44:00	4:44:00		59.9	82.7	68.4	53.3
	4:45:00	4:45:00		58.3	87.1	72.2	53.7
	4:46:00	4:46:00		63.6	90.7	77.4	52.2
	4:47:00	4:47:00		55.5	75.8	61.9	53.1
	4:48:00	4:48:00		59.2	81	65.5	54.9
	4:49:00	4:49:00		59.9	80	65	52.8
	4:50:00	4:50:00		54.4	76.2	58.9	52.3
	4:51:00	4:51:00		55.1	74.7	60.3	52.2
	4:52:00	4:52:00		61.6	81.4	69.3	54
	4:53:00	4:53:00		57.9	77.4	69.1	51.4
	4:54:00	4:54:00		57.9	82.5	70.2	49.6
	4:55:00	4:55:00		55.5	75.6	61.2	51.3
	4:56:00	4:56:00		55.1	74.5	60.5	52.5
	4:57:00	4:57:00		53.4	70.9	57.7	51.1
	4:58:00	4:58:00		57.7	75.8	62.6	53.9
	4:59:00	4:59:00		54.8	73.3	60.6	52.8
	5:00:00	5:00:00		53.7	75.8	59.6	50.6
	5:01:00	5:01:00		56.1	75.8	63.3	51.9
	5:02:00	5:02:00		54.9	74.6	59.1	51.1
	5:03:00	5:03:00		56	72.1	58.8	52.3
	5:04:00	5:04:00		56.3	74.8	62.3	52.7
	5:05:00	5:05:00		55	71	57.7	53.8
	5:06:00	5:06:00		58.3	82	64.2	53.1
	5:07:00	5:07:00		56.1	77	60.5	53.7
	5:08:00	5:08:00		53.9	71.1	56.3	52.5
	5:09:00	5:09:00		55.7	73.2	59.8	52.8
	5:10:00	5:10:00		60.7	82	70.8	51.5
	5:11:00	5:11:00		56.1	74.4	60.6	52.9
	5:12:00	5:12:00		55.3	73.9	61.1	51.5
	5:13:00	5:13:00		62.4	81.7	68.5	53.5
	5:14:00	5:14:00		52.5	68.5	55.5	50.5
	5:15:00	5:15:00		53.5	71.4	57.9	50.4
	5:16:00	5:16:00		56	77	62.6	52.5
	5:17:00	5:17:00		54.6	72.6	60.2	51.8
	5:18:00	5:18:00		54.1	72.6	57.7	51.9
	5:19:00	5:19:00		56	74.9	61.7	52.4
	5:20:00	5:20:00		56.1	75.6	64.5	51
	5:21:00	5:21:00		55.5	74.5	60.7	51.6
	5:22:00	5:22:00		53.5	73.6	59.6	50.9
	5:23:00	5:23:00		53.1	77.2	58.5	51
	5:24:00	5:24:00		55.3	79.3	61.1	51.3
	5:25:00	5:25:00		53.3	75.2	62.6	49
	5:26:00	5:26:00		53.7	74.9	58.9	50.7
	5:27:00	5:27:00		56	77	63.5	50.7
	5:28:00	5:28:00		55.9	78.2	61.4	52
	5:29:00	5:29:00		55.4	73	57.8	52.6

Ambient Noise Data

Receptor 2 (R2)

Study	Study Time	Session Time	OL Status	Lavg Meter1	Lpk Meter1	Lmax Meter1	Lmin Meter1
	5:30:00	5:30:00		57.5	76.9	62.6	54.1
	5:31:00	5:31:00		58	73	60.1	55.9
	5:32:00	5:32:00		56.8	77.5	61	53.8
	5:33:00	5:33:00		56.5	76	62.8	52.5
	5:34:00	5:34:00		56.1	74.9	60.1	53.2
	5:35:00	5:35:00		55.4	72.5	58.8	51.6
	5:36:00	5:36:00		54.2	71.5	56.7	51.7
	5:37:00	5:37:00		56.8	73.3	59.8	55
	5:38:00	5:38:00		58.1	78.1	65.1	53.9
	5:39:00	5:39:00		55.1	75.2	60.5	51.1
	5:40:00	5:40:00		54.1	70.1	56.1	52.3
	5:41:00	5:41:00		56.2	75.2	59.6	54.3
	5:42:00	5:42:00		57.1	79.2	64.3	53
	5:43:00	5:43:00		56.2	76.5	62.4	53.7
	5:44:00	5:44:00		55.9	74	60.3	51.3
	5:45:00	5:45:00		56.9	75.6	62.9	52.7
	5:46:00	5:46:00		57.2	77.7	61.4	52.8
	5:47:00	5:47:00		58.7	77.3	64.5	54.1
	5:48:00	5:48:00		57.1	75.4	63.1	53.9
	5:49:00	5:49:00		55.4	73	61.7	51.6
	5:50:00	5:50:00		55.7	75.6	60.8	51.3
	5:51:00	5:51:00		58.1	73.9	61	54.9
	5:52:00	5:52:00		58.4	76.1	63.8	55.2
	5:53:00	5:53:00		57.1	76.6	60.7	55.2
	5:54:00	5:54:00		56.7	74.6	59.4	54.9
	5:55:00	5:55:00		57.6	79.8	62.9	53.9
	5:56:00	5:56:00		56	73.9	59.9	52.8
	5:57:00	5:57:00		58.5	76.2	62.9	55.7
	5:58:00	5:58:00		56	73	59.8	52.3
	5:59:00	5:59:00		56.8	72.3	59.6	53.3
	6:00:00	6:00:00		57.1	75	60.9	53.8
	6:01:00	6:01:00		57.8	74.2	61.1	55.1
	6:02:00	6:02:00		56.5	72.3	59.7	53.3
	6:03:00	6:03:00		57.2	74.9	60.4	53.7
	6:04:00	6:04:00		60.4	82	65.1	57.3
	6:05:00	6:05:00		61.8	81.8	66	54.5
	6:06:00	6:06:00		55	71.1	59.3	53.2
	6:07:00	6:07:00		56.8	75.5	61.4	53.6
	6:08:00	6:08:00		56.1	76.1	60.7	53.1
	6:09:00	6:09:00		56.7	74.4	60.2	54.2
	6:10:00	6:10:00		54.2	70.2	56.9	52.2
	6:11:00	6:11:00		55.4	72.3	59.6	53.2
	6:12:00	6:12:00		57.1	72.6	59.5	52.9
	6:13:00	6:13:00		59.4	74.7	62	57.9
	6:14:00	6:14:00		57.8	78.8	66.8	52.7
	6:15:00	6:15:00		55.7	73.6	60.1	53.9
	6:16:00	6:16:00		55.5	70.1	57.9	53.5
	6:17:00	6:17:00		59.9	85	66.4	53.6
	6:18:00	6:18:00		56.2	75.1	60.9	54.1
	6:19:00	6:19:00		57.5	77.7	64.6	53
	6:20:00	6:20:00		57.1	77	65.3	52.4
	6:21:00	6:21:00		59	77.4	65.1	55.8
	6:22:00	6:22:00		58.3	76.5	62	55.4
	6:23:00	6:23:00		58.8	78.3	64.9	54.6
	6:24:00	6:24:00		56	72.1	57.9	53.9
	6:25:00	6:25:00		53.7	70.7	57.7	50.3
	6:26:00	6:26:00		56.5	75.3	61.2	50.2
	6:27:00	6:27:00		57.8	76.4	60.7	54.8
	6:28:00	6:28:00		53	70.6	58.5	49.1
	6:29:00	6:29:00		56.5	73.6	59.5	54.3
	6:30:00	6:30:00		56.7	73.1	59.1	54.5
	6:31:00	6:31:00		55.3	71.8	59.1	52.8
	6:32:00	6:32:00		56.7	80.8	61.2	54
	6:33:00	6:33:00		57.1	73.8	61.4	54.2
	6:34:00	6:34:00		56.5	74.4	60.6	53.9
	6:35:00	6:35:00		55.8	71.3	58.6	54.1

Ambient Noise Data

Receptor 2 (R2)

Study	Study Time	Session Time	OL Status	Lavg Meter1	Lpk Meter1	Lmax Meter1	Lmin Meter1
	6:36:00	6:36:00		57.7	73.7	60.4	54.6
	6:37:00	6:37:00		55	72.2	56.9	52.6
	6:38:00	6:38:00		55.4	70.5	56.8	53.5
	6:39:00	6:39:00		57.4	77.4	63.2	52.3
	6:40:00	6:40:00		54.3	73	59.6	52
	6:41:00	6:41:00		53.6	68.2	55.3	51.9
	6:42:00	6:42:00		53.3	70.8	56.3	50.2
	6:43:00	6:43:00		53.5	68.5	55.8	50.7
	6:44:00	6:44:00		54.1	70.2	55.4	52.1
	6:45:00	6:45:00		55.9	72.2	59	53.3
	6:46:00	6:46:00		57.3	78.6	61.2	51
	6:47:00	6:47:00		59.5	76.4	63	57.4
	6:48:00	6:48:00		59	81.1	62.1	55.4
	6:49:00	6:49:00		55.9	70.6	57.8	53.7
	6:50:00	6:50:00		56.8	75.9	63.1	53.2
	6:51:00	6:51:00		53.3	67.1	60.7	51.2
	6:52:00	6:52:00		53.9	74.4	60.2	50.7
	6:53:00	6:53:00		53.1	74	59.8	49.3
	6:54:00	6:54:00		53.2	72.1	55.3	50.1
	6:55:00	6:55:00		54.5	71.1	57.1	51.8
	6:56:00	6:56:00		54.9	71.7	57.3	52.6
	6:57:00	6:57:00		54.2	72.1	56.9	52.2
	6:58:00	6:58:00		58.7	81.6	67.1	52
	6:59:00	6:59:00		54.9	77.2	56.3	53.4
	7:00:00	7:00:00		54.8	74.2	58.1	52.7
	7:01:00	7:01:00		57.5	74.6	62.2	53.2
	7:02:00	7:02:00		54.3	72.2	59.3	51.8
	7:03:00	7:03:00		55.5	76.3	62.3	52.1
	7:04:00	7:04:00		58	79.1	65.5	52.7
	7:05:00	7:05:00		55.2	71.6	57.8	52.2
	7:06:00	7:06:00		57.9	82.1	65.8	51.8
	7:07:00	7:07:00		52.7	68.3	54.7	50.9
	7:08:00	7:08:00		53	68.5	54.9	50.7
	7:09:00	7:09:00		54.8	70.3	56.3	53.2
	7:10:00	7:10:00		55.5	76	63	50.1
	7:11:00	7:11:00		55.5	72.7	57.3	54
	7:12:00	7:12:00		57.4	73.3	60.5	53.3
	7:13:00	7:13:00		57.3	73.1	59.1	55.2
	7:14:00	7:14:00		54	69.5	55.5	52.5
	7:15:00	7:15:00		54.5	70.6	56	53.1
	7:16:00	7:16:00		53	69	55	50.8
	7:17:00	7:17:00		55.3	73.1	59.5	52.1
	7:18:00	7:18:00		56	71.9	59.4	52.2
	7:19:00	7:19:00		56	72.7	57.9	54.5
	7:20:00	7:20:00		60.6	82.8	70	53.3
	7:21:00	7:21:00		56.7	76.5	62.8	53.5
	7:22:00	7:22:00		58.5	80.5	64	54.9
	7:23:00	7:23:00		59.2	79.9	65.9	55.4
	7:24:00	7:24:00		55.2	69.6	57	52.9
	7:25:00	7:25:00		56.1	71.9	58.9	52.9
	7:26:00	7:26:00		56.8	75.6	61.9	51.7
	7:27:00	7:27:00		56.1	71.2	58.9	54.2
	7:28:00	7:28:00		53.5	69.8	55.2	52
	7:29:00	7:29:00		55.8	73.5	60.8	52.1
	7:30:00	7:30:00		54.5	73.2	57	53
	7:31:00	7:31:00		54.2	70.3	56.2	52.3
	7:32:00	7:32:00		54.1	68.5	55.6	52.1
	7:33:00	7:33:00		54.5	70.7	57.1	51.9
	7:34:00	7:34:00		58.3	76	63.2	54.1
	7:35:00	7:35:00		57.8	80.7	66.8	52
	7:36:00	7:36:00		54.4	73.7	60.7	51.1
	7:37:00	7:37:00		53.8	71.1	57.2	51.4
	7:38:00	7:38:00		54.9	70.5	56.8	53.1
	7:39:00	7:39:00		55.2	72.4	58.8	53.3
	7:40:00	7:40:00		54.6	71	57.5	52.3
	7:41:00	7:41:00		55.4	72.3	58.7	53

Ambient Noise Data

Receptor 2 (R2)

Study	Study Time	Session Time	OL Status	Lavg Meter1	Lpk Meter1	Lmax Meter1	Lmin Meter1
	7:42:00	7:42:00		54.1	70.1	56.2	51.6
	7:43:00	7:43:00		58.1	79	62.5	52.8
	7:44:00	7:44:00		55.6	75.8	61.8	52.3
	7:45:00	7:45:00		58.7	86	68.3	53
	7:46:00	7:46:00		55.1	70.2	57.3	52.1
	7:47:00	7:47:00		56.7	73.4	59.3	53.1
	7:48:00	7:48:00		56.3	77.2	64.2	53
	7:49:00	7:49:00		54.8	72	57.1	53.6
	7:50:00	7:50:00		54.2	70.3	55.6	52
	7:51:00	7:51:00		53.9	71.1	55.4	52.4
	7:52:00	7:52:00		56.4	75.1	61.5	53.8
	7:53:00	7:53:00		54.4	69.6	56.2	51.1
	7:54:00	7:54:00		53.5	70.1	55	52.5
	7:55:00	7:55:00		54.1	69.9	55.9	52.8
	7:56:00	7:56:00		55.9	77.7	62.8	52.4
	7:57:00	7:57:00		54.7	72.7	60	51.7
	7:58:00	7:58:00		53.9	72.4	57	51.3
	7:59:00	7:59:00		54.4	70.5	57.3	52
	8:00:00	8:00:00		56	73.1	60.9	50.8
	8:01:00	8:01:00		54.7	73.7	60.5	50.6
	8:02:00	8:02:00		54.1	69.2	56.7	52.3
	8:03:00	8:03:00		55.4	70.2	57.1	53.2
	8:04:00	8:04:00		60.7	79.7	67.8	53.2
	8:05:00	8:05:00		55.3	70.2	57.8	53
	8:06:00	8:06:00		55.6	73.6	59.7	53.5
	8:07:00	8:07:00		53.5	70.3	57.3	50.8
	8:08:00	8:08:00		53.7	68.1	55.5	51.9
	8:09:00	8:09:00		52.7	68.9	55.4	50.7
	8:10:00	8:10:00		55.4	77.9	62.5	51.8
	8:11:00	8:11:00		56	76.6	62	51.5
	8:12:00	8:12:00		54.9	71.5	61.4	51.2
	8:13:00	8:13:00		55.9	74.4	59.5	53.3
	8:14:00	8:14:00		57.9	82.1	66.5	52.3
	8:15:00	8:15:00		55.4	75.7	63.3	51.8
	8:16:00	8:16:00		54.2	70.8	56	52.6
	8:17:00	8:17:00		55.1	75.9	61.9	50.9
	8:18:00	8:18:00		53.6	71.8	56.3	52.2
	8:19:00	8:19:00		53.5	73.7	55.6	51.9
	8:20:00	8:20:00		53.9	68.8	55.9	52.4
	8:21:00	8:21:00		54.4	69.5	56.5	53.1
	8:22:00	8:22:00		53.3	68.5	55.1	51.4
	8:23:00	8:23:00		55.3	74	60.9	51.7
	8:24:00	8:24:00		54.3	69.7	56.6	52.8
	8:25:00	8:25:00		54.9	69.7	57.1	53.5
	8:26:00	8:26:00		54	71.2	56.5	50.1
	8:27:00	8:27:00		52.7	68.2	54.1	51.2
	8:28:00	8:28:00		53.4	69.7	57.1	51.1
	8:29:00	8:29:00		55.3	73.2	58.6	52.2
	8:30:00	8:30:00		58.7	81.5	63.9	53.7
	8:31:00	8:31:00		53.2	70	55.5	49.3
	8:32:00	8:32:00		52.9	69.9	55.7	50.9
	8:33:00	8:33:00		53.5	68.2	55.1	51.7
	8:34:00	8:34:00		55.4	70.2	58.1	52.8
	8:35:00	8:35:00		54.7	70.7	57.7	53
	8:36:00	8:36:00		59.3	83.2	69	51.6
	8:37:00	8:37:00		54.6	78.8	60.1	52.2
	8:38:00	8:38:00		53.8	69.5	56.4	51.1
	8:39:00	8:39:00		55.1	72.1	58.8	52.7
	8:40:00	8:40:00		55.6	77.7	62.1	53.1
	8:41:00	8:41:00		54.9	71.6	56.7	53.5
	8:42:00	8:42:00		54	69.4	56.7	51.7
	8:43:00	8:43:00		55.7	75.7	60.1	52.5
	8:44:00	8:44:00		52.3	74.6	55.3	49.8
	8:45:00	8:45:00		53.4	68.7	55.1	52.2
	8:46:00	8:46:00		52.8	68.3	55.1	49
	8:47:00	8:47:00		55	73.4	60.1	52

Ambient Noise Data

Receptor 2 (R2)

Study	Study Time	Session Time	OL Status	Lavg Meter1	Lpk Meter1	Lmax Meter1	Lmin Meter1
	8:48:00	8:48:00		54.3	74.7	55.7	52.8
	8:49:00	8:49:00		54.9	73.4	56.7	52.8
	8:50:00	8:50:00		55	74.4	56.7	52.9
	8:51:00	8:51:00		54.9	75.6	57.8	52.9
	8:52:00	8:52:00		57.7	77.3	64.8	52.2
	8:53:00	8:53:00		53.9	70.3	55.9	51.4
	8:54:00	8:54:00		56.3	81	63.3	51.5
	8:55:00	8:55:00		53.7	69	55.5	51.9
	8:56:00	8:56:00		55.5	76	58.3	51.2
	8:57:00	8:57:00		55.8	75.9	58.4	53.6
	8:58:00	8:58:00		54.4	76	56.8	51.2
	8:59:00	8:59:00		54.2	75.6	56.3	50.9
	9:00:00	9:00:00		52.8	74.5	55.5	50.7
	9:01:00	9:01:00		53.5	76.5	60.5	50.9
	9:02:00	9:02:00		55.8	74.7	61.8	52.8
	9:03:00	9:03:00		55.1	74.9	60.4	53.3
	9:04:00	9:04:00		54.7	75.8	57.7	52.1
	9:05:00	9:05:00		56.5	86.1	67.5	50.2
	9:06:00	9:06:00		55.9	79.4	64.8	51.2
	9:07:00	9:07:00		53.1	73.8	54.6	49.7
	9:08:00	9:08:00		53.6	73.9	56.3	50.3
	9:09:00	9:09:00		56.7	80	64.1	51.9
	9:10:00	9:10:00		53.8	69	55.1	51.7
	9:11:00	9:11:00		54.7	76.3	59	52.1
	9:12:00	9:12:00		53.4	74.1	55.6	49.9
	9:13:00	9:13:00		52.8	73.7	55	49.3
	9:14:00	9:14:00		54.2	75.2	56.8	51.4
	9:15:00	9:15:00		52.9	73.1	54.4	50
	9:16:00	9:16:00		52.7	73.3	54.7	49.5
	9:17:00	9:17:00		51.5	72.9	53.8	49.9
	9:18:00	9:18:00		50.7	73.1	52.9	48.5
	9:19:00	9:19:00		57.1	81.1	67.9	48
	9:20:00	9:20:00		52.9	74.8	62.3	46
	9:21:00	9:21:00		48.9	70.6	51.4	46.9
	9:22:00	9:22:00		48.5	72.5	51.3	46.1
	9:23:00	9:23:00		48.4	72.5	51.5	46.5
	9:24:00	9:24:00		48.9	74.2	51.8	45.4
	9:25:00	9:25:00		51.5	76.7	60.8	43.9
	9:26:00	9:26:00		47.4	73.6	50.9	44.7
	9:27:00	9:27:00		53.9	76.4	63.7	43.7
	9:28:00	9:28:00		45.5	71.9	49.6	42.5
	9:29:00	9:29:00		45.3	70.6	49	43.1
	9:30:00	9:30:00		47.4	72.4	51.3	43.6
	9:31:00	9:31:00		44.9	59	46.2	43.9
	9:32:00	9:32:00		46.2	62.3	48	44.8
	9:33:00	9:33:00		47.4	73	50.8	45
	9:34:00	9:34:00		46.9	72.5	51	44.8
	9:35:00	9:35:00		51.4	73.6	60.4	43.8
	9:36:00	9:36:00		46.2	66.3	53.1	44.1
	9:37:00	9:37:00		53.7	82.3	64.4	45.1
	9:38:00	9:38:00		65.6	91.6	78.2	44.6
	9:39:00	9:39:00		50.2	72.2	54.1	46.7
	9:40:00	9:40:00		47.8	72.4	51.5	44.4
	9:41:00	9:41:00		47	73.2	50.9	43.7
	9:42:00	9:42:00		45.8	73.4	50.8	42.4
	9:43:00	9:43:00		46.2	72.4	51	43.2
	9:44:00	9:44:00		49	73.3	52.3	44.8
	9:45:00	9:45:00		49.9	74.7	53.4	45.8
	9:46:00	9:46:00		48.9	74.4	53.7	46.8
	9:47:00	9:47:00		47.8	66.6	50.9	45.9
	9:48:00	9:48:00		47.6	65.6	52.3	44.3
	9:49:00	9:49:00		56.3	79.8	66	44.5
	9:50:00	9:50:00		48.9	65.2	51.1	47.6
	9:51:00	9:51:00		48.6	70	50.1	47
	9:52:00	9:52:00		50.4	72	52.9	47.9
	9:53:00	9:53:00		52.3	74	56	47.7

Ambient Noise Data

Receptor 2 (R2)

Study	Study Time	Session Time	OL Status	Lavg Meter1	Lpk Meter1	Lmax Meter1	Lmin Meter1
	9:54:00	9:54:00		52.1	73	55.3	49.7
	9:55:00	9:55:00		52.8	72	54.2	50.4
	9:56:00	9:56:00		52.8	71.3	56	49.1
	9:57:00	9:57:00		50.5	73.6	52.2	49
	9:58:00	9:58:00		48.2	63.3	51	45.7
	9:59:00	9:59:00		46.8	62.1	48.4	45.3
	10:00:00	10:00:00		47.4	61.9	48.6	44.9
	10:01:00	10:01:00		47.7	66.4	53.2	46.2
	10:02:00	10:02:00		52.2	82.8	60.3	47.2
	10:03:00	10:03:00		51.7	67.5	53.9	50
	10:04:00	10:04:00		54.4	75.8	62.8	48.9
	10:05:00	10:05:00		55.2	78.6	63.8	50.4
	10:06:00	10:06:00		57.3	80.4	66.9	50.2
	10:07:00	10:07:00		51.7	70	53.3	49.7
	10:08:00	10:08:00		53	68.2	54.9	50.8
	10:09:00	10:09:00		53.1	71	55.5	50.4
	10:10:00	10:10:00		59.5	83.4	68.6	50.6
	10:11:00	10:11:00		52.3	70.9	53.9	50.8
	10:12:00	10:12:00		52.3	70.7	54	49.7
	10:13:00	10:13:00		51.2	72.8	53.2	48.3
	10:14:00	10:14:00		51	71.4	53	48.3
	10:15:00	10:15:00		52.1	67.1	53.9	50.3
	10:16:00	10:16:00		51.6	69.8	54.3	48.9
	10:17:00	10:17:00		53.6	68.9	55.7	51.2
	10:18:00	10:18:00		56.5	72	59.4	53.1
	10:19:00	10:19:00		58.6	79.9	65.2	54.6
	10:20:00	10:20:00		55.3	71.3	57.8	53
	10:21:00	10:21:00		56.3	72.2	58.9	53.5
	10:22:00	10:22:00		56.3	72.3	58.8	53.1
	10:23:00	10:23:00		52.1	67.5	54	50
	10:24:00	10:24:00		54.6	71.6	58.7	49.7
	10:25:00	10:25:00		55	70.5	58.2	49.3
	10:26:00	10:26:00		52.3	68.6	55.1	48.3
	10:27:00	10:27:00		54.7	70.5	57.6	52
	10:28:00	10:28:00		55.8	71	57.7	53.2
	10:29:00	10:29:00		54.7	69.2	56.4	52.8
	10:30:00	10:30:00		54.5	70.8	56.7	52
	10:31:00	10:31:00		54.2	69	56.9	50.3
	10:32:00	10:32:00		52	72.4	55.3	48.4
	10:33:00	10:33:00		55.8	71.6	60.9	52.6
	10:34:00	10:34:00		56.5	72.9	58.2	54.3
	10:35:00	10:35:00		55.8	72.1	57.1	53.6
	10:36:00	10:36:00		55.6	72.4	59.4	53.2
	10:37:00	10:37:00		55.4	70.5	57.5	53.3
	10:38:00	10:38:00		55.4	72.1	58.4	53
	10:39:00	10:39:00		53.6	72.3	54.8	50.1
	10:40:00	10:40:00		52.7	70	55.7	49.8
	10:41:00	10:41:00		50.4	67.2	55.3	47.4
	10:42:00	10:42:00		51.5	67.1	54	48.5
	10:43:00	10:43:00		51.2	69.6	54.2	49.3
	10:44:00	10:44:00		53.6	68.2	55.2	50.1
	10:45:00	10:45:00		52.3	67.1	54.1	50.1
	10:46:00	10:46:00		51.8	66.4	53.6	48.6
	10:47:00	10:47:00		53.2	68.5	55.5	49.4
	10:48:00	10:48:00		51.2	71	54.8	48.1
	10:49:00	10:49:00		55.8	75.5	61.7	51.8
	10:50:00	10:50:00		53.7	68.4	55	51.1
	10:51:00	10:51:00		53.4	67.9	55.3	51.9
	10:52:00	10:52:00		53.4	71	55.2	51.4
	10:53:00	10:53:00		52.3	72.9	54.8	49.9
	10:54:00	10:54:00		54.3	71.9	56.6	52.5
	10:55:00	10:55:00		56.7	73.2	58.4	53.5
	10:56:00	10:56:00		56.2	71.6	58	53.3
	10:57:00	10:57:00		54.8	69.9	56.9	52.4
	10:58:00	10:58:00		53.9	70.3	57.9	51.1
	10:59:00	10:59:00		56	70.9	58.4	52.6

Ambient Noise Data

Receptor 2 (R2)

Study	Study Time	Session Time	OL Status	Lavg Meter1	Lpk Meter1	Lmax Meter1	Lmin Meter1
	11:00:00	11:00:00		54.6	78.1	57.5	52.5
	11:01:00	11:01:00		55.1	74.5	60.6	50.4
	11:02:00	11:02:00		57.7	78.9	63.6	51.7
	11:03:00	11:03:00		53.6	69.2	55.9	49.8
	11:04:00	11:04:00		56.2	70.7	58.1	54.1
	11:05:00	11:05:00		55	70.4	58.4	51.1
	11:06:00	11:06:00		55.2	82	63.6	48.1
	11:07:00	11:07:00		53.8	70.4	57.5	50.5
	11:08:00	11:08:00		54.9	71.3	58	52.4
	11:09:00	11:09:00		55.3	70.2	57.5	53.3
	11:10:00	11:10:00		54.9	70.2	57.3	51.9
	11:11:00	11:11:00		55.1	72.4	57.4	51.4
	11:12:00	11:12:00		56	72.9	57.9	53.9
	11:13:00	11:13:00		55.3	72.4	58.3	52.2
	11:14:00	11:14:00		55	71.8	56.9	53.1
	11:15:00	11:15:00		54	69.9	55.8	52.7
	11:16:00	11:16:00		56.7	77	64.7	51.8
	11:17:00	11:17:00		53.8	69.7	56.6	51.2
	11:18:00	11:18:00		55.5	71.7	58.8	52.7
	11:19:00	11:19:00		53.5	68.8	56	50
	11:20:00	11:20:00		56.7	75.6	62.7	53.4
	11:21:00	11:21:00		56.3	70.9	58.2	53.1
	11:22:00	11:22:00		54.5	69.6	57.3	50.4
	11:23:00	11:23:00		53.1	69.1	55.1	50.5
	11:24:00	11:24:00		52.9	67.9	54.5	50.5
	11:25:00	11:25:00		54.3	69.8	57.1	50.5
	11:26:00	11:26:00		54.5	69.8	57.1	51.4
	11:27:00	11:27:00		55.7	72.2	59.9	53.5
	11:28:00	11:28:00		54.6	69.8	56.9	51.4
	11:29:00	11:29:00		54.5	72.3	59.3	50.2
	11:30:00	11:30:00		51.3	68.2	54	48.1
	11:31:00	11:31:00		51.3	66.3	53.5	49
	11:32:00	11:32:00		53.7	68.9	56.2	51.7
	11:33:00	11:33:00		50	66.1	53.2	46.3
	11:34:00	11:34:00		49	65.3	51.2	46.9
	11:35:00	11:35:00		52.1	77.7	63.6	44.5
	11:36:00	11:36:00		56.5	77.8	64.5	50.5
	11:37:00	11:37:00		51.2	67.4	53.6	48.6
	11:38:00	11:38:00		49.9	67.3	53.1	47.8
	11:39:00	11:39:00		50.5	65.4	52.8	49
	11:40:00	11:40:00		51.6	67.1	54.4	48.5
	11:41:00	11:41:00		52.7	68.7	55.7	49.4
	11:42:00	11:42:00		52	67	53.9	50.2
	11:43:00	11:43:00		51.6	66.8	53.6	48.9
	11:44:00	11:44:00		54.1	71.4	56.9	51.3
	11:45:00	11:45:00		56.5	72.7	59.5	53.3
	11:46:00	11:46:00		52.6	68.8	55.7	49.1
	11:47:00	11:47:00		50.3	66.7	54.2	46.9
	11:48:00	11:48:00		53	68.9	56.2	47.9
	11:49:00	11:49:00		52.9	68.4	55.6	50.2
	11:50:00	11:50:00		51.1	66.6	52.5	49.3
	11:51:00	11:51:00		56.6	79.1	62.3	50.3
	11:52:00	11:52:00		53.3	67.6	54.7	51.5
	11:53:00	11:53:00		53.3	67.8	54.7	51.3
	11:54:00	11:54:00		55.5	75.1	62.6	50.8
	11:55:00	11:55:00		58.3	82.4	62.6	52.1
	11:56:00	11:56:00		55.2	71.3	61	51.9
	11:57:00	11:57:00		55.7	72.5	58.5	53.1
	11:58:00	11:58:00		54.6	70.4	57.5	50.4
	11:59:00	11:59:00		54.9	70.9	58	50.6
	12:00:00	12:00:00		54	71.2	58.1	49.2
	12:01:00	12:01:00		53.4	69.7	55.9	50.2
	12:02:00	12:02:00		52.4	69.8	55.2	49.5
	12:03:00	12:03:00		54.4	70.2	56.6	52
	12:04:00	12:04:00		54.2	74.3	56.5	51.4
	12:05:00	12:05:00		54.1	68.6	55.9	52

Ambient Noise Data

Receptor 2 (R2)

Study	Study Time	Session Time	OL Status	Lavg Meter1	Lpk Meter1	Lmax Meter1	Lmin Meter1
	12:06:00	12:06:00		55.1	69.4	57	52.3
	12:07:00	12:07:00		54.6	70.9	58.7	49.9
	12:08:00	12:08:00		56.8	72	59.1	54.6
	12:09:00	12:09:00		57.1	76	61.5	53.4
	12:10:00	12:10:00		55.7	74.8	59.1	51.5
	12:11:00	12:11:00		57.2	72.3	60	52.5
	12:12:00	12:12:00		52.4	70.2	55.9	48.6
	12:13:00	12:13:00		51.1	69.5	54	46.1
	12:14:00	12:14:00		49.4	67.7	52.6	43.4
	12:15:00	12:15:00		54.8	74.3	59.3	45.8
	12:16:00	12:16:00		54.9	76.3	60.6	51
	12:17:00	12:17:00		52.7	68.8	55.3	47.7
	12:18:00	12:18:00		50.1	71.8	54.3	47.4
	12:19:00	12:19:00		54.2	71.7	57.7	50.7
	12:20:00	12:20:00		56	72.6	60	51
	12:21:00	12:21:00		56.6	72	59.6	53.2
	12:22:00	12:22:00		54.7	70.8	57.5	52.5
	12:23:00	12:23:00		51.6	68.6	57.1	45.8
	12:24:00	12:24:00		51.5	67.8	54.2	46.2
	12:25:00	12:25:00		49.4	69.6	51.9	46.4
	12:26:00	12:26:00		50.4	67	54.1	45.2
	12:27:00	12:27:00		52.1	68.7	55	46.7
	12:28:00	12:28:00		51.1	77.4	54.9	47.8
	12:29:00	12:29:00		52	68.5	55	47.7
	12:30:00	12:30:00		49.3	67.9	53.7	44.9
	12:31:00	12:31:00		50.7	66.8	53.7	47.6
	12:32:00	12:32:00		50	68.2	54.6	44.5
	12:33:00	12:33:00		50.4	67.9	55.8	43.9
	12:34:00	12:34:00		49.9	66.5	52.4	47.8
	12:35:00	12:35:00		52	69.5	54.6	47
	12:36:00	12:36:00		50.4	69.1	54	46.7
	12:37:00	12:37:00		50.1	66.1	53.4	45.7
	12:38:00	12:38:00		49.6	65.8	52.3	45.3
	12:39:00	12:39:00		47.7	66.2	51.7	42.5
	12:40:00	12:40:00		50	66.2	53.3	46.6
	12:41:00	12:41:00		49.1	66.9	51.7	46.8
	12:42:00	12:42:00		52.2	69.5	57.1	46.7
	12:43:00	12:43:00		51.2	68.8	56.3	43.8
	12:44:00	12:44:00		49.9	67	53.2	43.8
	12:45:00	12:45:00		47.5	64.6	52.3	41.7
	12:46:00	12:46:00		42.9	62.2	45.1	40.1
	12:47:00	12:47:00		43.2	61.3	47.2	39.8
	12:48:00	12:48:00		45	65.7	50.4	41.8
	12:49:00	12:49:00		44.2	63	48.7	41.9
	12:50:00	12:50:00		46.1	64.9	52.1	41.5
	12:51:00	12:51:00		48.4	76.3	57.3	41.1
	12:52:00	12:52:00		45.3	67.9	51.6	40.4
	12:53:00	12:53:00		49.5	66.7	53.3	43.9
	12:54:00	12:54:00		51.5	68.6	56.8	44.9
	12:55:00	12:55:00		50.2	70.5	57	43.8
	12:56:00	12:56:00		47.6	65	51	41.4
	12:57:00	12:57:00		50.9	68.9	54.9	47.4
	12:58:00	12:58:00		52	68.9	56.5	46
	12:59:00	12:59:00		52.4	69	56.3	49.7
	13:00:00	13:00:00		51.5	68.9	54.9	46.1
	13:01:00	13:01:00		54.2	70.5	56.7	51.9
	13:02:00	13:02:00		56.6	77.2	61.2	52.4
	13:03:00	13:03:00		53.8	73.1	58.5	49.5
	13:04:00	13:04:00		52.9	71.3	55.8	48.4
	13:05:00	13:05:00		50.7	68.4	55.2	47.2
	13:06:00	13:06:00		50.2	66.9	52.1	47.4
	13:07:00	13:07:00		48.2	65.8	51.6	44.1
	13:08:00	13:08:00		47.6	65.9	49.9	43.5
	13:09:00	13:09:00		46.5	64	50.4	43.2
	13:10:00	13:10:00		49	69	54.5	43.7
	13:11:00	13:11:00		49.7	66.3	53.1	46

Ambient Noise Data

Receptor 2 (R2)

Study	Study Time	Session Time	OL Status	Lavg Meter1	Lpk Meter1	Lmax Meter1	Lmin Meter1
	13:12:00	13:12:00		52	69.6	56.9	45.9
	13:13:00	13:13:00		49.3	68.1	54.5	44
	13:14:00	13:14:00		48	66.3	51.9	44.2
	13:15:00	13:15:00		51.8	69.8	57.3	45.1
	13:16:00	13:16:00		49.5	66	52.6	44.8
	13:17:00	13:17:00		50.9	65.7	52.6	47.8
	13:18:00	13:18:00		52.1	69.1	56.5	47.3
	13:19:00	13:19:00		48.8	67.7	52	43.2
	13:20:00	13:20:00		49.6	68	52	44.9
	13:21:00	13:21:00		49.8	64.8	51.9	46.9
	13:22:00	13:22:00		49.9	67.9	52.5	47
	13:23:00	13:23:00		51.9	68.2	55.2	48.8
	13:24:00	13:24:00		50.6	67.4	53.6	46.6
	13:25:00	13:25:00		49.6	65.5	52.5	47.1
	13:26:00	13:26:00		50	67.4	53.1	46.7
	13:27:00	13:27:00		50.6	66.8	53.1	47.7
	13:28:00	13:28:00		51.6	67.8	54.7	48
	13:29:00	13:29:00		51.1	68.5	53.5	48.1
	13:30:00	13:30:00		50.4	67.4	52.3	47.4
	13:31:00	13:31:00		47.1	66.9	53.1	42.3
	13:32:00	13:32:00		48.5	67.2	52.2	44.3
	13:33:00	13:33:00		51.4	70.3	56	45.3
	13:34:00	13:34:00		46.1	66.3	50.2	42.5
	13:35:00	13:35:00		47.6	65.9	51.7	44.4
	13:36:00	13:36:00		49.4	67.8	52.3	45
	13:37:00	13:37:00		48.8	68.8	53.4	44.8
	13:38:00	13:38:00		46	65	48.3	42.9
	13:39:00	13:39:00		43.1	62.5	48.1	38.9
	13:40:00	13:40:00		46.4	64.4	52.3	40.2
	13:41:00	13:41:00		46.3	64	49.8	40.9
	13:42:00	13:42:00		45.3	62.8	49	41
	13:43:00	13:43:00		43.7	62.2	47.5	39.7
	13:44:00	13:44:00		43.7	61.9	47.1	39.6
	13:45:00	13:45:00		45.3	63.8	51	40
	13:46:00	13:46:00		46.7	63.6	49.5	42.3
	13:47:00	13:47:00		45.6	63.4	49.3	42.6
	13:48:00	13:48:00		46.4	63.9	49.6	43
	13:49:00	13:49:00		48.3	65.6	53.2	42.6
	13:50:00	13:50:00		48.6	66.1	53.6	42
	13:51:00	13:51:00		48.7	66.2	52.1	42.6
	13:52:00	13:52:00		48.2	66.3	53.6	40.9
	13:53:00	13:53:00		50.8	65.7	53.6	47.7
	13:54:00	13:54:00		50.7	68.3	55.5	45.4
	13:55:00	13:55:00		48.9	65.3	52.5	44.8
	13:56:00	13:56:00		46.4	64.6	52.4	41.1
	13:57:00	13:57:00		45.4	64	50.3	40.3
	13:58:00	13:58:00		45.8	69	51.3	39.5
	13:59:00	13:59:00		50.1	69	56.2	41
	14:00:00	14:00:00		52.1	69.3	56.9	47.5
	14:01:00	14:01:00		47.1	66.3	52.6	40.6
	14:02:00	14:02:00		46.7	66.8	51	39.4
	14:03:00	14:03:00		47.2	66.5	52.9	41.7
	14:04:00	14:04:00		45.5	65.4	52.5	36.4
	14:05:00	14:05:00		47.5	64.9	51.6	41.7
	14:06:00	14:06:00		50.2	69.7	55.4	44.6
	14:07:00	14:07:00		43.3	63.8	47.9	39.6
	14:08:00	14:08:00		48.4	64.7	51.5	44.9
	14:09:00	14:09:00		47	65	49.9	41.5
	14:10:00	14:10:00		45.9	65.5	49.7	42.2
	14:11:00	14:11:00		49.6	66.4	54	44.4
	14:12:00	14:12:00		51.9	67.6	55.3	48.6
	14:13:00	14:13:00		48.8	67.1	52.2	44.8
	14:14:00	14:14:00		55.5	82.1	67.1	42.4
	14:15:00	14:15:00		49.3	72.3	61.2	36.9
	14:16:00	14:16:00		56.3	78.6	64.8	41.4
	14:17:00	14:17:00		44.7	62.5	48.7	41

Ambient Noise Data

Receptor 2 (R2)

Study	Study Time	Session Time	OL Status	Lavg Meter1	Lpk Meter1	Lmax Meter1	Lmin Meter1
	14:18:00	14:18:00		46.6	62.5	49.7	43.2
	14:19:00	14:19:00		48.6	67.5	54.2	42.3
	14:20:00	14:20:00		53.3	70.4	57.1	45.5
	14:21:00	14:21:00		51.3	68.5	56.1	43.2
	14:22:00	14:22:00		46.7	64.5	50.1	42
	14:23:00	14:23:00		48.5	65.6	52	43.6
	14:24:00	14:24:00		53.7	71	57.7	48.6
	14:25:00	14:25:00		51.4	67.9	55.3	46.6
	14:26:00	14:26:00		59.5	83.4	67.8	48.8
	14:27:00	14:27:00		55	70.7	58.2	52
	14:28:00	14:28:00		54.9	69.9	57	52
	14:29:00	14:29:00		51.6	68.5	56.9	44
	14:30:00	14:30:00		47.6	64.3	49.4	44
	14:31:00	14:31:00		48.2	66.9	51.7	44.8
	14:32:00	14:32:00		49.3	68.9	55.7	43.8
	14:33:00	14:33:00		50.5	68.4	56.2	43.3
	14:34:00	14:34:00		53.1	70	56.5	47.6
	14:35:00	14:35:00		48.5	64.8	51.9	42.9
	14:36:00	14:36:00		49.1	68.3	52.2	46.1
	14:37:00	14:37:00		49	69.8	55.7	42.2
	14:38:00	14:38:00		52.2	69.9	56.9	46.8
	14:39:00	14:39:00		51.1	70.3	55.4	45.9
	14:40:00	14:40:00		49.5	66.3	52.6	42
	14:41:00	14:41:00		43.8	66.9	50.3	37.7
	14:42:00	14:42:00		44.8	63.6	49.4	37.2
	14:43:00	14:43:00		48.9	66.3	52.6	42
	14:44:00	14:44:00		49	66.9	53	43.5
	14:45:00	14:45:00		48.9	65.1	52.3	44.5
	14:46:00	14:46:00		47.6	68.6	54.6	42.2
	14:47:00	14:47:00		45.4	65.7	50.9	39.7
	14:48:00	14:48:00		48.1	67.3	54	40.4
	14:49:00	14:49:00		41.4	62.7	48.7	34.5
	14:50:00	14:50:00		48.6	69.2	56	34.9
	14:51:00	14:51:00		48.9	65.2	51.1	44.7
	14:52:00	14:52:00		45.8	64.7	51	38.7
	14:53:00	14:53:00		51	66.6	53.8	46.6
	14:54:00	14:54:00		46.2	62.5	50	38.9
	14:55:00	14:55:00		46.4	66.1	52.8	33.7
	14:56:00	14:56:00		47.3	66.1	53.9	37.3
	14:57:00	14:57:00		49.5	68.8	55.6	37.3
	14:58:00	14:58:00		49.3	68.3	53.2	44
	14:59:00	14:59:00		50.2	67.5	54.3	43.6
	15:00:00	15:00:00		46	67.8	52.1	39.9
	15:01:00	15:01:00		48.1	66.9	51.7	43.8
	15:02:00	15:02:00		48.8	65.2	52.6	45.2
	15:03:00	15:03:00		48.2	67.5	54	40.2
	15:04:00	15:04:00		49.1	67.9	55.4	42.6
	15:05:00	15:05:00		44.9	63.6	48.7	40.3
	15:06:00	15:06:00		42.8	68.5	47.8	36.7
	15:07:00	15:07:00		51	73	61.5	40
	15:08:00	15:08:00		55.5	75.7	65.5	48
	15:09:00	15:09:00		48.6	68.4	53.2	44
	15:10:00	15:10:00		48.3	68.5	54.3	39.1
	15:11:00	15:11:00		50.1	66.2	52.9	47.2
	15:12:00	15:12:00		45	65.3	50.9	35.9
	15:13:00	15:13:00		55.4	74.6	60.3	47.1
	15:14:00	15:14:00		46	65.7	51.5	36.3
	15:15:00	15:15:00		41.9	61.7	45.4	36.2
	15:16:00	15:16:00		52.1	71.3	58.9	38.7
	15:17:00	15:17:00		54.6	71.9	58.8	49.9
	15:18:00	15:18:00		49.7	67.5	54.5	42.5
	15:19:00	15:19:00		45.1	68.7	54	37.2
	15:20:00	15:20:00		47.8	68.6	53.9	42.3
	15:21:00	15:21:00		47.9	67.9	53.1	40.6
	15:22:00	15:22:00		45.3	69.3	54.1	37.4
	15:23:00	15:23:00		45.6	65.8	49.6	40.7

Ambient Noise Data

Receptor 2 (R2)

Study	Study Time	Session Time	OL Status	Lavg Meter1	Lpk Meter1	Lmax Meter1	Lmin Meter1
	15:24:00	15:24:00		41	59.3	46.8	34.2
	15:25:00	15:25:00		44.5	65.1	51.5	36.2
	15:26:00	15:26:00		49.4	65.8	52.4	45.5
	15:27:00	15:27:00		46.6	65.2	50.3	40
	15:28:00	15:28:00		51.1	69.3	56.9	45.3
	15:29:00	15:29:00		50.4	68.4	54.9	47.5
	15:30:00	15:30:00		46.7	66.1	52.2	36.5
	15:31:00	15:31:00		47	65.2	52.2	42.7
	15:32:00	15:32:00		47	66	51.2	40.9
	15:33:00	15:33:00		51	70.2	55.8	45
	15:34:00	15:34:00		49.4	68.9	55.9	41.7
	15:35:00	15:35:00		49.1	67.3	54.2	45.2
	15:36:00	15:36:00		48.8	67	54.6	41.6
	15:37:00	15:37:00		47.2	62.9	49.8	44.9
	15:38:00	15:38:00		43.4	64.5	48.8	36.5
	15:39:00	15:39:00		45.3	67.3	53.7	37.5
	15:40:00	15:40:00		47.6	64.3	51.9	42.1
	15:41:00	15:41:00		41.5	58.7	45.4	35.1
	15:42:00	15:42:00		41.2	60.2	45.4	36.2
	15:43:00	15:43:00		45.7	63.3	49.9	38.7
	15:44:00	15:44:00		44.5	62.9	50.3	37.1
	15:45:00	15:45:00		47.7	64.5	51.5	41.9
	15:46:00	15:46:00		44	63.5	48.8	36.7
	15:47:00	15:47:00		44.8	63.5	50.5	38
	15:48:00	15:48:00		40.4	60.8	48.6	34.8
	15:49:00	15:49:00		48.4	68.4	54.5	41.4
	15:50:00	15:50:00		47.7	68.4	55	38.9
	15:51:00	15:51:00		47.3	64.5	51.3	42.1
	15:52:00	15:52:00		47.4	70.2	51.6	42
	15:53:00	15:53:00		47.6	64.1	50.9	41.6
	15:54:00	15:54:00		45	62.3	48.4	40.1
	15:55:00	15:55:00		48	64.7	52.3	44
	15:56:00	15:56:00		48.4	68.6	53.6	43.8
	15:57:00	15:57:00		43.4	67.6	49.1	37.6
	15:58:00	15:58:00		37.1	58.9	43.2	32.7
	15:59:00	15:59:00		46.7	62.8	49.6	41.5
	16:00:00	16:00:00		45.4	65.9	53	40.4
	16:01:00	16:01:00		45	62.1	49	38.4
	16:02:00	16:02:00		44.2	63.6	49.5	38.8
	16:03:00	16:03:00		47	65.1	51.3	41.5
	16:04:00	16:04:00		48.3	72.9	60	38.3
	16:05:00	16:05:00		49.5	76.9	60.7	34.2
	16:06:00	16:06:00		42.2	60.8	47.1	37.6
	16:07:00	16:07:00		38.9	60.2	45	34.6
	16:08:00	16:08:00		40.1	60.4	46.6	34.9
	16:09:00	16:09:00		41.9	63.8	47	36.1
	16:10:00	16:10:00		42.9	62.6	45.6	39.1
	16:11:00	16:11:00		44.5	70.6	53.9	34.9
	16:12:00	16:12:00		48.6	68	52.3	40.3
	16:13:00	16:13:00		41.1	63.1	48.9	36.1
	16:14:00	16:14:00		42.1	62.4	49.2	35.4
	16:15:00	16:15:00		45.7	63.1	49.3	40.1
	16:16:00	16:16:00		49.3	66.2	53.5	43
	16:17:00	16:17:00		50.5	66.7	53	47.5
	16:18:00	16:18:00		49.4	65	52.5	46.4
	16:19:00	16:19:00		45.4	63.8	49.6	39.8
	16:20:00	16:20:00		48.3	67.9	51.8	43.9
	16:21:00	16:21:00		49.5	64.2	51.9	46.9
	16:22:00	16:22:00		48.4	65.4	51.5	44.2
	16:23:00	16:23:00		48.1	64.8	51.4	42.6
	16:24:00	16:24:00		46.9	63.7	50.2	42.5
	16:25:00	16:25:00		56	79.5	65.6	43.8
	16:26:00	16:26:00		48.6	66.3	53.4	42.2
	16:27:00	16:27:00		51.7	67.2	55.4	47.4
	16:28:00	16:28:00		48.5	63.6	51.1	45.3
	16:29:00	16:29:00		47.6	66.5	51.5	41.8

Ambient Noise Data

Receptor 2 (R2)

Study	Study Time	Session Time	OL Status	Lavg Meter1	Lpk Meter1	Lmax Meter1	Lmin Meter1
	16:30:00	16:30:00		59.3	80.7	68.1	47.8
	16:31:00	16:31:00		47.8	70.6	51.9	45.1
	16:32:00	16:32:00		51.5	68.1	54.1	47.5
	16:33:00	16:33:00		51.2	71.1	57.6	44.8
	16:34:00	16:34:00		47.6	64.4	50.6	43.7
	16:35:00	16:35:00		52	72	59.1	43.7
	16:36:00	16:36:00		51.6	71.3	57.1	46.9
	16:37:00	16:37:00		48.5	73.3	57.9	39.8
	16:38:00	16:38:00		46.6	64.2	50.3	42.8
	16:39:00	16:39:00		45.8	60.4	48.3	42.8
	16:40:00	16:40:00		48.9	64.2	52.1	43.9
	16:41:00	16:41:00		48.9	65.7	52	45.4
	16:42:00	16:42:00		55.1	78	63.3	44.4
	16:43:00	16:43:00		46.9	62.2	48.3	45.2
	16:44:00	16:44:00		54.3	75.6	62.9	45.3
	16:45:00	16:45:00		48.4	65.3	51.9	44.6
	16:46:00	16:46:00		56.1	76.7	63.4	46.8
	16:47:00	16:47:00		53.4	71.3	57.7	47.2
	16:48:00	16:48:00		46.9	64.6	51.9	43.2
	16:49:00	16:49:00		57.2	77.9	63.9	48.4
	16:50:00	16:50:00		50.3	68.9	61	45.4
	16:51:00	16:51:00		53.9	73.1	58.6	45.8
	16:52:00	16:52:00		50	68	54.4	47.2
	16:53:00	16:53:00		48.8	64.4	52.3	44.7
	16:54:00	16:54:00		48.6	64.9	51.9	44.5
	16:55:00	16:55:00		48.9	65.8	53.3	43.4
	16:56:00	16:56:00		46.3	67	51.8	39.9
	16:57:00	16:57:00		51.7	69.8	55.9	44.7
	16:58:00	16:58:00		53.4	69.9	57.5	47.7
	16:59:00	16:59:00		53.3	69.4	57	47.9
	17:00:00	17:00:00		48.2	66.5	51.4	44.9
	17:01:00	17:01:00		55.7	83.4	63.7	47.8
	17:02:00	17:02:00		61.9	85.1	72.4	45.9
	17:03:00	17:03:00		54	76.6	68.1	42.4
	17:04:00	17:04:00		50.6	67	54	45.3
	17:05:00	17:05:00		52	67.6	55.2	48.3
	17:06:00	17:06:00		54.6	78	62.7	47.7
	17:07:00	17:07:00		51.7	70.7	57.3	47.1
	17:08:00	17:08:00		52.2	69.5	55.8	48.9
	17:09:00	17:09:00		52.9	71.5	57.2	48.7
	17:10:00	17:10:00		52.1	68	55.7	48.7
	17:11:00	17:11:00		57.2	77.3	64	53.1
	17:12:00	17:12:00		55.8	70.9	57.7	53.5
	17:13:00	17:13:00		53.6	70.4	56	51
	17:14:00	17:14:00		51.9	69.2	55.6	49.7
	17:15:00	17:15:00		61	83.6	70.4	51.4
	17:16:00	17:16:00		53.2	69.4	56.7	49.4
	17:17:00	17:17:00		55.4	76	62.9	50.7
	17:18:00	17:18:00		60.2	82.5	69.9	46
	17:19:00	17:19:00		51.9	67.6	55.2	47.1
	17:20:00	17:20:00		55.5	74.5	61	50.4
	17:21:00	17:21:00		52.3	69.1	55.7	50.1
	17:22:00	17:22:00		54.9	75.2	58.3	51
	17:23:00	17:23:00		54.6	69	56.2	52.7
	17:24:00	17:24:00		52.3	72	55	50
	17:25:00	17:25:00		53.7	70.9	57.3	51.5
	17:26:00	17:26:00		59.9	83.7	70.3	51.5
	17:27:00	17:27:00		57.8	78.2	67.8	51.9
	17:28:00	17:28:00		52.3	69.4	55.3	49.5
	17:29:00	17:29:00		54.3	69.9	57	50.9
	17:30:00	17:30:00		54.2	69.1	56.4	51
	17:31:00	17:31:00		53	68.9	55	50.9
	17:32:00	17:32:00		60.1	82.3	68.7	52.1
	17:33:00	17:33:00		57.5	85.9	64.5	53.2
	17:34:00	17:34:00		57	72.7	59.7	53.9
	17:35:00	17:35:00		53.8	69.3	56.2	51.6

Ambient Noise Data

Receptor 2 (R2)

Study	Study Time	Session Time	OL Status	Lavg Meter1	Lpk Meter1	Lmax Meter1	Lmin Meter1
	17:36:00	17:36:00		53.6	69.8	56.4	50.7
	17:37:00	17:37:00		54.4	71.8	56.8	51.2
	17:38:00	17:38:00		58.7	82.6	68.4	46.5
	17:39:00	17:39:00		60.5	86.1	70.3	48.3
	17:40:00	17:40:00		55.1	73.6	61	48.7
	17:41:00	17:41:00		55.3	72.6	57.9	51.4
	17:42:00	17:42:00		52	68.6	55.8	47.2
	17:43:00	17:43:00		52.1	69	56.4	45.9
	17:44:00	17:44:00		52.5	68.7	54.9	50.1
	17:45:00	17:45:00		52.6	67.5	55.1	49.2
	17:46:00	17:46:00		53.6	69.9	57	50.7
	17:47:00	17:47:00		52.6	68.6	55.7	50.6
	17:48:00	17:48:00		58.2	81.1	67.7	50.7
	17:49:00	17:49:00		57.5	78	66.6	53.3
	17:50:00	17:50:00		57	87.6	66.3	47.6
	17:51:00	17:51:00		50.7	71.7	54.5	47.4
	17:52:00	17:52:00		52.5	67.4	54.4	49.3
	17:53:00	17:53:00		55.9	77	60.8	53.5
	17:54:00	17:54:00		54.3	72.5	60	51.3
	17:55:00	17:55:00		57.5	77.8	64.7	52.9
	17:56:00	17:56:00		56.2	73.3	58.5	54.3
	17:57:00	17:57:00		54.5	73.5	57.9	52.9
	17:58:00	17:58:00		56	74	61.3	52.2
	17:59:00	17:59:00		56.3	74.3	61.1	52.1
	18:00:00	18:00:00		58.1	80.8	60.7	56.7
	18:01:00	18:01:00		58.2	82	61.2	56.2
	18:02:00	18:02:00		59.6	79.1	66	52.9
	18:03:00	18:03:00		55	71.5	57.6	52.9
	18:04:00	18:04:00		56.4	73.2	60.6	54.1
	18:05:00	18:05:00		58.2	75.3	62.1	54.5
	18:06:00	18:06:00		57.3	76.7	62.4	52.9
	18:07:00	18:07:00		58.8	78.1	62.9	55.7
	18:08:00	18:08:00		60.5	80.8	66.1	54.7
	18:09:00	18:09:00		56.7	71.2	59.3	55
	18:10:00	18:10:00		57.6	75.4	62.6	54.5
	18:11:00	18:11:00		57.9	78.4	63.5	54.1
	18:12:00	18:12:00		57.9	73.4	60.5	54.6
	18:13:00	18:13:00		58.3	75	60.7	54.6
	18:14:00	18:14:00		58.3	74.4	60.6	55.8
	18:15:00	18:15:00		58.1	73	60.1	56.7
	18:16:00	18:16:00		60.6	82.8	69	55.3
	18:17:00	18:17:00		60.6	80.7	64.7	55.9
	18:18:00	18:18:00		58.9	79.6	66.3	55.1
	18:19:00	18:19:00		63.8	82.5	70.3	56.7
	18:20:00	18:20:00		59.7	79.5	63.5	56.8
	18:21:00	18:21:00		59.7	80.2	67.4	54.1
	18:22:00	18:22:00		58.8	80	63.7	55.3
	18:23:00	18:23:00		60.2	77.1	64.1	57.3
	18:24:00	18:24:00		60.7	78.3	65.2	57.9
	18:25:00	18:25:00		59.1	74.1	61.2	56.6
	18:26:00	18:26:00		61.2	78.6	66.1	55.6
	18:27:00	18:27:00		61.4	85.6	69.1	57.9
	18:28:00	18:28:00		58.2	73.4	60.5	56.6
	18:29:00	18:29:00		58.1	72.1	60.4	56.7
	18:30:00	18:30:00		58.9	75.2	61.4	56.7
	18:31:00	18:31:00		58.6	74.4	61.4	56.2
	18:32:00	18:32:00		61.1	76.5	64	59.8
	18:33:00	18:33:00		60	79.8	64.4	57.8
	18:34:00	18:34:00		60.6	76.3	63.7	57.2
	18:35:00	18:35:00		59.6	79.5	64.6	57.6
	18:36:00	18:36:00		62	79.1	66.3	58
	18:37:00	18:37:00		58	72.4	59.4	55.9
	18:38:00	18:38:00		56.6	71.1	58.4	54.7
	18:39:00	18:39:00		59.2	78.7	65	55.4
	18:40:00	18:40:00		59.4	77.4	62.3	56.5
	18:41:00	18:41:00		60.3	77.5	64.7	56.3

Ambient Noise Data

Receptor 2 (R2)

Study	Study Time	Session Time	OL Status	Lavg Meter1	Lpk Meter1	Lmax Meter1	Lmin Meter1
	18:42:00	18:42:00		60.5	81.4	66.6	56.8
	18:43:00	18:43:00		60.9	76.4	63.3	58.7
	18:44:00	18:44:00		59.7	76.7	63.4	56.1
	18:45:00	18:45:00		62.1	80	67.1	58.9
	18:46:00	18:46:00		59.6	74.8	61.4	57.8
	18:47:00	18:47:00		61.9	79.5	67	58.8
	18:48:00	18:48:00		62	76.4	63.6	59.6
	18:49:00	18:49:00		61.9	78.6	65.2	58.1
	18:50:00	18:50:00		64.3	83	70.3	61
	18:51:00	18:51:00		63.5	80.3	68.2	59.8
	18:52:00	18:52:00		59.8	73.7	61.7	57.8
	18:53:00	18:53:00		63.8	85.6	70	59.8
	18:54:00	18:54:00		61	84.5	67.3	56.7
	18:55:00	18:55:00		63.7	81.9	68.4	60.3
	18:56:00	18:56:00		62.4	80.8	66.7	59.6
	18:57:00	18:57:00		64.8	85	70.4	60.2
	18:58:00	18:58:00		62.5	81	68.5	60.2
	18:59:00	18:59:00		64.5	84.4	69.5	60.2
	19:00:00	19:00:00		63.3	82.5	67.2	61.4
	19:01:00	19:01:00		62.8	81.9	66.5	60.4
	19:02:00	19:02:00		64.4	83.2	68.4	62.1
	19:03:00	19:03:00		64.2	86.5	68.6	62.7
	19:04:00	19:04:00		64.4	79.4	66.1	62.6
	19:05:00	19:05:00		64.8	85.8	71.9	61.5
	19:06:00	19:06:00		64.1	85.3	70.9	59.7
	19:07:00	19:07:00		62.2	78.7	65.7	59.8
	19:08:00	19:08:00		62.4	77.8	64.6	59.8
	19:09:00	19:09:00		65.2	86.6	69.8	62.3
	19:10:00	19:10:00		62.4	77.3	66.5	60.8
	19:11:00	19:11:00		63.7	82.8	69.4	61.2
	19:12:00	19:12:00		62.7	77.3	64.2	61.1
	19:13:00	19:13:00		63.8	97.1	71.3	58.7
	19:14:00	19:14:00		62.4	79.4	66.5	59.2
	19:15:00	19:15:00		63.9	80.7	67.5	59.3
	19:16:00	19:16:00		63.4	78.3	65.4	61.5
	19:17:00	19:17:00		63.9	79.6	65.6	61.5
	19:18:00	19:18:00		63.2	86.8	69.8	60.3
	19:19:00	19:19:00		64.2	79.6	66.6	61.5
	19:20:00	19:20:00		62.5	80.6	65.8	59.7
	19:21:00	19:21:00		62.4	78.7	66.1	59.9
	19:22:00	19:22:00		62.6	77.7	64.4	60.6
	19:23:00	19:23:00		62.6	78	64.4	60.6
	19:24:00	19:24:00		62.9	78.7	65.6	59.2
	19:25:00	19:25:00		64.2	84.9	69.7	60.4
	19:26:00	19:26:00		62.3	76.9	63.9	60.5
	19:27:00	19:27:00		61.9	81.5	68.2	59.6
	19:28:00	19:28:00		67	86.6	70.7	64.4
	19:29:00	19:29:00		63.9	79.8	66.3	62.4
	19:30:00	19:30:00		62.7	78.5	66	60.3
	19:31:00	19:31:00		63.9	83.9	67.9	61.8
	19:32:00	19:32:00		64.8	86.1	69.4	61.7
	19:33:00	19:33:00		65	88.8	70.1	62.1
	19:34:00	19:34:00		61.9	78	64.4	60.1
	19:35:00	19:35:00		61.4	75.4	62.6	60
	19:36:00	19:36:00		62.7	80.9	67.3	61.2
	19:37:00	19:37:00		59.7	79.3	66.9	57
	19:38:00	19:38:00		62.8	86.1	73.7	57.1
	19:39:00	19:39:00		64.6	85.4	72.2	59.7
	19:40:00	19:40:00		66.5	93.6	78.1	60.1
	19:41:00	19:41:00		61.7	80	65.8	59.8
	19:42:00	19:42:00		61.4	76.3	63.4	59.6
	19:43:00	19:43:00		62.7	91.2	73.4	57.8
	19:44:00	19:44:00		62.5	79.3	67.1	59
	19:45:00	19:45:00		63.3	81.9	67	60.2
	19:46:00	19:46:00		61	82.9	64.9	57.6
	19:47:00	19:47:00		63.8	91.1	72.6	57.8

Ambient Noise Data

Receptor 2 (R2)

Study	Study Time	Session Time	OL Status	Lavg Meter1	Lpk Meter1	Lmax Meter1	Lmin Meter1
	19:48:00	19:48:00		60.6	76.3	63.3	59.2
	19:49:00	19:49:00		62.4	82.4	68	59.2
	19:50:00	19:50:00		61.5	76.4	63.3	60.3
	19:51:00	19:51:00		65.7	84.6	72.2	60.8
	19:52:00	19:52:00		64.4	84.2	69.8	60.8
	19:53:00	19:53:00		64.2	84.1	69.1	60.6
	19:54:00	19:54:00		64.4	82.6	69.5	61.6
	19:55:00	19:55:00		63.5	84.6	69.3	59.7
	19:56:00	19:56:00		59	75.5	61.3	57.6
	19:57:00	19:57:00		62.7	84.6	71.6	57.8
	19:58:00	19:58:00		61.7	85	68.6	57.6
	19:59:00	19:59:00		62.6	80.8	67.1	58
	20:00:00	20:00:00		59.6	79.7	65.4	57.3
	20:01:00	20:01:00		58.5	74.7	63.1	56.6
	20:02:00	20:02:00		58.9	75.9	60.6	57.1
	20:03:00	20:03:00		59.8	76.9	63.5	57.1
	20:04:00	20:04:00		66.8	102.2	77.6	57.6
	20:05:00	20:05:00		62.3	80.8	68	56.5
	20:06:00	20:06:00		56.8	71.3	57.7	55.4
	20:07:00	20:07:00		62.3	82.9	68.1	56.7
	20:08:00	20:08:00		60.5	80	66.3	57.8
	20:09:00	20:09:00		62.9	92.7	74.5	57.7
	20:10:00	20:10:00		59.8	75.4	61.4	57.7
	20:11:00	20:11:00		63.2	85.8	68.7	59.4
	20:12:00	20:12:00		62.8	81.5	68.1	59.3
	20:13:00	20:13:00		61.5	80.1	66.8	57.7
	20:14:00	20:14:00		60.6	87.8	68.2	57.2
	20:15:00	20:15:00		58	73.3	59.2	57
	20:16:00	20:16:00		58.8	74.6	61.6	57.1
	20:17:00	20:17:00		59.3	79.2	63.4	57.2
	20:18:00	20:18:00		63.1	83.3	69.4	56.6
	20:19:00	20:19:00		61.1	80.7	65	56.8
	20:20:00	20:20:00		63.7	88.1	70.4	56.1
	20:21:00	20:21:00		61.6	81.5	67.9	55.2
	20:22:00	20:22:00		59.1	79.7	65.3	54.4
	20:23:00	20:23:00		57.3	79.9	65.3	54
	20:24:00	20:24:00		58.9	83.9	66.5	54.5
	20:25:00	20:25:00		60.5	80.9	68.7	54.7
	20:26:00	20:26:00		61.2	87.1	69.1	55.4
	20:27:00	20:27:00		56.4	75.1	60.6	54.2
	20:28:00	20:28:00		54.9	78.5	59.2	54.1
	20:29:00	20:29:00		58.1	79.5	64.6	54.5
	20:30:00	20:30:00		58.1	77.4	64	54.7
	20:31:00	20:31:00		56.5	76.7	63.4	53.6
	20:32:00	20:32:00		55.9	76.4	62.8	54
	20:33:00	20:33:00		58.8	80.4	65.7	53.2
	20:34:00	20:34:00		55.7	74	57.6	54.1
	20:35:00	20:35:00		59	83.6	65.8	56.1
	20:36:00	20:36:00		61.6	78.8	66.1	58.5
	20:37:00	20:37:00		62.6	81.4	68.5	55.9
	20:38:00	20:38:00		60.4	84.2	69.3	54.2
	20:39:00	20:39:00		59.5	77.7	64.2	55.2
	20:40:00	20:40:00		59.9	78.7	65.5	54.1
	20:41:00	20:41:00		55.8	83.8	63.7	52.8
	20:42:00	20:42:00		56.6	78.1	64.9	53.6
	20:43:00	20:43:00		60.2	79.5	65.7	53.7
	20:44:00	20:44:00		54.6	69.4	56.2	52.7
	20:45:00	20:45:00		56.3	75.2	62.2	53.1
	20:46:00	20:46:00		61.9	82	70	53.6
	20:47:00	20:47:00		55.5	73.9	58.1	53.5
	20:48:00	20:48:00		61.8	87.7	69.7	53.3
	20:49:00	20:49:00		62	81.6	69.2	56.6
	20:50:00	20:50:00		59.3	77.2	64.1	54.8
	20:51:00	20:51:00		60.5	84.3	68.6	53.9
	20:52:00	20:52:00		56	75.8	62	52.7
	20:53:00	20:53:00		61.2	86.9	67.9	52.8

Ambient Noise Data

Receptor 2 (R2)

Study	Study Time	Session Time	OL Status	Lavg Meter1	Lpk Meter1	Lmax Meter1	Lmin Meter1
	20:54:00	20:54:00		56.8	77.6	65.9	51.6
	20:55:00	20:55:00		56.5	75.2	63	51.1
	20:56:00	20:56:00		55.9	79.8	64.9	51.8
	20:57:00	20:57:00		51.9	66.9	53.7	50.1
	20:58:00	20:58:00		59	81.6	68.1	50.8
	20:59:00	20:59:00		61.2	83.1	69.8	52
	21:00:00	21:00:00		61.5	81.8	68.6	52.9
	21:01:00	21:01:00		57.7	78.5	65.4	51
	21:02:00	21:02:00		59.1	86.1	69.6	51.1
	21:03:00	21:03:00		51.9	67.9	55.1	49.8
	21:04:00	21:04:00		52.9	73.4	60	50.1
	21:05:00	21:05:00		55.4	81.6	65	50
	21:06:00	21:06:00		53.7	76.3	60	49.2
	21:07:00	21:07:00		58	81	66.6	49.1
	21:08:00	21:08:00		50.6	67	53.1	48.7
	21:09:00	21:09:00		56.5	79.7	64.5	49.5
	21:10:00	21:10:00		56.9	80.7	63.8	50.5
	21:11:00	21:11:00		54	73.2	60.7	50.4
	21:12:00	21:12:00		60.3	80.1	68.1	50.1
	21:13:00	21:13:00		53	68.1	55.5	51.3
	21:14:00	21:14:00		57.8	78.7	65.8	51.8
	21:15:00	21:15:00		59.8	81.6	65.2	52.4
	21:16:00	21:16:00		57.5	78.1	63.6	49.7
	21:17:00	21:17:00		53.1	73.4	58.2	50.4
	21:18:00	21:18:00		64.8	87.8	74.7	49.8
	21:19:00	21:19:00		61.3	82.7	73.8	50.3
	21:20:00	21:20:00		60.2	85.3	66.7	50
	21:21:00	21:21:00		58.8	85.5	70.9	52.1
	21:22:00	21:22:00		51.3	70.7	53	49.4
	21:23:00	21:23:00		54.9	74.9	60.3	49.8
	21:24:00	21:24:00		59.9	81.4	68.4	49.7
	21:25:00	21:25:00		50.4	67.3	52.9	49.1
	21:26:00	21:26:00		59.1	80.9	65.9	50.3
	21:27:00	21:27:00		53	73.6	60.7	48.3
	21:28:00	21:28:00		50.4	66.7	51.8	49
	21:29:00	21:29:00		56.6	78.9	64.2	48.4
	21:30:00	21:30:00		56.2	78.7	64	49.2
	21:31:00	21:31:00		55.8	77.3	62.7	48.3
	21:32:00	21:32:00		57.3	79.4	66.4	47.6
	21:33:00	21:33:00		60.3	82	68.8	46.7
	21:34:00	21:34:00		61.5	86.1	69.6	51.8
	21:35:00	21:35:00		60	82.4	68.8	50.3
	21:36:00	21:36:00		61.2	84.1	71.1	45.4
	21:37:00	21:37:00		52.2	75.7	61.3	45.5
	21:38:00	21:38:00		58.5	78.9	66	47.5
	21:39:00	21:39:00		54.2	78	63.6	46.3
	21:40:00	21:40:00		55.4	79.9	64.4	46
	21:41:00	21:41:00		54.1	74.6	60	46.5
	21:42:00	21:42:00		56.5	76.5	63.8	46.8
	21:43:00	21:43:00		57.1	78.1	65.5	48.1
	21:44:00	21:44:00		54.9	75.6	62.8	46.4
	21:45:00	21:45:00		62.2	82.9	70.7	46.7
	21:46:00	21:46:00		54.8	75	62	46.9
	21:47:00	21:47:00		46.2	60.2	47.8	44.7
	21:48:00	21:48:00		50.3	74.5	58	45.8
	21:49:00	21:49:00		56.2	75.8	62.9	46.8
	21:50:00	21:50:00		54	76.2	63.2	45.8
	21:51:00	21:51:00		60	83.3	67.5	46.9
	21:52:00	21:52:00		58.7	79.8	67.2	45.7
	21:53:00	21:53:00		46.2	85.6	53.5	44.3
	21:54:00	21:54:00		58.8	84.2	68.3	45.1
	21:55:00	21:55:00		60.6	80	67	48.5
	21:56:00	21:56:00		53.4	76.6	61.3	47.5
	21:57:00	21:57:00		57.1	83	65.7	47.7
	21:58:00	21:58:00		53.2	75.3	59.7	47.4
	21:59:00	21:59:00		55.5	73.7	59.6	47.1

Ambient Noise Data

Receptor 2 (R2)

Study	Study Time	Session Time	OL Status	Lavg Meter1	Lpk Meter1	Lmax Meter1	Lmin Meter1
	22:00:00	22:00:00		51.4	72.7	58.5	46.5
	22:01:00	22:01:00		47.4	63.5	49.9	46.3
	22:02:00	22:02:00		50.1	68.7	55.5	46.6
	22:03:00	22:03:00		58.1	78.8	65.9	46.4
	22:04:00	22:04:00		59.8	83.1	68.6	49.6
	22:05:00	22:05:00		55.1	76.3	62	48.7
	22:06:00	22:06:00		57.1	78.9	65.3	48.5
	22:07:00	22:07:00		55.7	72.6	60	50.3
	22:08:00	22:08:00		52.5	73.4	58.5	46.8
	22:09:00	22:09:00		58.7	81	68.4	45.5
	22:10:00	22:10:00		49.4	68.8	54.7	47.8
	22:11:00	22:11:00		55.9	84.1	66	47.9
	22:12:00	22:12:00		57.9	79.7	65.7	50.4
	22:13:00	22:13:00		56.2	80.3	63.5	51.6
	22:14:00	22:14:00		56.4	73.3	61.4	51.5
	22:15:00	22:15:00		53	73.9	58.9	49.3
	22:16:00	22:16:00		63.3	83.4	68.8	51.6
	22:17:00	22:17:00		58.5	81.4	67.7	49
	22:18:00	22:18:00		55.3	77.6	62	45.7
	22:19:00	22:19:00		47.6	67.8	51.2	46.2
	22:20:00	22:20:00		55.5	79.4	65.7	45.6
	22:21:00	22:21:00		59.2	79.6	67.1	47
	22:22:00	22:22:00		59.4	85.4	70	46.5
	22:23:00	22:23:00		57.8	80.1	65.6	47.9
	22:24:00	22:24:00		54.3	80.1	64.8	47.8
	22:25:00	22:25:00		54.3	73.1	60.4	47.7
	22:26:00	22:26:00		56.7	83	65.5	47
	22:27:00	22:27:00		52	76.1	62.1	48.5
	22:28:00	22:28:00		53.9	77	63	47.7
	22:29:00	22:29:00		52.5	74	60.6	46.3
	22:30:00	22:30:00		56	74.2	61.2	49.1
	22:31:00	22:31:00		55.1	78.3	62.1	48.7
	22:32:00	22:32:00		57.3	76.7	65	48.1
	22:33:00	22:33:00		58.6	78.7	66.8	48.1
	22:34:00	22:34:00		59.8	80	69.1	49.6
	22:35:00	22:35:00		50.4	69.9	56.2	47.7
	22:36:00	22:36:00		58.5	77.6	63.9	49.3
	22:37:00	22:37:00		61.7	83.2	68.8	48.4
	22:38:00	22:38:00		50.3	72.1	56.4	47
	22:39:00	22:39:00		52.6	72.8	58.9	44.5
	22:40:00	22:40:00		49.5	67.1	54	45.5
	22:41:00	22:41:00		57.4	78	64.4	44.5
	22:42:00	22:42:00		53.1	73.7	59.7	43.5
	22:43:00	22:43:00		56.2	84.3	66.4	50.6
	22:44:00	22:44:00		56.6	79.4	65	48.1
	22:45:00	22:45:00		55.5	76.8	61.2	49.5
	22:46:00	22:46:00		48.6	66.9	54.7	44.5
	22:47:00	22:47:00		60.9	89.2	70.9	45.8
	22:48:00	22:48:00		60	82.7	69.2	45.8
	22:49:00	22:49:00		53.1	77.5	62	45.8
	22:50:00	22:50:00		59.9	83.9	67.1	46.3
	22:51:00	22:51:00		53.5	70.8	57.5	48.8
	22:52:00	22:52:00		52	84.3	63.5	48.2
	22:53:00	22:53:00		59.1	81.8	67	48.9
	22:54:00	22:54:00		58.3	80.5	66.2	48.5
	22:55:00	22:55:00		52.9	85	65.3	47.9
	22:56:00	22:56:00		59.3	81.4	68	47.9
	22:57:00	22:57:00		54.3	80.6	62.9	48.5
	22:58:00	22:58:00		52.1	80	61.6	48.6
	22:59:00	22:59:00		61.1	80.4	67.3	50
	23:00:00	23:00:00		55.6	80.6	66.6	49.6
	23:01:00	23:01:00		57.9	81.4	67.5	50.4
	23:02:00	23:02:00		55.4	81.2	63.6	48.8
	23:03:00	23:03:00		57.9	85.7	67	48.8
	23:04:00	23:04:00		56.1	75.9	62.6	50.3
	23:05:00	23:05:00		55.6	75.5	62.2	49.8

Ambient Noise Data

Receptor 2 (R2)

Study	Study Time	Session Time	OL Status	Lavg Meter1	Lpk Meter1	Lmax Meter1	Lmin Meter1
	23:06:00	23:06:00		60.7	81.6	68.3	53.5
	23:07:00	23:07:00		57.9	82.7	66.4	48.8
	23:08:00	23:08:00		58.1	83.5	66.7	49.8
	23:09:00	23:09:00		60.5	82.5	65.8	56.4
	23:10:00	23:10:00		61.8	81.2	66.2	49.6
	23:11:00	23:11:00		57.8	78.2	65.4	48.3
	23:12:00	23:12:00		55.4	77.3	64.5	44.7
	23:13:00	23:13:00		52	75	61	44.9
	23:14:00	23:14:00		56.2	83.3	66.4	45
	23:15:00	23:15:00		56.2	78.3	65.4	47.6
	23:16:00	23:16:00		50.7	71	58.3	46
	23:17:00	23:17:00		47.7	63.1	48.8	46.5
	23:18:00	23:18:00		50.4	72.9	59	45
	23:19:00	23:19:00		54.9	80.9	64.2	45.4
	23:20:00	23:20:00		59.6	80.5	67.8	47.6
	23:21:00	23:21:00		57.9	79.2	64.5	48.1
	23:22:00	23:22:00		59.4	82.2	66.4	51.7
	23:23:00	23:23:00		60.4	81.2	65.3	51.3
	23:24:00	23:24:00		58.4	79.3	63.5	49.9
	23:25:00	23:25:00		58.8	81.6	66.5	50.2
	23:26:00	23:26:00		51.5	72.7	58.7	46.5
	23:27:00	23:27:00		59.9	79.4	65.7	46.6
	23:28:00	23:28:00		59	80.8	67.4	45.7
	23:29:00	23:29:00		56.2	76.7	61.9	49.8
	23:30:00	23:30:00		51.4	72.9	59.6	46.5
	23:31:00	23:31:00		62.6	84.8	72.1	46.8
	23:32:00	23:32:00		60.1	82.3	68.5	44.3
	23:33:00	23:33:00		52.1	71.4	58.9	44.2
	23:34:00	23:34:00		59.2	81.9	68.3	47.8
	23:35:00	23:35:00		53.9	74.8	61.9	46.3
	23:36:00	23:36:00		57.7	80	63.1	48.7
	23:37:00	23:37:00		60.4	80.8	68.4	47.2
	23:38:00	23:38:00		51.1	69.9	56.1	46.9
	23:39:00	23:39:00		64.1	86.2	73.5	44.9
	23:40:00	23:40:00		59	80.9	67.2	45.5
	23:41:00	23:41:00		54.6	76.2	60.3	47.7
	23:42:00	23:42:00		51.4	71.7	56.7	47.8
	23:43:00	23:43:00		56.5	79.7	66.1	48.2
	23:44:00	23:44:00		60.1	83.5	69.7	50
	23:45:00	23:45:00		55.3	80.3	63.6	49
	23:46:00	23:46:00		63	88.7	72	52.8
	23:47:00	23:47:00		57.7	82.5	65.7	52.2
	23:48:00	23:48:00		55.4	73.2	59.4	51.7
	23:49:00	23:49:00		56.3	75.5	60.9	51.9
	23:50:00	23:50:00		52.5	70.1	56.4	49.1
	23:51:00	23:51:00		56.7	73.6	63.9	49.7
	23:52:00	23:52:00		57.4	83	66.6	49.9
	23:53:00	23:53:00		55.7	76.4	63.2	51.4
	23:54:00	23:54:00		60	86.8	68.9	52
	23:55:00	23:55:00		55.6	77.5	62.1	50.5
	23:56:00	23:56:00		59.9	86.3	70.3	48.4
	23:57:00	23:57:00		56.8	84.4	66.3	49.3
	23:58:00	23:58:00		55.2	82	63.7	50.4
	23:59:00	23:59:00		54.9	86.1	61	50.9
	24:00:00	24:00:00		70.1	104.5	82.7	52.7

Ambient Noise Summary + County Thresholds

Ambient Noise Measurement Summary (24-Hours)									
Receptor	Dates	Time Start	Time Stop	Average Noise Level (L_{eq})			Peak Noise Level (L_{max})		
				Daytime[A]	Evening[A]	Nighttime[A]	Daytime[A]	Evening[A]	Nighttime[A]
R1	4/12/2017 - 4/13/2017	10:05 AM	10:05 AM	54.7	53.8	52.2	58.3	54.3	53.4
R2	4/13/2017 - 4/14/2017	10:16 AM	10:16 AM	58.2	54.7	52.2	63.5	56.2	58.6
R3[C]	4/12/2017 - 4/13/2017	10:05 AM	10:05 AM	54.7	53.8	52.2	58.3	54.3	53.4

Note: Ambient peak noise levels (L_{max}) are shown for informational purposes only, and not utilized to determine significance thresholds.

Applicable Ventura County Significance Thresholds							
Receptor	Receptor Type	Average Noise Level (L_{eq})			Ventura County Thresholds (L_{eq})[B]		
		Daytime[A]	Evening[A]	Nighttime[A]	Daytime[A]	Evening[A]	Nighttime[A]
R1	Residential	54.7	53.8	52.2	55.0	56.8	55.2
R2	Residential	58.2	54.7	52.2	61.2	57.7	55.2
R3[C]	Residential	54.7	53.8	52.2	55.0	56.8	55.2

Footnotes:

A - Timeframes shown are from the Ventura County *General Plan Noise Element* . Daytime = 6:00 AM-7:00 PM. Evening = 7:00 PM-10:00 PM. Nighttime = 10:00 PM-6:00 AM.

B - The Ventura County *General Plan Noise Element* presents significance thresholds for daytime, evening, and nighttime. Per Ventura County guidance, significance thresholds depend on the existing ambient noise levels in the Project area during the defined time period. If ambient noise levels are lower than the thresholds, the "fixed" thresholds are utilized. If ambient noise levels exceed the fixed thresholds, the "ambient level +3 decibels (dB)" is utilized. The significance thresholds are summarized below:

-Daytime (6:00 AM-7:00 PM) = L_{eq} of 55 dBA or ambient noise level +3 dBA

-Evening (7:00 PM-10:00 PM) = L_{eq} of 50 dBA or ambient noise level +3 dBA

-Nighttime (10:00 PM-6:00 AM) = L_{eq} of 45 dBA or ambient noise level +3 dBA

Daytime and evening ambient noise levels shown for informational purposes, as only nighttime noise impacts were assessed within this NIA.

C - Ambient noise levels recorded near R1 are also used to represent ambient noise levels at R3.

APPENDIX D

SOURCE NOISE CHARACTERIZATION & NIGHTTIME NOISE IMPACTS

General Site Noise Sources

Noise Monitoring Results - Patriot Anaheim Facility

Start Time	13:10:46	24-Apr-2017
Run Length	0:05:00	19200

Microphone Information		
Description	Units	Value
Sensitivity	dB	29
Polarization	Volts	0
Meter Range	dB	110
Max Level	dB	140
Meas. Floor	dB	-20

Configuration Information			
Description	Units	Meter 1	Meter 2
Integration Threshold	dB	OFF	OFF
Exchange Rate	dB	3	3
Criterion Level	dB	90	90
Upper Limit Level	dB	140	140
Projected Time	Hrs	1	1
Weighting		A	A
Time Response		SLOW	SLOW

Sound Curve Configuration	
Description	Value
Mode	OFF
Type	Noise Criterion (NC)
Criterion	NA
Method	Tangency

Measurement	Units	Meter 1 Broadband	Meter 2 Broadband	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz
Lavg	dB	67.2	67.2	3.9	8.3	14.5	20.1	25.6	26.7	53.5	41.7
Lmax	dB	72.4	72.4	13.6	14.8	24.3	27.1	34.2	36.6	54.1	44.9
Lmin	dB	65.9	65.8	-1.7	0.8	7.3	14.8	18.3	21.8	53	40.9
Lpk	dB	89.3	89.2	20.9	23.7	34	35.9	41.1	45.5	58.4	53.4
TWA	dB	47.4	47.4	-15.8	-11.4	-5.2	0.3	5.7	6.9	33.6	21.9
PTWA	dB	58.2	58.2	-5	-0.6	5.5	11.1	16.5	17.7	44.4	32.7
DOSE	%	0.01	0.01	0	0	0	0	0	0	0	0
PDOSE	%	0.07	0.07	0	0	0	0	0	0	0	0
SEL	dB	92	92	28.7	33.1	39.3	44.9	50.3	51.5	78.2	66.5
EXP	p2s	1	1	0	0	0	0	0	0	0	0

General Site Noise Sources

Noise Monitoring Results - Patriot Anaheim Facility

Measurement	Units	Value
LDN	dB	67.2
CNEL	dB	67.2
TAKTMAX (5sec)	dB	N/A
LC-A	dB	N/A

		Meter 1			Meter 2		
		Count	Percent	Time	Count	Percent	Time
Overload	(OL)	0	0	00:00:00	0	0	00:00:00
Under-Range	(UR)	0	0	00:00:00	0	0	00:00:00
Upper Limit	(UL)	0	0	00:00:00	0	0	00:00:00

Exceedence Table

	0	1	2	3	4	5	6	7	8	9
0	72.4	70.4	69.5	69.3	69.2	69	68.9	68.8	68.7	68.6
10	68.5	68.4	68.2	68.1	68.1	68	67.9	67.9	67.8	67.8
20	67.7	67.7	67.6	67.6	67.5	67.5	67.4	67.4	67.3	67.3
30	67.3	67.2	67.2	67.2	67.1	67.1	67.1	67	67	67
40	67	66.9	66.9	66.9	66.9	66.9	66.8	66.8	66.8	66.8
50	66.8	66.7	66.7	66.7	66.7	66.6	66.6	66.6	66.6	66.5
60	66.5	66.5	66.5	66.4	66.4	66.4	66.4	66.4	66.3	66.3
70	66.3	66.3	66.3	66.3	66.3	66.2	66.2	66.2	66.2	66.2
80	66.2	66.2	66.2	66.1	66.1	66.1	66.1	66.1	66.1	66
90	66	66	66	66	66	66	65.9	65.9	65.9	65.9

Mixing Tanks

Noise Monitoring Results - Patriot Anaheim Facility

Start Time	13:04:33	24-Apr-2017
Run Length	0:05:00	19200

Microphone Information		
Description	Units	Value
Sensitivity	dB	29
Polarization	Volts	0
Meter Range	dB	110
Max Level	dB	140
Meas. Floor	dB	-20

Configuration Information			
Description	Units	Meter 1	Meter 2
Integration Threshold	dB	OFF	OFF
Exchange Rate	dB	3	3
Criterion Level	dB	90	90
Upper Limit Level	dB	140	140
Projected Time	Hrs	1	1
Weighting		A	A
Time Response		SLOW	SLOW

Sound Curve Configuration	
Description	Value
Mode	OFF
Type	Noise Criterion (NC)
Criterion	NA
Method	Tangency

Measurement	Units	Meter 1 Broadband	Meter 2 Broadband	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz
Lavg	dB	74.9	74.9	5.2	8.9	14.6	21.1	24.9	28.7	40.6	40
Lmax	dB	76.1	76.1	17	22.9	21.9	29.4	36.6	37.3	42.9	54.7
Lmin	dB	74.1	74.1	-1.4	0.9	8	16.1	18.9	22.2	38.5	33.7
Lpk	dB	98	97.9	24.5	32.1	30.9	38.4	45.3	47.9	49.3	62.1
TWA	dB	55.1	55	-14.6	-10.8	-5.1	1.2	5.1	8.8	20.8	20.2
PTWA	dB	65.9	65.8	-3.8	0	5.6	12	15.8	19.6	31.5	31
DOSE	%	0.03	0.03	0	0	0	0	0	0	0	0
PDOSE	%	0.39	0.38	0	0	0	0	0	0	0	0
SEL	dB	99.7	99.6	29.9	33.7	39.4	45.8	49.6	53.4	65.3	64.8
EXP	p2s	4	4	0	0	0	0	0	0	0	0

Mixing Tanks

Noise Monitoring Results - Patriot Anaheim Facility

Measurement	Units	Value
LDN	dB	74.9
CNEL	dB	74.9
TAKTMAX (5sec)	dB	N/A
LC-A	dB	N/A

		Meter 1			Meter 2		
		Count	Percent	Time	Count	Percent	Time
Overload	(OL)	0	0	00:00:00	0	0	00:00:00
Under-Range	(UR)	0	0	00:00:00	0	0	00:00:00
Upper Limit	(UL)	0	0	00:00:00	0	0	00:00:00

Exceedence Table

	0	1	2	3	4	5	6	7	8	9
0	76.1	75.6	75.4	75.3	75.2	75.2	75.2	75.1	75.1	75.1
10	75.1	75.1	75	75	75	75	75	75	75	75
20	75	75	75	74.9	74.9	74.9	74.9	74.9	74.9	74.9
30	74.9	74.9	74.9	74.9	74.9	74.9	74.9	74.9	74.9	74.9
40	74.8	74.8	74.8	74.8	74.8	74.8	74.8	74.8	74.8	74.8
50	74.8	74.8	74.8	74.8	74.8	74.8	74.8	74.8	74.8	74.8
60	74.8	74.7	74.7	74.7	74.7	74.7	74.7	74.7	74.7	74.7
70	74.7	74.7	74.7	74.7	74.7	74.7	74.7	74.7	74.7	74.6
80	74.6	74.6	74.6	74.6	74.6	74.6	74.6	74.6	74.6	74.5
90	74.5	74.5	74.5	74.5	74.5	74.5	74.4	74.4	74.4	74.2

Dewatering Centrifuges

Noise Monitoring Results - Anterra's Oxnard Facility

Serial Number	BIJ090010	UNIT REV	R13B
Start Time	12:43:05 20-Mar-2012		
Run Length	0:18:26 70784		

Microphone Information		
Description	Units	Value
Sensitivity	dB	29
Polarization	Volts	0
Meter Range	dB	120
Max Level	dB	140
Meas. Floor	dB	-20

Calibration Information			
Description		Units	Value
Pre-Cal	Level	dB	114
	Date		12:42:31 20-Mar-2012
Post-Cal	Level	dB	
	Date		
ReCert	Date		Unavailable

Configuration Information			
Description	Units	Meter 1	Meter 2
Integration Threshold	dB	OFF	OFF
Exchange Rate	dB	3	3
Criterion Level	dB	90	90
Upper Limit Level	dB	130	130
Projected Time	Hrs	8	8
Weighting		A	C
Time Response		SLOW	SLOW

Measurement	Units	Meter 1 Broadband	Meter 2 Broadband	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz
Lavg	dB	72	80.9	8.6	10.1	12.9	24.2	36.1	34.4	44.6	47
Lmax	dB	79.9	90.7	13.9	22.3	28.5	34.8	41.2	49.7	59.9	62.2
Lmin	dB	69.9	77.8	5.2	5.2	6	19.9	30.2	24.8	36	35.7
Lpk	dB	101.1	100.3	22.2	28.7	36.6	45.9	50.6	55.8	65.6	69.7
TWA	dB	57.9	66.8	-5.4	-4	-1.1	10.1	21.9	20.2	30.4	32.8
PTWA	dB	72	80.9	8.6	10.1	12.9	24.2	36.1	34.4	44.6	47
DOSE	%	0.06	0.47	0	0	0	0	0	0	0	0
PDOSE	%	1.6	12.36	0	0	0	0	0	0	0	0.01
SEL	dB	102.5	111.4	39.1	40.5	43.4	54.7	66.5	64.8	75	77.4
EXP	p2s	7	54	0	0	0	0	0	0	0	0

Dewatering Centrifuges

Noise Monitoring Results - Anterra's Oxnard Facility

Measurement	Units	Value
LDN	dB	72
CNEL	dB	72
TAKTMAX (5sec)	dB	N/A
LC-A	dB	8.9

Exceedence	Units	Value
L02	dB	74.2
L08	dB	72.8
L25	dB	72.1
L50	dB	71.8

		Meter 1			Meter 2		
		Count	Percent	Time	Count	Percent	Time
Overload	(OL)	0	0	00:00:00	0	0	00:00:00
Under-Range	(UR)	0	0	00:00:00	0	0	00:00:00
Upper Limit	(UL)	0	0	00:00:00	0	0	00:00:00

Exceedence Table

	0	1	2	3	4	5	6	7	8	9
0	79.9	74.7	74.2	73.7	73.4	73.2	73	72.9	72.8	72.7
10	72.6	72.5	72.5	72.5	72.4	72.4	72.4	72.3	72.3	72.3
20	72.2	72.2	72.2	72.1	72.1	72.1	72.1	72.1	72.1	72
30	72	72	72	72	72	72	72	71.9	71.9	71.9
40	71.9	71.9	71.9	71.9	71.8	71.8	71.8	71.8	71.8	71.8
50	71.8	71.7	71.7	71.7	71.7	71.7	71.7	71.7	71.6	71.6
60	71.6	71.6	71.6	71.6	71.5	71.5	71.5	71.5	71.5	71.5
70	71.5	71.4	71.4	71.4	71.4	71.4	71.3	71.3	71.3	71.3
80	71.3	71.3	71.2	71.2	71.2	71.2	71.2	71.1	71.1	71.1
90	71.1	71.1	71	71	71	70.9	70.9	70.8	70.8	70.7

Project Noise Source Data + Impacts to Receptors

Industrial Nighttime Noise Source Data							
Noise Source[A]	Reference				Converted		
	Reference Distance (ft.)	Usage Factor/Hourly Percentage (%)[B]	L_{eq} (dBA)	L_{max} (dBA)	Reference Distance (ft.)	L_{eq} (dBA)	L_{max} (dBA)
Front-End Loader	50	40	79	90	50	79	90
General Site Noise Sources	13	---	67.2	72.4	50	55.5	60.7
Mixing Tank	5	---	74.9	76.1	50	54.9	56.1
Centrifuge	65	---	72	79.9	50	74.3	82.2

Footnotes:

A - Front-end loader noise data taken from Ventura County *Construction Noise Threshold Criteria & Control Plan* (July 2010). General site noise sources (i.e. pumps and non-specific industrial sources) and mixing tank noise levels are based on noise monitoring data collected at Patriot's Anaheim wastewater treatment facility. The centrifuge noise level was based on previous monitoring of centrifuge dewatering units at a similar wastewater processing facility in Oxnard, California. Noise measurements were taken in 2012, 65-feet away from two (2) operating centrifuge dewatering units, which makes this measurement a conservative overestimation of one (1) Project centrifuge unit.

B - Usage factor is the percentage (%) of time, generally within an hour, that a piece of equipment is operating at full power. The default usage factor of 40% presented in the Federal Highway Administration's (FHWA) *Roadway Construction Noise Model* (February 2006).

Industrial Nighttime Noise Impacts @ Facility Receptors (R1 and R2)			
Receptor	Ambient Nighttime Noise Levels (L_{eq}-Hour dBA)[C]	Facility Industrial Nighttime Noise Levels (L_{eq}-Hour dBA)[D]	Total Nighttime Noise Level (L_{eq}-Hour dBA)[E]
Receptor 1 (R1)	52.2	36.0	52.3
Receptor 2 (R2)	52.2	36.6	52.3
Receptor 3 (R3)	52.2	29.1	52.2

Footnotes:

C - Ambient noise levels were determined through onsite noise monitoring. See Appendix C for more details.

D - Facility noise levels at nearby receptors were modeled in SoundPLAN Essential software. Please note that nighttime onsite processing operations (front-end loader, general site noise sources, mixing tanks, centrifuges) noise levels were input into the model. See the full model results presented in Appendix E and results shown on Figure 5 (Appendix A) for more detail.

E - The total noise level at each receptor was determined by combining the ambient nighttime (10:00 PM-6:00 AM) noise level with the noise level generated by nighttime Facility industrial operations, as modeled in SoundPLAN Essential. The total noise level is utilized to determine the significance of noise impacts to Facility receptors (R1, R2 and R3). As shown in the table above, the existing ambient noise level dominates the predicted Facility nighttime noise environment, and the Project nighttime operations are not expected to generate appreciable noise in excess of what nearby receptors (R1, R2 and R3) already experience.

Total Nighttime Noise Level & Ventura County Significance Determination			
Parameter	Receptor 1 (R1)	Receptor 2 (R2)	Receptor 3 (R3)
Total Project Noise Level (dBA)[E]:	52.3	52.3	52.2
Significance Threshold (dBA)[F]:	55.2	55.2	55.2
Significant?	No	No	No

Footnotes:

F - The significance threshold shown for nighttime hours (10:00 PM-6:00 AM) is taken from the Ventura County *General Plan Noise Element* . Per Ventura County guidance, if the ambient noise level exceeds the "fixed" threshold, then the "ambient noise level +3 dBA" was utilized as the significance threshold. See Appendix C for more details.

APPENDIX E

SOUNDPLAN NOISE MODELING OUTPUT FILES

MODEL OUTPUT FILES - INDUSTRIAL NIGHTTIME NOISE

Noise Emissions of Industry Sources

Source name	Reference	Level		Frequency spectrum [dB(A)]								Corrections		
				63	125	250	500	1	2	4	8	Kwall	CI	CT
			dB(A)	Hz	Hz	Hz	Hz	kHz	kHz	kHz	kHz	dB(A)	dB(A)	dB(A)
Centrifuge 1	Unit	Day	74.3	57.4	62.4	66.5	67.6	68.2	66.5	64.1	60.1	-	-	-
Centrifuge 2	Unit	Day	74.3	57.4	62.4	66.5	67.6	68.2	66.5	64.1	60.1	-	-	-
Centrifuge 3	Unit	Day	74.3	57.4	62.4	66.5	67.6	68.2	66.5	64.1	60.1	-	-	-
Centrifuge 4	Unit	Day	74.3	57.4	62.4	66.5	67.6	68.2	66.5	64.1	60.1	-	-	-
Mixing Tank 1	Unit	Day	54.9	38.0	43.0	47.1	48.2	48.8	47.1	44.7	40.7	-	-	-
Mixing Tank 2	Unit	Day	54.9	38.0	43.0	47.1	48.2	48.8	47.1	44.7	40.7	-	-	-
Mixing Tank 3	Unit	Day	54.9	38.0	43.0	47.1	48.2	48.8	47.1	44.7	40.7	-	-	-
Mixing Tank 4	Unit	Day	54.9	38.0	43.0	47.1	48.2	48.8	47.1	44.7	40.7	-	-	-
Mixing Tank 5	Unit	Day	54.9	38.0	43.0	47.1	48.2	48.8	47.1	44.7	40.7	-	-	-
Front-End Loader	Unit	Day	79.0	58.9	61.9	67.9	72.9	74.9	71.9	67.9	-	-	-	-
General Site 1	Unit	Day	55.5	38.6	43.6	47.7	48.8	49.4	47.7	45.3	41.3	-	-	-
General Site 2	Unit	Day	55.5	38.6	43.6	47.7	48.8	49.4	47.7	45.3	41.3	-	-	-
General Site 3	Unit	Day	55.5	38.6	43.6	47.7	48.8	49.4	47.7	45.3	41.3	-	-	-
General Site 4	Unit	Day	55.5	38.6	43.6	47.7	48.8	49.4	47.7	45.3	41.3	-	-	-
General Site 5	Unit	Day	55.5	38.6	43.6	47.7	48.8	49.4	47.7	45.3	41.3	-	-	-

Noise Emissions of Parking Lot Traffic

Name	Parking lot type	Low noise trolleys	Size	Movements per hour			Road surface	Separated method	Level
				Day	Evening	Night			dB(A)
Park 1	Visitors and staff	-	20 car places	15.000	15.000	10.000	Water bound surfac	no	81.1
Park 2	Visitors and staff	-	7 car places	15.000	15.000	10.000	Water bound surfac	no	74.0

Receiver List

No.	Receiver name	Coordinates X Y in meter	Building side	Floor	Height m	Limit Night dB(A)	Level Night dB(A)	Conflict Night dB(A)
1	R1	306357.19 3798972.21		1.Fl	2.00	-	36.0	-
2	R2	306414.31 3799230.80		1.Fl	2.00	-	36.6	-
3	R3	306155.58 3799205.56		1.Fl	-3.00	-	29.1	-

Contribution Levels of the Receivers

Source name		Level Night dB(A)
R1	1.FI	36.0
Centrifuge 1		21.4
Centrifuge 2		20.8
Centrifuge 3		19.4
Centrifuge 4		18.9
Front-End Loader		24.1
General Site 1		-1.4
General Site 2		-2.0
General Site 3		-2.7
General Site 4		-5.0
General Site 5		-2.9
Mixing Tank 1		0.5
Mixing Tank 2		0.3
Mixing Tank 3		0.1
Mixing Tank 4		-0.5
Mixing Tank 5		-1.0
Park 1		28.9
Park 2		34.0
R2	1.FI	36.6
Centrifuge 1		15.6
Centrifuge 2		15.5
Centrifuge 3		8.2
Centrifuge 4		10.3
Front-End Loader		15.2
General Site 1		-1.0
General Site 2		-6.2
General Site 3		1.9
General Site 4		-13.6
General Site 5		-5.6
Mixing Tank 1		-15.2
Mixing Tank 2		-14.4
Mixing Tank 3		-12.9
Mixing Tank 4		-14.3
Mixing Tank 5		-13.9
Park 1		36.4
Park 2		17.3
R3	1.FI	29.1
Centrifuge 1		4.5
Centrifuge 2		10.6
Centrifuge 3		10.4
Centrifuge 4		10.2
Front-End Loader		13.1
General Site 1		-6.0
General Site 2		-6.2
General Site 3		-7.6
General Site 4		-11.0
General Site 5		-10.6
Mixing Tank 1		-9.6
Mixing Tank 2		-9.7
Mixing Tank 3		-9.7
Mixing Tank 4		-9.8
Mixing Tank 5		-9.8
Park 1		28.1
Park 2		19.9

Spectra of the Receivers

No.	Name	Floor	Time slice	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz	16 kHz
1	R1	1.Fl	Night	23.8	32.4	24.8	27.3	28.0	26.4	20.9	7.6	-18.1
2	R2	1.Fl	Night	25.5	32.6	18.8	21.5	28.0	30.3	26.0	14.5	-16.0
3	R3	1.Fl	Night	20.6	25.0	11.8	13.7	20.4	22.7	16.4	-3.3	0.0