

APPENDIX H

NOISE MODELING OUTPUT

EMERGENCY GENERATOR NOISE-LEVEL PREDICTION

SOUND LEVELS MEASURED IN dB(A)

	<u>Open</u> <u>Set</u>	<u>Level 2</u> <u>Encl.</u>
Level 2, Critical Silencer	87.....	75
Level 3, Hospital Silencer.....		70

Note: Open sets (no enclosure) have optional silencer system choices due to unknown job-site applications. Level 2 enclosure has installed critical silencer with upgrade to Level 3 hospital silencer. Sound tests are averaged from several test points and taken at 23 ft. (7 m) from source of noise at normal operation.

MODEL SPVD-3000-60 HZ

LIQUID COOLED DIESEL ENGINE GENERATOR SET

Gillette Generators, Inc. 2921 Thorne Dr. Elkhart, IN 46514 Ph: 574-264-9639 Fax: 574-262-1840 Web:

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NOISE PREDICTION AT PROPERTY LINES

<u>(feet)</u>	<u>(dB)</u>	<u>Shielding</u>	<u>Open</u> <u>(dB)</u>	<u>Level 2</u> <u>(dB)</u>	<u>Description</u>
105	74	6.00	68	56	BUILDING A - SOUTH PROPERTY LINE
285	65	6.00	59	47	BUILDING B - NORTH PROPERTY LINE
205	68	0.00	68	56	BUILDING C - WEST PROPERTY LINE (ACROSS SUNSET BLVD.)
235	67	6.00	61	49	BUILDING D - SOUTH PROPERTY LINE

**Based on manufacturer data for an unenclosed genset equipped with a critical silencer.*

Shielding assumes minimum 6 dB NR for 8-foot CMU wall.

Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 03/13/2018

Case Description: Trinity

**** Receptor #1 ****

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Montessori School	Commercial	60.0	50.0	50.0

Description	Equipment	Spec Impact Device	Actual Usage (%)	Receptor			Estimated Distance (feet)	Shielding (dBA)
				Lmax (dBA)	Lmax (dBA)	Estimated		
All Other Equipment	> 5 HP	No	50	85.0		850.0	3.0	
Backhoe		No	40	80.0		850.0	3.0	
Compactor (ground)		No	20	80.0		1050.0	3.0	
Compressor (air)		No	40	80.0		1050.0	3.0	
Concrete Saw		No	20	90.0		850.0	3.0	
Dump Truck		No	40	84.0		850.0	3.0	
Front End Loader		No	40	80.0		1050.0	3.0	
Man Lift		No	20	85.0		1050.0	3.0	
Paver		No	50	85.0		1050.0	3.0	
Scraper		No	40	85.0		1050.0	3.0	
Vibratory Concrete Mixer		No	20	80.0		850.0	3.0	

Results

Equipment	Lmax	Leq	Noise Limits (dBA)						Noise Limit Exceedance (dBA)							
			Calculated (dBA)		Day		Evening		Night		Day		Evening		Night	
			Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq		
All Other Equipment	57.4	54.4	65.0	65.0	60.0	55.0	55.0	55.0	55.0	None	None	None	None			
2.4 None																
Backhoe	52.4	48.4	65.0	65.0	60.0	55.0	55.0	55.0	55.0	None	None	None	None			
None																
Compactor (ground)	50.6	43.6	65.0	65.0	60.0	55.0	55.0	55.0	55.0	None	None	None	None			
None																
Compressor (air)	50.6	46.6	65.0	65.0	60.0	55.0	55.0	55.0	55.0	None	None	None	None			
None																
Concrete Saw	62.4	55.4	65.0	65.0	60.0	55.0	55.0	55.0	55.0	None	None	2.4	0.4			
0.4																
Dump Truck	56.4	52.4	65.0	65.0	60.0	55.0	55.0	55.0	55.0	None	None	None	1.4			
None																
Front End Loader	50.6	46.6	65.0	65.0	60.0	55.0	55.0	55.0	55.0	None	None	None	None			

None	None													
Man Lift	55.6	48.6	65.0	65.0	60.0	55.0	55.0	55.0	None	None	None	None	0.6	
None														
Paver	55.6	52.5	65.0	65.0	60.0	55.0	55.0	55.0	None	None	None	None	0.6	
None														
Scraper	55.6	51.6	65.0	65.0	60.0	55.0	55.0	55.0	None	None	None	None	0.6	
None														
Vibratory Concrete Mixer	52.4	45.4	65.0	65.0	60.0	55.0	55.0	55.0	None	None	None	None	None	
None														
Total	62.4	61.5	65.0	65.0	60.0	55.0	55.0	55.0	None	None	2.4	6.5	7.4	6.5

**** Receptor #2 ****

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night
Property Line	Commercial	60.0	60.0	50.0

Equipment

Description	Spec Device	Impact Usage (%)	Actual Lmax (dBA)	Receptor Lmax (dBA)	Estimated Distance (feet)	Shielding (dBA)
All Other Equipment > 5 HP	No		50	85.0	150.0	0.0
Backhoe	No	40	80.0		150.0	0.0
Compactor (ground)	No	20	80.0		150.0	0.0
Compressor (air)	No	40	80.0		150.0	0.0
Concrete Saw	No	20	90.0		150.0	0.0
Dump Truck	No	40	84.0		150.0	0.0
Front End Loader	No	40	80.0		150.0	0.0
Man Lift	No	20	85.0		150.0	0.0
Paver	No	50	85.0		150.0	0.0
Scraper	No	40	85.0		150.0	0.0
Vibratory Concrete Mixer	No	20	80.0		150.0	0.0

Results

Equipment	Noise Limits (dBA)						Noise Limit Exceedance (dBA)							
	Calculated (dBA)		Day		Evening		Night		Day		Evening		Night	
	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
All Other Equipment > 5 HP	75.5	72.4	65.0	65.0	65.0	65.0	55.0	55.0	10.5	7.4	10.5	7.4	20.5	17.4
Backhoe	70.5	66.5	65.0	65.0	65.0	65.0	55.0	55.0	5.5	1.5	5.5	1.5	15.5	11.5
Compactor (ground)	70.5	63.5	65.0	65.0	65.0	65.0	55.0	55.0	5.5	None	5.5	None	15.5	8.5
Compressor (air)	70.5	66.5	65.0	65.0	65.0	65.0	55.0	55.0	5.5	1.5	5.5	1.5	15.5	11.5
Concrete Saw	80.5	73.5	65.0	65.0	65.0	65.0	55.0	55.0	15.5	8.5	15.5	8.5	25.5	18.5

Dump Truck	74.5	70.5	65.0	65.0	65.0	65.0	55.0	55.0	9.5	5.5	9.5	5.5	19.5	15.5
Front End Loader 11.5	70.5	66.5	65.0	65.0	65.0	65.0	55.0	55.0	5.5	1.5	5.5	1.5	15.5	
Man Lift	75.5	68.5	65.0	65.0	65.0	65.0	55.0	55.0	10.5	3.5	10.5	3.5	20.5	13.5
Paver	75.5	72.4	65.0	65.0	65.0	65.0	55.0	55.0	10.5	7.4	10.5	7.4	20.5	17.4
Scraper	75.5	71.5	65.0	65.0	65.0	65.0	55.0	55.0	10.5	6.5	10.5	6.5	20.5	16.5
Vibratory Concrete Mixer 15.5 8.5	70.5	63.5	65.0	65.0	65.0	65.0	55.0	55.0	5.5	None	5.5	None		
Total	80.5	80.3	65.0	65.0	65.0	65.0	55.0	55.0	15.5	15.3	15.5	15.3	25.5	25.3

**** Receptor #3 ****

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Property Line	Industrial	70.0	70.0	55.0

Description	Equipment					
	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
All Other Equipment > 5 HP	No	40	80.0	85.0	150.0	0.0
Backhoe	No	40	80.0		150.0	0.0
Compactor (ground)	No	20	80.0		150.0	0.0
Compressor (air)	No	40	80.0		150.0	0.0
Concrete Saw	No	20	90.0		150.0	0.0
Dump Truck	No	40	84.0		150.0	0.0
Front End Loader	No	40	80.0		150.0	0.0
Man Lift	No	20	85.0		150.0	0.0
Paver	No	50	85.0		150.0	0.0
Scraper	No	40	85.0		150.0	0.0
Vibratory Concrete Mixer	No	20	80.0		150.0	0.0

Equipment	Results												
	Noise Limits (dBA)						Noise Limit Exceedance (dBA)						
	Calculated (dBA)		Day		Evening		Night		Day		Evening		Night
Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
All Other Equipment > 5 HP 15.5 12.4	75.5	72.4	75.0	75.0	75.0	75.0	60.0	60.0	60.0	0.5	None	0.5	None
Backhoe 6.5	70.5	66.5	75.0	75.0	75.0	75.0	60.0	60.0	60.0	None	None	None	10.5
Compactor (ground) 10.5 3.5	70.5	63.5	75.0	75.0	75.0	75.0	60.0	60.0	60.0	None	None	None	None
Compressor (air) 6.5	70.5	66.5	75.0	75.0	75.0	75.0	60.0	60.0	60.0	None	None	None	10.5
Concrete Saw	80.5	73.5	75.0	75.0	75.0	75.0	60.0	60.0	60.0	5.5	None	5.5	None

13.5															
Dump Truck	74.5	70.5	75.0	75.0	75.0	75.0	60.0	60.0	None	None	None	None	None	14.5	
10.5															
Front End Loader	70.5	66.5	75.0	75.0	75.0	75.0	60.0	60.0	None	None	None	None	None		
10.5 6.5															
Man Lift	75.5	68.5	75.0	75.0	75.0	75.0	60.0	60.0	0.5	None	0.5	None	15.5	8.5	
Paver	75.5	72.4	75.0	75.0	75.0	75.0	60.0	60.0	0.5	None	0.5	None	15.5	12.4	
Scraper	75.5	71.5	75.0	75.0	75.0	75.0	60.0	60.0	0.5	None	0.5	None	15.5	11.5	
Vibratory Concrete Mixer	70.5	63.5	75.0	75.0	75.0	75.0	60.0	60.0	60.0	None	None	None	None		
10.5 3.5															
Total	80.5	80.3	75.0	75.0	75.0	75.0	60.0	60.0	5.5	5.3	5.5	5.3	20.5	20.3	

Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 03/12/2018
 Case Description: Trinity

**** Receptor #1 ****

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Montessori School	Commercial	60.0	50.0	50.0

Description	Equipment	Spec Impact Device	Actual Usage (%)	Receptor Lmax (dBA)	Estimated Lmax (dBA)	Distance (feet)	Shielding (dBA)
Backhoe	No	40	80.0	850.0	3.0		
Compactor (ground)	No	20	80.0	1050.0	3.0		
Compressor (air)	No	40	80.0	1050.0	3.0		
Concrete Saw	No	20	90.0	850.0	3.0		
Dump Truck	No	40	84.0	850.0	3.0		
Front End Loader	No	40	80.0	1050.0	3.0		
Man Lift	No	20	85.0	1050.0	3.0		
Paver	No	50	85.0	1050.0	3.0		
Scraper	No	40	85.0	1050.0	3.0		
Vibratory Concrete Mixer	No	20	80.0	850.0	3.0		

Results

Equipment	Noise Limits (dBA)						Noise Limit Exceedance (dBA)							
	Calculated (dBA)		Day		Evening		Night		Day		Evening		Night	
	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
All Other Equipment > 5 HP	57.4	54.4	65.0	65.0	60.0	55.0	55.0	55.0	55.0	None	None	None	None	None
2.4 None														
Backhoe	52.4	48.4	65.0	65.0	60.0	55.0	55.0	55.0	55.0	None	None	None	None	None
None														
Compactor (ground)	50.6	43.6	65.0	65.0	60.0	55.0	55.0	55.0	55.0	None	None	None	None	None
None														
Compressor (air)	50.6	46.6	65.0	65.0	60.0	55.0	55.0	55.0	55.0	None	None	None	None	None
None														
Concrete Saw	62.4	55.4	65.0	65.0	60.0	55.0	55.0	55.0	55.0	None	None	2.4	0.4	7.4
0.4														
Dump Truck	56.4	52.4	65.0	65.0	60.0	55.0	55.0	55.0	55.0	None	None	None	None	1.4
None														
Front End Loader	50.6	46.6	65.0	65.0	60.0	55.0	55.0	55.0	55.0	None	None	None	None	None

None	None															
Man Lift		55.6	48.6	65.0	65.0	60.0	55.0	55.0	55.0	None	None	None	None	0.6		
None																
Paver		55.6	52.5	65.0	65.0	60.0	55.0	55.0	55.0	None	None	None	None	0.6		
None																
Scraper		55.6	51.6	65.0	65.0	60.0	55.0	55.0	55.0	None	None	None	None	0.6		
None																
Vibratory Concrete Mixer			52.4	45.4	65.0	65.0	60.0	55.0	55.0	55.0	None	None	None	None	None	
None	None															
	Total	62.4	61.5	65.0	65.0	60.0	55.0	55.0	55.0	None	None	2.4	6.5	7.4	6.5	

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