

**Appendix F:
Noise Supporting Information**

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Mobile Construction Activity Noise Calculation

Receptor: Receiving residential property line		Noise Level Calculation Prior to Implementation of Noise Attenuation Requirements									
No.	Equipment Description	Reference (dBA) 50 ft	Quantity	Usage factor[1]	Distance to Receptor	Ground Effect[2]	Shielding (dBA)[3]	Calculated (dBA)		Energy	
		Lmax						Leq			
1	Grader	85	1	40	340	0.5	6	62.3	54.2	263504.3018	
2	Excavator	85	1	40	390	0.5	6	61.2	52.7	186992.1972	
3	Dozer	85	1	40	390	0.5	6	61.2	52.7	186992.1972	
4	Front End Loader	80	1	40	390	0.5	6	56.2	47.7	59132.12477	
5	Backhoe	80	1	40	390	0.5	6	56.2	47.7	59132.12477	
6											
7											
8											
9											
10											
								Lmax[4]	62	Leq	59

Notes:

[1] Percentage of time activity occurs each hour

[2] Soft ground terrain between project site and receptor.

[3] Shielding due to terrain or structures

[4] Calculated Lmax is the Loudest value.

Vacuum Mechanical Equipment

Receptor:	Nearest Residential Receptor	Noise Level Calculation Prior to Implementation of Noise Attenuation Requirements								
		Reference (dBA) 3 ft	Quantity	Usage factor[1]	Distance to Receptor	Ground Effect[2]	Shielding (dBA)[3]	Calculated (dBA)		Energy
No.	Equipment Description	Lmax						Lmax	Leq	
1	Turbine Vacuum	60	5	100	490	0.5	6	9.7	5.7	3.683688863
2	Turbine Vacuum	60	5	100	500	0.5	6	9.6	5.4	3.502257954
3	Turbine Vacuum	60	5	100	510	0.5	6	9.4	5.2	3.333095067
4										
5										
6										
7										
8										
9										
10										
								Leq		10

Notes:

[1] Percentage of time activity occurs each hour

[2] Soft ground terrain between project site and receptor

[3] Shielding due to soundwall shielding

Dryer Blower Mechanical Equipment

Receptor:	Nearest Residential Receptor	Noise Level Calculation Prior to Implementation of Noise Attenuation Requirements								
		Reference (dBA) 40 ft	Quantity	Usage factor[1]	Distance to Receptor	Ground Effect[2]	Shielding (dBA)[3]	Calculated (dBA)		Energy
No.	Equipment Description	Lmax						Lmax	Leq	
1	Dryer Blower	83	1	100	450	0.5	10	52.0	46.7	47002.25495
2										
3										
4										
5										
6										
7										
8										
9										
10										
								Leq		47

Notes:

[1] Percentage of time activity occurs each hour

[2] Soft ground terrain between project site and receptor

[3] Shielding due to structural and soundwall shielding



VACUTECH

SOUND LEVEL METER READINGS

MODEL: FT-DD-T440HP3 (40hp T4 VACSTAR TURBINE VACUUM PRODUCER)

READING ONE: 60 DB-A, 3 FEET FROM TURBINE @ 45° ANGLE
AND NO BACKGROUND NOISE OR OUTSIDE INTERFERENCE.

READING TWO: 56 DB-A, 10 FEET FROM TURBINE @ 45° ANGLE
AND NO BACKGROUND NOISE OR OUTSIDE INTERFERENCE.

READING THREE: 51 DB-A, 20 FEET FROM TURBINE @ 45° ANGLE
AND NO BACKGROUND NOISE OR OUTSIDE INTERFERENCE.

READING FOUR: 44 DB-A, 30 FEET FROM TURBINE @ 45° ANGLE
AND NO BACKGROUND NOISE OR OUTSIDE INTERFERENCE.

NOTE: THESE READINGS WERE TAKEN OUTSIDE OF 8'x10'x8' CINDER BLOCK ENCLOSURE WITH CONCRETE SLAB AND NO ROOF.

SOUND LEVEL METER USED:

SIMPSON MODEL #40003 – MSHA APPROVED.
MEETS OSHA & WALSH-HEALY REQUIREMENTS FOR NOISE CONTROL.
CONFORMS TO ANSI S1.4-1983, IEC 651 SPECS FOR METER TYPE.

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