APPENDIX E

NOISE DATA



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Construction Calculations

Equipment	Reference (dBA)	Usage	Distance to	Ground	Noise Le	vel (dBA)
Equipment	50 ft Lmax	Factor ¹	Receptor (ft)	Effects	Lmax	Leq
Dozer	80	40	50	0.5	80	76
Backhoe	85	16	50	0.5	85	77
Backhoe	85	16	50	0.5	85	77
Tractor	80	40	50	0.5	80	76
Front Loader	79	40	50	0.5	79	75
Saws	78	4	50	0.5	78	64
			Combined	d at 50 feet	90	83
		Comb	pined at Recept	or 410 feet	72	65

Equipme	. nt	Reference (dBA)	Usage	Distance to	Distance to Ground Noise Lev		vel (dBA)
Equipin	5111	50 ft Lmax	Factor ¹	Receptor (ft)	Effects	Lmax	Leq
Grade	r	85	8	50	0.5	85	74
Scrape	r	88	40	50	0.5	88	84
Backho	е	85	16	50	0.5	85	77
Combined at 50 feet						91	85

Combined at 50 feet Combined at Receptor 410 feet

67

73

Phase: Grading

Equipment	Reference (dBA)	Usage	Distance to Ground Noise Level			vel (dBA)
Equipment	50 ft Lmax	Factor ¹	Receptor (ft)	Effects	Lmax	Leq
Grader	85	8	50	0.5	85	74
Backhoe	85	16	50	0.5	85	77
Backhoe	85	16	50	0.5	85	77
Dozer	80	40	50	0.5	80	76
Combined at 50 feet						82

Combined at 50 feet Combined at Receptor 410 feet 72

64

64

Phase:Building Construstion

Equipment	Reference (dBA)	Usage	Distance to	Ground	Noise Le	vel (dBA)
Equipment	50 ft Lmax	Factor ¹	Receptor (ft)	Effects	Lmax	Leq
Crane	83	16	50	0.5	83	75
Forklift	75	20	50	0.5	75	68
Forklift	75	20	50	0.5	75	68
Generator	78	100	50	0.5	78	78
Backhoe	85	16	50	0.5	85	77
Welder	74	40	50	0.5	74	70
Welder	74	40	50	0.5	74	70
Welder	74	40	50	0.5	74	70
Combined at 50 feet						82

Combined at 50 feet 88

Combined at Receptor 410 feet 70

Phase: Paving

Equipment	Reference (dBA)	Usage	Distance to Ground Noise Level			vel (dBA)
Equipment	50 ft Lmax	Factor ¹	Receptor (ft)	Effects	Lmax	Leq
Concrete Mixer	85	40	50	0.5	85	81
Paver	89	10	50	0.5	89	79
Roller	80	20	50	0.5	80	73
Roller	80	20	50	0.5	80	73
Backhoe	85	16	50	0.5	85	77
	Combined at 50 feet					
	Combined at Receptor 410 feet					

Combined at Receptor 410 feet 74

Phase: Architectural Coating

Equipment	Reference (dBA)	Usage	Distance to	Ground	Noise Le	vel (dBA)
	50 ft Lmax	Factor ¹	Receptor (ft)	Effects	Lmax	Leq
Compressor	81	100	50	0.5	81	81
Combined at 50 feet						81
	Combined at Receptor 410 feet					63

Sources: Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances (USEPA

¹- Percentage of time that a piece of equipment is operating at full power

dBA - A-weighted Decibels

Lmax- Maximum Level

Leq- Equivalent Level

Construction Calculations

Equipment	Reference (dBA)	Usage	Distance to	Ground	Noise Le	vel (dBA)
Equipment	50 ft Lmax	Factor ¹	Receptor (ft)	Effects	Lmax	Leq
Dozer	80	40	50	0.5	80	76
Backhoe	85	16	50	0.5	85	77
Backhoe	85	16	50	0.5	85	77
Tractor	80	40	50	0.5	80	76
Front Loader	79	40	50	0.5	79	75
Saws	78	4	50	0.5	78	64
	Combined at 50 feet					
	Combined at Receptor 675 feet					61

	Site Prep						
	Equipment	Reference (dBA)	Usage	Distance to	Ground	Noise Le	vel (dBA)
	Equipment	50 ft Lmax	Factor ¹	Receptor (ft)	Effects	Lmax	Leq
	Grader	85	8	50	0.5	85	74
	Scraper	88	40	50	0.5	88	84
ĺ	Backhoe	85	16	50	0.5	85	77

91 Combined at 50 feet

85

63

Combined at Receptor 675 feet 68

Phase [.]	Grading
i nase.	Oraung

Equipment	Reference (dBA)	Usage	Distance to Ground Noise Level (vel (dBA)
Equipment	50 ft Lmax	Factor ¹	Receptor (ft)	Effects	Lmax	Leq
Grader	85	8	50	0.5	85	74
Backhoe	85	16	50	0.5	85	77
Backhoe	85	16	50	0.5	85	77
Dozer	80	40	50	0.5	80	76
Combined at 50 feet					90	82

Combined at Receptor 675 feet 68 60

Phase:Building Construstion

Equipment	Reference (dBA)	Usage	Distance to	Ground	Noise Le	vel (dBA)
Equipment	50 ft Lmax	Factor ¹	Receptor (ft)	Effects	Lmax	Leq
Crane	83	16	50	0.5	83	75
Forklift	75	20	50	0.5	75	68
Forklift	75	20	50	0.5	75	68
Generator	78	100	50	0.5	78	78
Backhoe	85	16	50	0.5	85	77
Welder	74	40	50	0.5	74	70
Welder	74	40	50	0.5	74	70
Welder	74	40	50	0.5	74	70
Combined at 50 feet						82

Combined at Receptor 675 feet 66

Phase: Paving

Equipment	Reference (dBA)	Usage	Distance to	Ground	Noise Level (dBA)	
Equipment	50 ft Lmax	Factor ¹	Receptor (ft)	Effects	Lmax	Leq
Concrete Mixer	85	40	50	0.5	85	81
Paver	89	10	50	0.5	89	79
Roller	80	20	50	0.5	80	73
Roller	80	20	50	0.5	80	73
Backhoe	85	16	50	0.5	85	77

Combined at 50 feet

Combined at Receptor 675 feet

92 85 70 62

60

Phase: Architectural Coating

Equipment	Reference (dBA)	Usage	Distance to	Ground	Noise Le	vel (dBA)
Equipment	50 ft Lmax	Factor ¹	Receptor (ft)	Effects	Lmax 81	Leq
Compressor	81	100	50	0.5	81	81
	Combined at 50 feet 81 8'					
	Combined at Receptor 675 feet				58	58

Sources: Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances (USEPA

¹- Percentage of time that a piece of equipment is operating at full power

dBA - A-weighted Decibels

Lmax- Maximum Level

Leq- Equivalent Level

Construction Calculations

Equipment	Reference (dBA)					Noise Level (dBA)	
Equipment	50 ft Lmax	Factor ¹	Receptor (ft)	Effects	Lmax	Leq	
Dozer	80	40	50	0.5	80	76	
Backhoe	85	16	50	0.5	85	77	
Backhoe	85	16	50	0.5	85	77	
Tractor	80	40	50	0.5	80	76	
Front Loader	79	40	50	0.5	79	75	
Saws	78	4	50	0.5	78	64	
			Combined	d at 50 feet	90	83	
		Co	mbined at Rece	ptor 7 feet	107	100	
_							
e Prep		Usage	Distance				
Equipment	Reference (dBA)	•	Distance to	Ground		vel (dBA)	
• •	50 ft Lmax	Factor ¹	Receptor (ft)	Effects	Lmax	Leq	
Grader	85	8	50	0.5	85	74	
Scraper	88	40	50	0.5	88	84	
Backhoe	85	16	50	0.5	85	77	
				d at 50 feet	91	85	
		<u> </u>		minu O fast	400	400	
			mbined at Rece	ptor 9 feet	106	100	
ase: Grading		CO	mbined at Rece	ptor 9 feet	106	100	
0	Reference (dBA)			•			
ase: Grading Equipment	Reference (dBA) 50 ft Lmax	Usage	Distance to	Ground Effects		vel (dBA)	
0	. ,			Ground	Noise Le	100 vel (dBA) Leq 74	
Equipment	50 ft Lmax	Usage Factor ¹	Distance to Receptor (ft)	Ground Effects	Noise Le Lmax	vel (dBA) Leq	
Equipment Grader	50 ft Lmax 85	Usage Factor ¹ 8	Distance to Receptor (ft) 50	Ground Effects 0.5	Noise Le Lmax 85	vel (dBA) Leq 74	
Equipment Grader Backhoe	50 ft Lmax 85 85	Usage Factor ¹ 8 16	Distance to Receptor (ft) 50 50	Ground Effects 0.5 0.5	Noise Le Lmax 85 85	vel (dBA) Leq 74 77	
Equipment Grader Backhoe Backhoe	50 ft Lmax 85 85 85 85	Usage Factor ¹ 8 16 16	Distance to Receptor (ft) 50 50 50 50 50	Ground Effects 0.5 0.5 0.5	Noise Le Lmax 85 85 85	vel (dBA) Leq 74 77 77	
Equipment Grader Backhoe Backhoe	50 ft Lmax 85 85 85 85	Usage Factor ¹ 8 16 16 40	Distance to Receptor (ft) 50 50 50 50 50	Ground Effects 0.5 0.5 0.5 0.5 0.5 d at 50 feet	Noise Le Lmax 85 85 85 85 80	vel (dBA Leq 74 77 77 76	
Equipment Grader Backhoe Backhoe Dozer	50 ft Lmax 85 85 85 85 85 80	Usage Factor ¹ 8 16 16 40	Distance to Receptor (ft) 50 50 50 50 Combined	Ground Effects 0.5 0.5 0.5 0.5 0.5 d at 50 feet	Noise Le Lmax 85 85 85 80 90	vel (dBA Leq 74 77 77 76 82	
Equipment Grader Backhoe Backhoe Dozer	50 ft Lmax 85 85 85 80 rustion	Usage Factor ¹ 8 16 16 40 Co	Distance to Receptor (ft) 50 50 50 Combined at Rece	Ground Effects 0.5 0.5 0.5 0.5 1 at 50 feet ptor 7 feet	Noise Le Lmax 85 85 85 80 90 107	vel (dBA Leq 74 77 77 76 82 99	
Grader Backhoe Backhoe	50 ft Lmax 85 85 85 80 rustion Reference (dBA)	Usage Factor ¹ 8 16 16 40 Co Usage	Distance to Receptor (ft) 50 50 50 Combined at Rece Distance to	Ground Effects 0.5 0.5 0.5 0.5 1 at 50 feet ptor 7 feet	Noise Le Lmax 85 85 85 80 90 107 Noise Le	vel (dBA Leq 74 77 76 82 99 vel (dBA	
Equipment Grader Backhoe Backhoe Dozer ase:Building Constr	50 ft Lmax 85 85 85 80 rustion	Usage Factor ¹ 8 16 16 40 Co	Distance to Receptor (ft) 50 50 50 Combined at Rece	Ground Effects 0.5 0.5 0.5 0.5 1 at 50 feet ptor 7 feet	Noise Le Lmax 85 85 85 80 90 107	vel (dBA Leq 74 77 77 76 82 99	

Equipment	50 ft Lmax	Factor ¹	Receptor (ft)	Effects	Lmax	Leq
Crane	83	16	50	0.5	83	75
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Forklift	75	20	50	0.5	75	68
Generator	78	100	50	0.5	78	78
Backhoe	85	16	50	0.5	85	77
Welder	74	40	50	0.5	74	70
Welder	74	40	50	0.5	74	70
Welder	74	40	50	0.5	74	70
	Combined at 50 feet					82

88 Combined at 50 feet

99

Combined at Receptor 7 feet 105

Phase: Paving

Equipment	Reference (dBA)	Usage	Distance to	Ground	Noise Level (dBA)	
Equipment	50 ft Lmax	Factor ¹	Receptor (ft)	Effects	Lmax	Leq
Concrete Mixer	85	40	50	0.5	85	81
Paver	89	10	50	0.5	89	79
Roller	80	20	50	0.5	80	73
Roller	80	20	50	0.5	80	73
Backhoe	85	16	50	0.5	85	77
		Co	Combined mbined at Rece	92 107	85 100	

Phase: Architectural Coating

Equipment	Reference (dBA)	Usage	Distance to	Ground	Noise Le	vel (dBA)
Equipment	50 ft Lmax	Factor ¹	Receptor (ft)	Effects	Lmax	Leq
Compressor	81	100	50	0.5	81	81
		Combined at 50 feet				
		Cor	nbined at Rece	99	99	

Sources: Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances (USEPA

¹- Percentage of time that a piece of equipment is operating at full power

dBA - A-weighted Decibels

Lmax- Maximum Level

Leq- Equivalent Level

Noise Measurement Survey – 24 HR

Project Number: <u>CFS2101</u> Project Name: <u>388 Vintage Park</u> Test Personnel: Jordan Roberts Equipment: Larson Davis Spark 706RC

Site Number: <u>LT-1</u> Dates: <u>6/17/21 - 6/18/21</u>

Time: From <u>10:30 AM</u> To <u>11:00 AM</u>

Site Location: Northwest portion of site adjacent to Home Depot parking lot near garden center. Approximately 400 feet from nearest lanes of Chess Drive.

Primary Noise Sources: <u>Home Depot activity, rooftop mechanical equipment (tonal) from Gilead</u> buildings, distant traffic.

Location Photo:



Noise Measurement Survey – 24 HR

Project Number: <u>CFS2101</u> Project Name: <u>388 Vintage Park</u> Test Personnel: <u>Jordan Roberts</u> Equipment: <u>Larson Davis Spark 706RC</u>

Site Number: <u>LT-2</u> Dates: <u>6/17/21 - 6/18/21</u>

Time: From <u>11:00 AM</u> To <u>11:00 AM</u>

Site Location: <u>Southeast corner of existing building on-site</u>, 110 feet from center of Vintage Park Drive.

Primary Noise Sources: Traffic along Vintage Park Drive and Chess Drive.

Location Photos:

