



Figure 1
Proposed Noise Measurement Locations



Noise Measurement Site 1 - looking north



Noise Measurement Site 1 - looking northeast



Noise Measurement Site 1 - looking east



Noise Measurement Site 1 - looking southeast



Noise Measurement Site 1 - looking south



Noise Measurement Site 1 - looking southwest



Noise Measurement Site 1 - looking west



Noise Measurement Site 1 - looking northwest



Noise Measurement Site 2 - looking north



Noise Measurement Site 2 - looking northeast



Noise Measurement Site 2 - looking east



Noise Measurement Site 2 - looking southeast



Noise Measurement Site 2 - looking south



Noise Measurement Site 2 - looking southwest



Noise Measurement Site 2 - looking west



Noise Measurement Site 2 - looking northwest



Noise Measurement Site 3 - looking north



Noise Measurement Site 3 - looking northeast



Noise Measurement Site 3 - looking east



Noise Measurement Site 3 - looking southeast



Noise Measurement Site 3 - looking south



Noise Measurement Site 3 - looking southwest



Noise Measurement Site 3 - looking west



Noise Measurement Site 3 - looking northwest

Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 7/16/2019
 Case Description: Superior Ave Ped Bridge - Demolition

---- Receptor #1 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
MFH to South	Residential	76.2	76.2	68.3

Description	Impact Device	Usage(%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Saw	No	20		89.6	230	0
Excavator	No	40		80.7	280	0
Excavator	No	40		80.7	330	0
Excavator	No	40		80.7	380	0
Dozer	No	40		81.7	430	0
Dozer	No	40		81.7	480	0

Equipment	Calculated (dBA)			Results			
	*Lmax	Leq	Day Lmax	Noise Limits (dBA)			Leq
				Leq	Evening Lmax	Leq	
Concrete Saw	76.3		69.3	N/A	N/A	N/A	N/A
Excavator	65.7		61.8	N/A	N/A	N/A	N/A
Excavator	64.3		60.3	N/A	N/A	N/A	N/A
Excavator	63.1		59.1	N/A	N/A	N/A	N/A
Dozer	63.0		59.0	N/A	N/A	N/A	N/A
Dozer	62.0		58.0	N/A	N/A	N/A	N/A
Total	76		71	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 7/16/2019
 Case Description: Superior Ave Ped Bridge - Demolition

---- Receptor #2 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
MFH to Northeast	Residential	67	67	56.7

Description	Impact Device	Usage(%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Saw	No	20		89.6	220	0
Excavator	No	40		80.7	520	0
Excavator	No	40		80.7	570	0
Excavator	No	40		80.7	620	0
Dozer	No	40		81.7	670	0
Dozer	No	40.0		81.7	720	0

Equipment	Calculated (dBA)			Results			
	*Lmax	Leq	Day Lmax	Noise Limits (dBA)			
				Leq	Evening Lmax	Leq	
Concrete Saw	76.7		69.7	N/A	N/A	N/A	N/A
Excavator	60.4		56.4	N/A	N/A	N/A	N/A
Excavator	59.6		55.6	N/A	N/A	N/A	N/A
Excavator	58.8		54.9	N/A	N/A	N/A	N/A
Dozer	59.1		55.1	N/A	N/A	N/A	N/A
Dozer	58.5		54.5	N/A	N/A	N/A	N/A
Total	77		71	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 7/16/2019
 Case Description: Superior Ave Ped Bridge - Demolition

---- Receptor #3 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
SFH to Southwest	Residential	70	70	66.5

Description	Impact Device	Usage(%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Saw	No	20		89.6	400	0
Excavator	No	40		80.7	450	0
Excavator	No	40		80.7	500	0
Excavator	No	40		80.7	550	0
Dozer	No	40		81.7	600	0
Dozer	No	40		81.7	650	0

Equipment	Calculated (dBA)		Results			
	*Lmax	Leq	Day		Evening	
			Lmax	Leq	Lmax	Leq
Concrete Saw	72		65	N/A	N/A	N/A
Excavator	62		58	N/A	N/A	N/A
Excavator	61		57	N/A	N/A	N/A
Excavator	60		56	N/A	N/A	N/A
Dozer	60		56	N/A	N/A	N/A
Dozer	59.4		55.4	N/A	N/A	N/A
Total	72		67	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 7/16/2019
 Case Description: Superior Ave Ped Bridge - Grading

---- Receptor #1 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
MFH to South	Residential	76.2	76.2	68.3

Description	Impact Device	Usage(%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Drill Rig Truck	No	20		79.1	165	0
Excavator	No	40		80.7	215	0
Grader	No	40	85		265	0
Dozer	No	40		81.7	315	0
Tractor	No	40	84		365	0
Tractor	No	40	84		415	0
Tractor	No	40	84		465	0

Equipment	Calculated (dBA)			Results			
	*Lmax	Leq	Day Lmax	Noise Limits (dBA)			Leq
				Leq	Lmax	Leq	
Drill Rig Truck	68.8	61.8	N/A	N/A	N/A	N/A	N/A
Excavator	68.0	64.1	N/A	N/A	N/A	N/A	N/A
Grader	70.5	66.5	N/A	N/A	N/A	N/A	N/A
Dozer	65.7	61.7	N/A	N/A	N/A	N/A	N/A
Tractor	66.7	62.8	N/A	N/A	N/A	N/A	N/A
Tractor	66	61.6	N/A	N/A	N/A	N/A	N/A
Tractor	64.6	60.7	N/A	N/A	N/A	N/A	N/A
Total	71	72	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 7/16/2019

Case Description: Superior Ave Ped Bridge - Grading

---- Receptor #2 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
MFH to Northeast	Residential	67.0	67.0	56.7

Description	Impact Device	Usage(%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Drill Rig Truck	No	20		79.1	220	0
Excavator	No	40		80.7	520	0
Grader	No	40	85		570	0
Dozer	No	40		81.7	620	0
Tractor	No	40	84		670	0
Tractor	No	40	84		720	0
Tractor	No	40	84		770	0

Equipment	Results						
	Calculated (dBA)			Noise Limits (dBA)			
	*Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq	
Drill Rig Truck	66.3	59.3	N/A	N/A	N/A	N/A	
Excavator	60.4	56.4	N/A	N/A	N/A	N/A	
Grader	63.9	59.9	N/A	N/A	N/A	N/A	
Dozer	60	55.8	N/A	N/A	N/A	N/A	
Tractor	61.5	57.5	N/A	N/A	N/A	N/A	
Tractor	60.8	56.9	N/A	N/A	N/A	N/A	
Tractor	60.2	56.3	N/A	N/A	N/A	N/A	
Total	66	66	N/A	N/A	N/A	N/A	

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 7/16/2019
 Case Description: Superior Ave Ped Bridge - Grading

---- Receptor #3 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
SFH to Southwest	Residential	70	70	66.5

Description	Impact Device	Usage(%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Drill Rig Truck	No	20		79.1	400	0
Excavator	No	40		80.7	450	0
Grader	No	40	85		500	0
Dozer	No	40		81.7	550	0
Tractor	No	40	84		600	0
Tractor	No	40	84		650	0
Tractor	No	40	84		700	0

Equipment	Results						
	Calculated (dBA)			Noise Limits (dBA)			
	*Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq	
Drill Rig Truck	61.1		54.1	N/A	N/A	N/A	
Excavator	62		57.6	N/A	N/A	N/A	
Grader	65.0		61.0	N/A	N/A	N/A	
Dozer	60.8		56.9	N/A	N/A	N/A	
Tractor	62.4		58.4	N/A	N/A	N/A	
Tractor	61.7		57.7	N/A	N/A	N/A	
Tractor	61.1		57.1	N/A	N/A	N/A	
Total	65		66	N/A	N/A	N/A	

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 7/16/2019

Case Description: Superior Ave Ped Bridge - Bridge Construction

---- Receptor #1 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
MFH to South	Residential	76.2	76.2	68.3

Description	Impact Device	Usage(%)	Equipment		Receptor Distance (feet)	Estimated Shielding (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)		
Crane	No	16		80.6	500	0
Gradall	No	40		83.4	550	0
Gradall	No	40		83.4	600	0
Gradall	No	40		83.4	650	0
Tractor	No	40	84		700	0
Tractor	No	40	84		750	0
Tractor	No	40	84		800	0
Generator	No	50		80.6	850	0
Welder / Torch	No	40		74	900	0

Results

Equipment	Calculated (dBA)		Noise Limits (dBA)			
	*Lmax	Leq	Day		Evening	
			Lmax	Leq	Lmax	Leq
Crane	60.6	52.6	N/A	N/A	N/A	N/A
Gradall	62.6	58.6	N/A	N/A	N/A	N/A
Gradall	61.8	57.8	N/A	N/A	N/A	N/A
Gradall	61.1	57.1	N/A	N/A	N/A	N/A
Tractor	61.1	57.1	N/A	N/A	N/A	N/A
Tractor	60.5	56.5	N/A	N/A	N/A	N/A
Tractor	59.9	55.9	N/A	N/A	N/A	N/A
Generator	56.0	53.0	N/A	N/A	N/A	N/A
Welder / Torch	48.9	44.9	N/A	N/A	N/A	N/A
Total	63	66	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 7/16/2019

Case Description: Superior Ave Ped Bridge - Bridge Construction

---- Receptor #2 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
MFH to Northeast	Residential	67.0	67.0	56.7

Description	Impact Device	Usage(%)	Equipment		Receptor Distance (feet)	Estimated Shielding (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)		
Crane	No	16		80.6	560	0
Gradall	No	40		83.4	610	0
Gradall	No	40		83.4	660	0
Gradall	No	40		83.4	710	0
Tractor	No	40	84		760	0
Tractor	No	40	84		810	0
Tractor	No	40	84		860	0
Generator	No	50		80.6	910	0
Welder / Torch	No	40		74	960	0

Equipment	Results					
	Calculated (dBA)		Noise Limits (dBA)			
	*Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq
Crane	59.6		51.6	N/A	N/A	N/A
Gradall	61.7		57.7	N/A	N/A	N/A
Gradall	61.0		57.0	N/A	N/A	N/A
Gradall	60.4		56.4	N/A	N/A	N/A
Tractor	60.4		56.4	N/A	N/A	N/A
Tractor	59.8		55.8	N/A	N/A	N/A
Tractor	59.3		55.3	N/A	N/A	N/A
Generator	55.4		52.4	N/A	N/A	N/A
Welder / Torch	48.3		44.4	N/A	N/A	N/A
Total	62		65	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 7/16/2019

Case Description: Superior Ave Ped Bridge - Bridge Construction

---- Receptor #3 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
SFH to Southwest	Residential	70	70	66.5

Description	Impact Device	Usage(%)	Equipment		Receptor Distance (feet)	Estimated Shielding (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)		
Crane	No	16		80.6	330	0
Gradall	No	40		83.4	380	0
Gradall	No	40		83.4	430	0
Gradall	No	40		83.4	480	0
Tractor	No	40	84		530	0
Tractor	No	40	84		580	0
Tractor	No	40	84		630	0
Generator	No	50		80.6	680	0
Welder / Torch	No	40		74	730	0

Equipment	Calculated (dBA)		Results				
	*Lmax	Leq	Day		Evening		
			Lmax	Leq	Lmax	Leq	
Crane	64.2		56.2	N/A	N/A	N/A	N/A
Gradall	65.8		61.8	N/A	N/A	N/A	N/A
Gradall	64.7		60.7	N/A	N/A	N/A	N/A
Gradall	63.8		59.8	N/A	N/A	N/A	N/A
Tractor	63.5		59.5	N/A	N/A	N/A	N/A
Tractor	62.7		58.7	N/A	N/A	N/A	N/A
Tractor	62.0		58.0	N/A	N/A	N/A	N/A
Generator	58.0		54.9	N/A	N/A	N/A	N/A
Welder / Torch	50.7		46.7	N/A	N/A	N/A	N/A
Total	66		68	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 7/16/2019
 Case Description: Superior Ave Ped Bridge - Paving

---- Receptor #1 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
MFH to South	Residential	76.2	76.2	68.3

Description	Impact Device	Usage(%)	Equipment		Receptor Distance (feet)	Estimated Shielding (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)		
Concrete Mixer Truck	No	40		78.8	200	0
Concrete Mixer Truck	No	40		78.8	250	0
Paver	No	50		77.2	300	0
Paver	No	50		77.2	350	0
Paver	No	50		77.2	400	0
Roller	No	20		80	450	0
Roller	No	20		80	500	0
Tractor	No	40	84		550	0

Results

Equipment	Calculated (dBA)		Noise Limits (dBA)			
	*Lmax	Leq	Day		Evening	
			Lmax	Leq	Lmax	Leq
Concrete Mixer Truck	66.8	62.8	N/A	N/A	N/A	N/A
Concrete Mixer Truck	64.8	60.8	N/A	N/A	N/A	N/A
Paver	61.7	58.6	N/A	N/A	N/A	N/A
Paver	60.3	57.3	N/A	N/A	N/A	N/A
Paver	59.2	56.1	N/A	N/A	N/A	N/A
Roller	60.9	53.9	N/A	N/A	N/A	N/A
Roller	60.0	53.0	N/A	N/A	N/A	N/A
Tractor	63.2	59.2	N/A	N/A	N/A	N/A
Total	67	68	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 7/16/2019
 Case Description: Superior Ave Ped Bridge - Paving

---- Receptor #2 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
MFH to Northeast	Residential	67	67	56.7

Description	Impact Device	Usage(%)	Equipment		Receptor Distance (feet)	Estimated Shielding (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)		
Concrete Mixer Truck	No	40	78.8	78.8	340	0
Concrete Mixer Truck	No	40	78.8	78.8	390	0
Paver	No	50	77.2	77.2	440	0
Paver	No	50	77.2	77.2	490	0
Paver	No	50	77.2	77.2	540	0
Roller	No	20	80	80	590	0
Roller	No	20	80	80	640	0
Tractor	No	40.0	84	84	690	0

Equipment	Calculated (dBA)		Results			
	*Lmax	Leq	Day		Evening	
			Lmax	Leq	Lmax	Leq
Concrete Mixer Truck	62.1	58.2	N/A	N/A	N/A	N/A
Concrete Mixer Truck	61.0	57.0	N/A	N/A	N/A	N/A
Paver	58.3	55.3	N/A	N/A	N/A	N/A
Paver	57.4	54.4	N/A	N/A	N/A	N/A
Paver	56.6	53.5	N/A	N/A	N/A	N/A
Roller	58.6	51.6	N/A	N/A	N/A	N/A
Roller	57.9	50.9	N/A	N/A	N/A	N/A
Tractor	61.2	57.2	N/A	N/A	N/A	N/A
Total	62	65	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 7/16/2019
 Case Description: Superior Ave Ped Bridge - Paving

---- Receptor #3 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
SFH to Southwest	Residential	70	70	66.5

Description	Impact Device	Usage(%)	Equipment		Receptor Distance (feet)	Estimated Shielding (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)		
Concrete Mixer Truck	No	40	78.8	78.8	400	0
Concrete Mixer Truck	No	40	78.8	78.8	450	0
Paver	No	50	77.2	77.2	500	0
Paver	No	50.0	77.2	77.2	550	0
Paver	No	50.0	77.2	77.2	600	0
Roller	No	20.0	80	80	650	0
Roller	No	20.0	80	80	700	0
Tractor	No	40.0	84	84	750	0

Equipment	Calculated (dBA)		Results			
	*Lmax	Leq	Day		Evening	
			Lmax	Leq	Lmax	Leq
Concrete Mixer Truck	61	56.8	N/A	N/A	N/A	N/A
Concrete Mixer Truck	60	55.7	N/A	N/A	N/A	N/A
Paver	57	54.2	N/A	N/A	N/A	N/A
Paver	56	53.4	N/A	N/A	N/A	N/A
Paver	56	52.6	N/A	N/A	N/A	N/A
Roller	58	50.7	N/A	N/A	N/A	N/A
Roller	57	50.1	N/A	N/A	N/A	N/A
Tractor	61	56.5	N/A	N/A	N/A	N/A
Total	61	63	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 7/16/2019

Case Description: Superior Ave Ped Bridge - Painting/Landscaping

---- Receptor #1 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
MFH to South	Residential	76.2	76.2	68.3

Description	Impact Device	Usage(%)	Equipment		Receptor Distance (feet)	Estimated Shielding (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)		
Tractor	No	40	84		165	0
Compressor (air)	No	40		77.7	215	0

Equipment	Results				Noise Limits (dBA)		
	Calculated (dBA)		Day		Evening		
	*Lmax	Leq	Lmax	Leq	Lmax	Leq	
Tractor	73.6	69.7	N/A	N/A	N/A	N/A	
Compressor (air)	65.0	61.0	N/A	N/A	N/A	N/A	
Total	74	70	N/A	N/A	N/A	N/A	

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
MFH to Northeast	Residential	67	67	56.7

Description	Impact Device	Usage(%)	Equipment		Receptor Distance (feet)	Estimated Shielding (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)		
Tractor	No	40	84		220	0
Compressor (air)	No	40		77.7	270	0

Equipment	Results				Noise Limits (dBA)		
	Calculated (dBA)		Day		Evening		
	*Lmax	Leq	Lmax	Leq	Lmax	Leq	
Tractor	71.1	67.2	N/A	N/A	N/A	N/A	
Compressor (air)	63.0	59.0	N/A	N/A	N/A	N/A	
Total	71	68	N/A	N/A	N/A	N/A	

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 7/16/2019

Case Description: Superior Ave Ped Bridge - Painting/Landscaping

---- Receptor #3 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
SFH to Southwest	Residential	70	70	66.5

Description	Impact Device	Usage(%)	Equipment		Receptor Distance (feet)	Estimated Shielding (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)		
Tractor	No	40	84		300	0
Compressor (air)	No	40		77.7	300	0

Equipment	Results				Noise Limits (dBA)	
	Calculated (dBA)		Day		Evening	
	*Lmax	Leq	Lmax	Leq	Lmax	Leq
Tractor	68	64.5	N/A	N/A	N/A	N/A
Compressor (air)	62	58.1	N/A	N/A	N/A	N/A
Total	68	65	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.