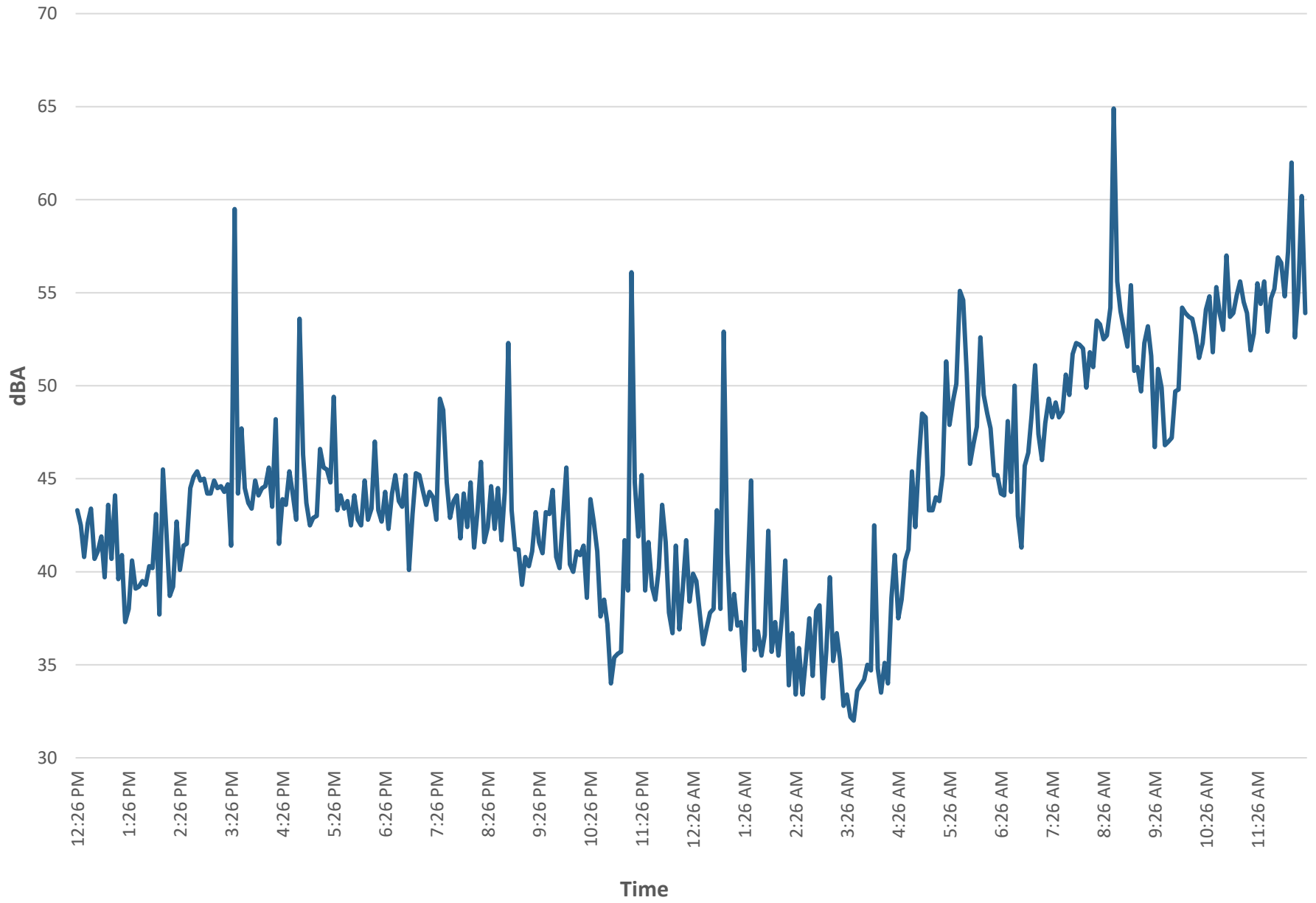


Appendix D

Noise Measurements and Modeling

LT-1 - May 22 - 23, 2023



Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 6/19/2023

Case Description: Cambrian Tank Construction

---- Receptor #1 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Residential	Residential	80	80	80

Description	Impact Device	Usage(%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Man Lift	No	20		74.7	200	0
Backhoe	No	40		77.6	200	0
Concrete Saw	No	20		89.6	200	0
Crane	No	16		80.6	200	0
Drill Rig Truck	No	20		79.1	200	0
Dump Truck	No	40		76.5	200	0
Excavator	No	40		80.7	200	0
Generator	No	50		80.6	200	0
Front End Loader	No	40		79.1	200	0
Front End Loader	No	40		79.1	200	0
Front End Loader	No	40		79.1	200	0
Vacuum Street Sweeper	No	10		81.6	200	0

Results

Equipment	Calculated (dBA)			Noise Limits (dBA)			
	*Lmax	Leq	Day Lmax	Evening Leq	Evening Lmax	Night Leq	Night Lmax
Man Lift	62.7	55.7	N/A	N/A	N/A	N/A	N/A
Backhoe	65.5	61.5	N/A	N/A	N/A	N/A	N/A
Concrete Saw	77.5	70.5	N/A	N/A	N/A	N/A	N/A
Crane	68.5	60.6	N/A	N/A	N/A	N/A	N/A
Drill Rig Truck	67.1	60.1	N/A	N/A	N/A	N/A	N/A
Dump Truck	64.4	60.4	N/A	N/A	N/A	N/A	N/A
Excavator	68.7	64.7	N/A	N/A	N/A	N/A	N/A
Generator	68.6	65.6	N/A	N/A	N/A	N/A	N/A
Front End Loader	67.1	63.1	N/A	N/A	N/A	N/A	N/A
Front End Loader	67.1	63.1	N/A	N/A	N/A	N/A	N/A
Front End Loader	67.1	63.1	N/A	N/A	N/A	N/A	N/A
Vacuum Street Sweeper	69.5	59.5	N/A	N/A	N/A	N/A	N/A
Total	77.5	74.8	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: 6/19/2023
 Case Description: Cambrian Tank Construction

---- Receptor #1 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Residential	Residential	80	80	80

Description	Impact Device	Usage(%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Man Lift	No	20		74.7	300	0
Backhoe	No	40		77.6	300	0
Concrete Saw	No	20		89.6	300	0
Crane	No	16		80.6	300	0
Drill Rig Truck	No	20		79.1	300	0
Dump Truck	No	40		76.5	300	0
Excavator	No	40		80.7	300	0
Generator	No	50		80.6	300	0
Front End Loader	No	40		79.1	300	0
Front End Loader	No	40		79.1	300	0
Front End Loader	No	40		79.1	300	0
Vacuum Street Sweeper	No	10		81.6	300	0

Results

Equipment	Calculated (dBA)		Noise Limits (dBA)				
	*Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq	Night Lmax
Man Lift	59.1	52.1	N/A	N/A	N/A	N/A	N/A
Backhoe	62	58	N/A	N/A	N/A	N/A	N/A
Concrete Saw	74	67	N/A	N/A	N/A	N/A	N/A
Crane	65	57	N/A	N/A	N/A	N/A	N/A
Drill Rig Truck	63.6	56.6	N/A	N/A	N/A	N/A	N/A
Dump Truck	60.9	56.9	N/A	N/A	N/A	N/A	N/A
Excavator	65.1	61.2	N/A	N/A	N/A	N/A	N/A
Generator	65.1	62.1	N/A	N/A	N/A	N/A	N/A
Front End Loader	63.5	59.6	N/A	N/A	N/A	N/A	N/A
Front End Loader	63.5	59.6	N/A	N/A	N/A	N/A	N/A
Front End Loader	63.5	59.6	N/A	N/A	N/A	N/A	N/A
Vacuum Street Sweeper	66	56	N/A	N/A	N/A	N/A	N/A
Total	74	71.2	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: 6/19/2023

Case Description: Cambrian Tank Construction

---- Receptor #1 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Residential	Residential	80	80	80

Description	Impact Device	Usage(%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Man Lift	No	20		74.7	400	0
Backhoe	No	40		77.6	400	0
Concrete Saw	No	20		89.6	400	0
Crane	No	16		80.6	400	0
Drill Rig Truck	No	20		79.1	400	0
Dump Truck	No	40		76.5	400	0
Excavator	No	40		80.7	400	0
Generator	No	50		80.6	400	0
Front End Loader	No	40		79.1	400	0
Front End Loader	No	40		79.1	400	0
Front End Loader	No	40		79.1	400	0
Vacuum Street Sweeper	No	10		81.6	400	0

Results

Equipment	Calculated (dBA)			Noise Limits (dBA)			
	*Lmax	Leq	Day Lmax	Evening Leq	Evening Lmax	Night Leq	Night Lmax
Man Lift	56.6	49.6	N/A	N/A	N/A	N/A	N/A
Backhoe	59.5	55.5	N/A	N/A	N/A	N/A	N/A
Concrete Saw	71.5	64.5	N/A	N/A	N/A	N/A	N/A
Crane	62.5	54.5	N/A	N/A	N/A	N/A	N/A
Drill Rig Truck	61.1	54.1	N/A	N/A	N/A	N/A	N/A
Dump Truck	58.4	54.4	N/A	N/A	N/A	N/A	N/A
Excavator	62.6	58.7	N/A	N/A	N/A	N/A	N/A
Generator	62.6	59.6	N/A	N/A	N/A	N/A	N/A
Front End Loader	61	57.1	N/A	N/A	N/A	N/A	N/A
Front End Loader	61	57.1	N/A	N/A	N/A	N/A	N/A
Front End Loader	61	57.1	N/A	N/A	N/A	N/A	N/A
Vacuum Street Sweeper	63.5	53.5	N/A	N/A	N/A	N/A	N/A
Total	71.5	68.7	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: 6/19/2023

Case Description: Cambrian Tank Construction

---- Receptor #1 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Residential	Residential	80	80	80

Description	Impact Device	Usage(%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Dozer	No	40		81.7	200	0
Backhoe	No	40		77.6	200	0
Excavator	No	40		80.7	200	0
Front End Loader	No	40		79.1	200	0
Front End Loader	No	40		79.1	200	0
Vacuum Street Sweeper	No	10		81.6	200	0

Equipment	Calculated (dBA)		Results				
	*Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq	Night Lmax
Dozer	69.6	65.6	N/A	N/A	N/A	N/A	N/A
Backhoe	65.5	61.5	N/A	N/A	N/A	N/A	N/A
Excavator	68.7	64.7	N/A	N/A	N/A	N/A	N/A
Front End Loader	67.1	63.1	N/A	N/A	N/A	N/A	N/A
Front End Loader	67.1	63.1	N/A	N/A	N/A	N/A	N/A
Vacuum Street Sweeper	69.5	59.5	N/A	N/A	N/A	N/A	N/A
Total	69.6	71.1	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: 6/19/2023

Case Description: Cambrian Tank Construction

---- Receptor #1 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Residential	Residential	80	80	80

Description	Impact Device	Usage(%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Dozer	No	40		81.7	300	0
Backhoe	No	40		77.6	300	0
Excavator	No	40		80.7	300	0
Front End Loader	No	40		79.1	300	0
Front End Loader	No	40		79.1	300	0
Vacuum Street Sweeper	No	10		81.6	300	0

Equipment	Calculated (dBA)			Noise Limits (dBA)			
	*Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq	Night Lmax
Dozer	66.1	62.1	N/A	N/A	N/A	N/A	N/A
Backhoe	62	58	N/A	N/A	N/A	N/A	N/A
Excavator	65.1	61.2	N/A	N/A	N/A	N/A	N/A
Front End Loader	63.5	59.6	N/A	N/A	N/A	N/A	N/A
Front End Loader	63.5	59.6	N/A	N/A	N/A	N/A	N/A
Vacuum Street Sweeper	66	56	N/A	N/A	N/A	N/A	N/A
Total	66.1	67.6	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: 6/19/2023

Case Description: Cambrian Tank Construction

---- Receptor #1 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Residential	Residential	80	80	80

Description	Impact Device	Usage(%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Dozer	No	40		81.7	400	0
Backhoe	No	40		77.6	400	0
Excavator	No	40		80.7	400	0
Front End Loader	No	40		79.1	400	0
Front End Loader	No	40		79.1	400	0
Vacuum Street Sweeper	No	10		81.6	400	0

Equipment	Calculated (dBA)			Noise Limits (dBA)			
	*Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq	Night Lmax
Dozer	63.6	59.6	N/A	N/A	N/A	N/A	N/A
Backhoe	59.5	55.5	N/A	N/A	N/A	N/A	N/A
Excavator	62.6	58.7	N/A	N/A	N/A	N/A	N/A
Front End Loader	61	57.1	N/A	N/A	N/A	N/A	N/A
Front End Loader	61	57.1	N/A	N/A	N/A	N/A	N/A
Vacuum Street Sweeper	63.5	53.5	N/A	N/A	N/A	N/A	N/A
Total	63.6	65.1	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: 6/19/2023

Case Description: Cambrian Tank Construction

---- Receptor #1 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Residential	Residential	80	80	80

Description	Impact Device	Usage(%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Dozer	No	40		81.7	200	0
Backhoe	No	40		77.6	200	0
Dump Truck	No	40		76.5	200	0
Excavator	No	40		80.7	200	0
Front End Loader	No	40		79.1	200	0
Front End Loader	No	40		79.1	200	0
Roller	No	20		80	200	0
Vacuum Street Sweeper	No	10		81.6	200	0
Scraper	No	40		83.6	200	0

Equipment	Results							
	Calculated (dBA)				Noise Limits (dBA)			
	*Lmax	Leq	Day Lmax	Evening Lmax	Night Lmax	Leq	Leq	Lmax
Dozer	69.6	65.6	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	65.5	61.5	N/A	N/A	N/A	N/A	N/A	N/A
Dump Truck	64.4	60.4	N/A	N/A	N/A	N/A	N/A	N/A
Excavator	68.7	64.7	N/A	N/A	N/A	N/A	N/A	N/A
Front End Loader	67.1	63.1	N/A	N/A	N/A	N/A	N/A	N/A
Front End Loader	67.1	63.1	N/A	N/A	N/A	N/A	N/A	N/A
Roller	68	61	N/A	N/A	N/A	N/A	N/A	N/A
Vacuum Street Sweeper	69.5	59.5	N/A	N/A	N/A	N/A	N/A	N/A
Scraper	71.5	67.6	N/A	N/A	N/A	N/A	N/A	N/A
Total	71.5	73.2	N/A	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: 6/19/2023

Case Description: Cambrian Tank Construction

---- Receptor #1 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Residential	Residential	80	80	80

Description	Impact Device	Usage(%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Dozer	No	40		81.7	300	0
Backhoe	No	40		77.6	300	0
Dump Truck	No	40		76.5	300	0
Excavator	No	40		80.7	300	0
Front End Loader	No	40		79.1	300	0
Front End Loader	No	40		79.1	300	0
Roller	No	20		80	300	0
Vacuum Street Sweeper	No	10		81.6	300	0
Scraper	No	40		83.6	300	0

Equipment	Results							
	Calculated (dBA)				Noise Limits (dBA)			
	*Lmax	Leq	Day Lmax	Evening Lmax	Night Lmax	Leq	Leq	Lmax
Dozer	66.1	62.1	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	62	58	N/A	N/A	N/A	N/A	N/A	N/A
Dump Truck	60.9	56.9	N/A	N/A	N/A	N/A	N/A	N/A
Excavator	65.1	61.2	N/A	N/A	N/A	N/A	N/A	N/A
Front End Loader	63.5	59.6	N/A	N/A	N/A	N/A	N/A	N/A
Front End Loader	63.5	59.6	N/A	N/A	N/A	N/A	N/A	N/A
Roller	64.4	57.4	N/A	N/A	N/A	N/A	N/A	N/A
Vacuum Street Sweeper	66	56	N/A	N/A	N/A	N/A	N/A	N/A
Scraper	68	64	N/A	N/A	N/A	N/A	N/A	N/A
Total	68	69.7	N/A	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: 6/19/2023

Case Description: Cambrian Tank Construction

---- Receptor #1 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Residential	Residential	80	80	80

Description	Impact Device	Usage(%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Dozer	No	40		81.7	400	0
Backhoe	No	40		77.6	400	0
Dump Truck	No	40		76.5	400	0
Excavator	No	40		80.7	400	0
Front End Loader	No	40		79.1	400	0
Front End Loader	No	40		79.1	400	0
Roller	No	20		80	400	0
Vacuum Street Sweeper	No	10		81.6	400	0
Scraper	No	40		83.6	300	0

Equipment	Results						
	Calculated (dBA)			Noise Limits (dBA)			
	*Lmax	Leq	Day Lmax	Evening Leq	Evening Lmax	Night Leq	Night Lmax
Dozer	63.6	59.6	N/A	N/A	N/A	N/A	N/A
Backhoe	59.5	55.5	N/A	N/A	N/A	N/A	N/A
Dump Truck	58.4	54.4	N/A	N/A	N/A	N/A	N/A
Excavator	62.6	58.7	N/A	N/A	N/A	N/A	N/A
Front End Loader	61	57.1	N/A	N/A	N/A	N/A	N/A
Front End Loader	61	57.1	N/A	N/A	N/A	N/A	N/A
Roller	61.9	54.9	N/A	N/A	N/A	N/A	N/A
Vacuum Street Sweeper	63.5	53.5	N/A	N/A	N/A	N/A	N/A
Scraper	68	64	N/A	N/A	N/A	N/A	N/A
Total	68	68	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: 6/19/2023

Case Description: Cambrian Tank Construction

---- Receptor #1 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Residential	Residential	80	80	80

Description	Impact Device	Usage(%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Backhoe	No	40		77.6	300	0
Compactor (ground)	No	20		83.2	300	0

Equipment	Results							
	Calculated (dBA)				Noise Limits (dBA)			
	*Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	
Backhoe	62	58	N/A	N/A	N/A	N/A	N/A	
Compactor (ground)	67.7	60.7	N/A	N/A	N/A	N/A	N/A	
Total	67.7	62.6	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: 6/19/2023

Case Description: Cambrian Tank Construction

---- Receptor #1 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Residential	Residential	80	80	80

Description	Impact Device	Usage(%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Backhoe	No	40		77.6	400	0
Compactor (ground)	No	20		83.2	400	0

Equipment	Calculated (dBA)		Results				
	*Lmax	Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax
Backhoe	59.5	55.5	N/A	N/A	N/A	N/A	N/A
Compactor (ground)	65.2	58.2	N/A	N/A	N/A	N/A	N/A
Total	65.2	60.1	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: 6/19/2023

Case Description: Cambrian Tank Construction

---- Receptor #1 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Residential	Residential	80	80	80

Description	Impact Device	Usage(%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Man Lift	No	20		74.7	200	0
Backhoe	No	40		77.6	200	0
Grader	No	40	85		200	0
Crane	No	16		80.6	200	0
Concrete Mixer Truck	No	40		78.8	200	0
Generator	No	50		80.6	200	0
Excavator	No	40		80.7	200	0
Compressor (air)	No	40		77.7	200	0
Front End Loader	No	40		79.1	200	0
Vacuum Street Sweeper	No	10		81.6	200	0

Equipment	Results							
	Calculated (dBA)				Noise Limits (dBA)			
	*Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	
Man Lift	62.7	55.7	N/A	N/A	N/A	N/A	N/A	
Backhoe	65.5	61.5	N/A	N/A	N/A	N/A	N/A	
Grader	73	69	N/A	N/A	N/A	N/A	N/A	
Crane	68.5	60.6	N/A	N/A	N/A	N/A	N/A	
Concrete Mixer Truck	66.8	62.8	N/A	N/A	N/A	N/A	N/A	
Generator	68.6	65.6	N/A	N/A	N/A	N/A	N/A	
Excavator	68.7	64.7	N/A	N/A	N/A	N/A	N/A	
Compressor (air)	65.6	61.6	N/A	N/A	N/A	N/A	N/A	
Front End Loader	67.1	63.1	N/A	N/A	N/A	N/A	N/A	
Vacuum Street Sweeper	69.5	59.5	N/A	N/A	N/A	N/A	N/A	
Total	73	73.7	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: 6/19/2023

Case Description: Cambrian Tank Construction

---- Receptor #1 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Residential	Residential	80	80	80

Description	Impact Device	Usage(%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Man Lift	No	20		74.7	300	0
Backhoe	No	40		77.6	300	0
Grader	No	40	85		300	0
Crane	No	16		80.6	300	0
Concrete Mixer Truck	No	40		78.8	300	0
Generator	No	50		80.6	300	0
Excavator	No	40		80.7	300	0
Compressor (air)	No	40		77.7	300	0
Front End Loader	No	40		79.1	300	0
Vacuum Street Sweeper	No	10		81.6	300	0

Equipment	Results							
	Calculated (dBA)				Noise Limits (dBA)			
	*Lmax	Leq	Day Lmax	Evening Leq	Evening Lmax	Night Leq	Night Lmax	
Man Lift	59.1	52.1	N/A	N/A	N/A	N/A	N/A	
Backhoe	62	58	N/A	N/A	N/A	N/A	N/A	
Grader	69.4	65.5	N/A	N/A	N/A	N/A	N/A	
Crane	65	57	N/A	N/A	N/A	N/A	N/A	
Concrete Mixer Truck	63.2	59.3	N/A	N/A	N/A	N/A	N/A	
Generator	65.1	62.1	N/A	N/A	N/A	N/A	N/A	
Excavator	65.1	61.2	N/A	N/A	N/A	N/A	N/A	
Compressor (air)	62.1	58.1	N/A	N/A	N/A	N/A	N/A	
Front End Loader	63.5	59.6	N/A	N/A	N/A	N/A	N/A	
Vacuum Street Sweeper	66	56	N/A	N/A	N/A	N/A	N/A	
Total	69.4	70.2	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: 6/19/2023

Case Description: Cambrian Tank Construction

---- Receptor #1 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Residential	Residential	80	80	80

Description	Impact Device	Usage(%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Man Lift	No	20		74.7	400	0
Backhoe	No	40		77.6	400	0
Grader	No	40	85		400	0
Crane	No	16		80.6	400	0
Concrete Mixer Truck	No	40		78.8	400	0
Generator	No	50		80.6	400	0
Excavator	No	40		80.7	400	0
Compressor (air)	No	40		77.7	400	0
Front End Loader	No	40		79.1	400	0
Vacuum Street Sweeper	No	10		81.6	400	0

Results

Equipment	Calculated (dBA)			Noise Limits (dBA)			
	*Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq	Night Lmax
Man Lift	56.6	49.6	N/A	N/A	N/A	N/A	N/A
Backhoe	59.5	55.5	N/A	N/A	N/A	N/A	N/A
Grader	66.9	63	N/A	N/A	N/A	N/A	N/A
Crane	62.5	54.5	N/A	N/A	N/A	N/A	N/A
Concrete Mixer Truck	60.7	56.8	N/A	N/A	N/A	N/A	N/A
Generator	62.6	59.6	N/A	N/A	N/A	N/A	N/A
Excavator	62.6	58.7	N/A	N/A	N/A	N/A	N/A
Compressor (air)	59.6	55.6	N/A	N/A	N/A	N/A	N/A
Front End Loader	61	57.1	N/A	N/A	N/A	N/A	N/A
Vacuum Street Sweeper	63.5	53.5	N/A	N/A	N/A	N/A	N/A
Total	66.9	67.7	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: 6/19/2023
 Case Description: Cambrian Tank Construction

---- Receptor #1 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Residential	Residential	80	80	80

Description	Impact Device	Usage(%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Man Lift	No	20		74.7	200	0
Generator	No	50		80.6	200	0
Compressor (air)	No	40		77.7	200	0

Equipment	Results							
	Calculated (dBA)				Noise Limits (dBA)			
	*Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq
Man Lift	62.7	55.7	N/A	N/A	N/A	N/A	N/A	N/A
Generator	68.6	65.6	N/A	N/A	N/A	N/A	N/A	N/A
Compressor (air)	65.6	61.6	N/A	N/A	N/A	N/A	N/A	N/A
Total	68.6	67.4	N/A	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: 6/19/2023
 Case Description: Cambrian Tank Construction

---- Receptor #1 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Residential	Residential	80	80	80

Description	Device	Impact	Usage(%)	Equipment			Estimated Shielding (dBA)
				Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	
Man Lift	No		20		74.7	300	0
Generator	No		50		80.6	300	0
Compressor (air)	No		40		77.7	300	0

Equipment	Total	Results						
		Calculated (dBA)		Noise Limits (dBA)				
		*Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq	Night Lmax
Man Lift		59.1	52.1	N/A	N/A	N/A	N/A	N/A
Generator		65.1	62.1	N/A	N/A	N/A	N/A	N/A
Compressor (air)		62.1	58.1	N/A	N/A	N/A	N/A	N/A
	Total	65.1	63.8	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: 6/19/2023

Case Description: Cambrian Tank Construction

---- Receptor #1 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Residential	Residential	80	80	80

Description	Impact Device	Usage(%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Man Lift	No	20		74.7	400	0
Generator	No	50		80.6	400	0
Compressor (air)	No	40		77.7	400	0

Equipment	Results							
	Calculated (dBA)				Noise Limits (dBA)			
	*Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	
Man Lift	56.6	49.6	N/A	N/A	N/A	N/A	N/A	
Generator	62.6	59.6	N/A	N/A	N/A	N/A	N/A	
Compressor (air)	59.6	55.6	N/A	N/A	N/A	N/A	N/A	
Total	62.6	61.3	N/A	N/A	N/A	N/A	N/A	

*Calculated Lmax is the Loudest value.

March 13, 2023

City of San Jose
Planning, Building, & Code Enforcement
200 E. Santa Clara St., T3
San Jose, CA 95113

Re: Cambrian Tank Site Mixing Pump's Noise

To Whom It May Concern,

The new tank mixing system pumps will be required to be housed in a shelter that reduces the noise level to less than 70 dBA at a distance of 5 feet from the pump. The closest property line to either of the pumps is 50-feet away as shown on the attached figure. This distance to the property line will result in a noise level less than or equal to 50 dBA, as calculated per the Inverse Square Law as shown in the attached calculation.

Therefore, the project components will not exceed 55 dBA at any property line, and will be in conformance with the City of San Jose Municipal Code Section 20.30.700.

Regards,

Jon Roy, PE

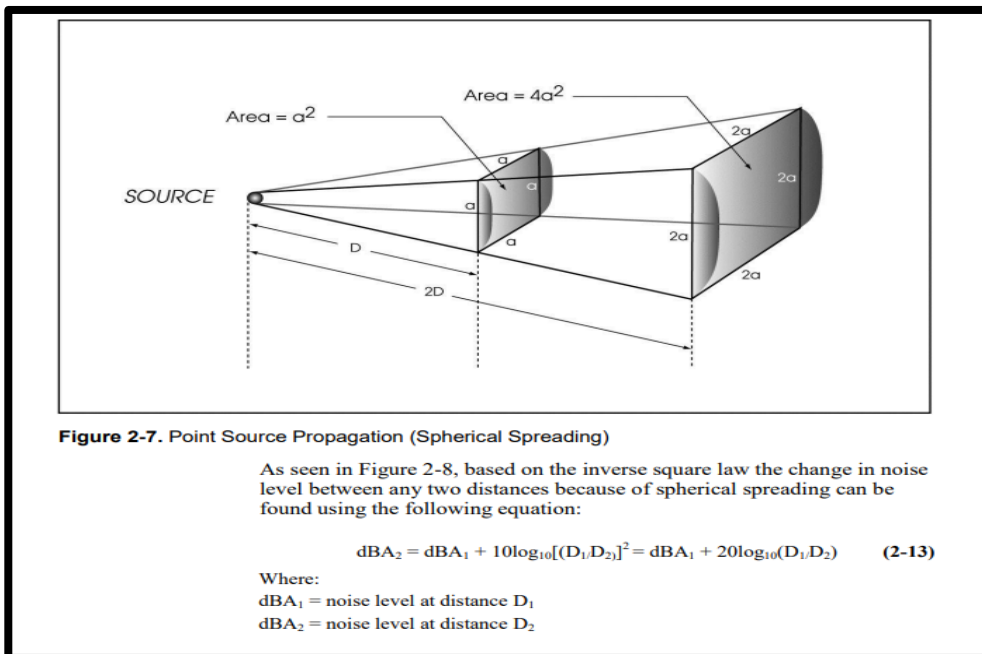




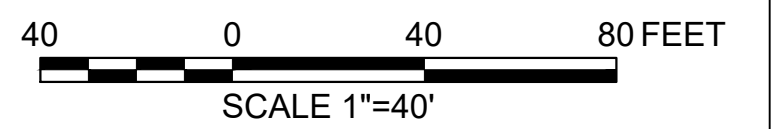
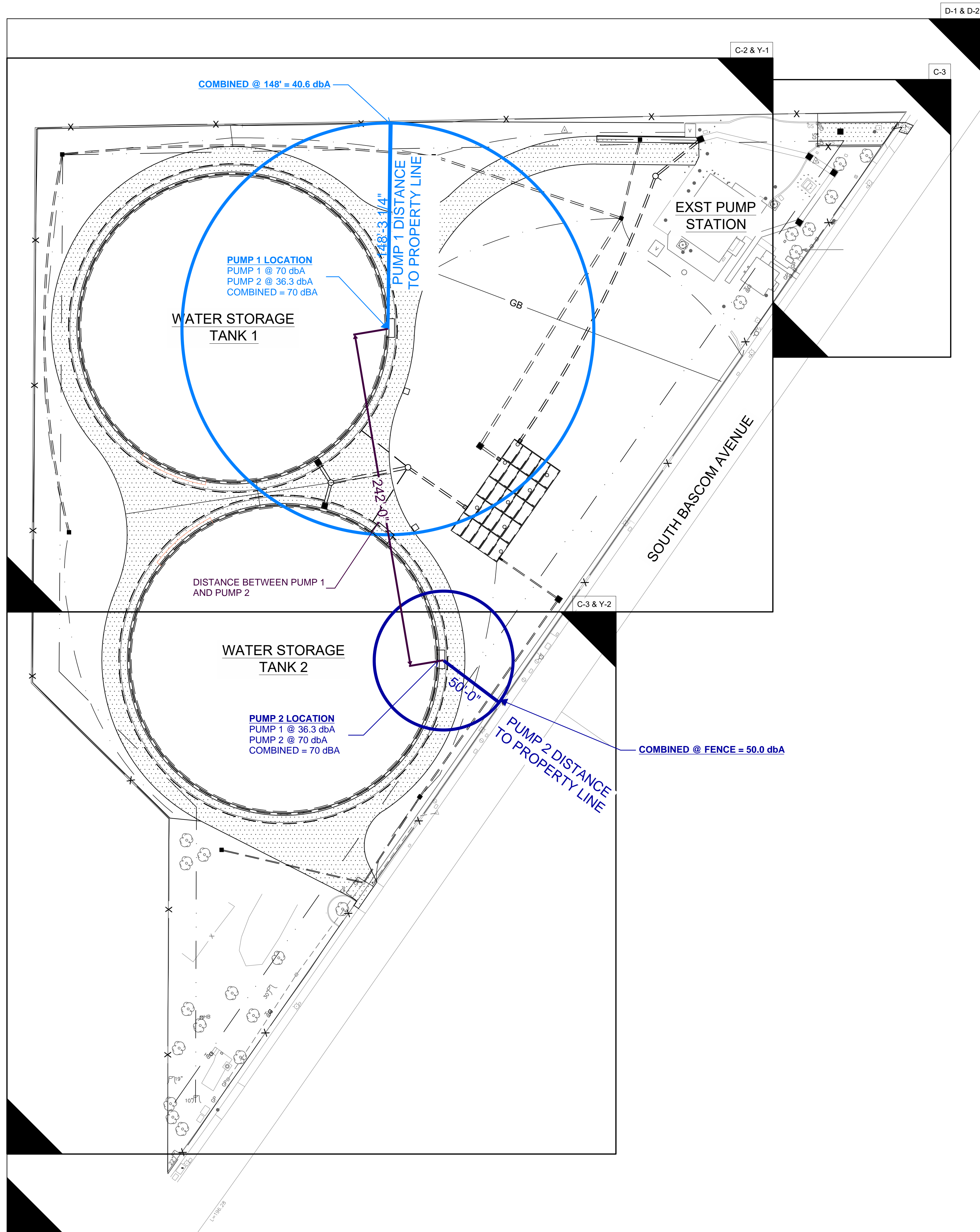
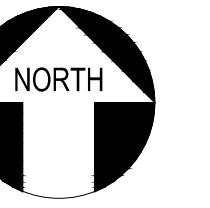
Decibel at property line restriction (City of San Jose)		
Public Quasi public (adjacent to Residential)	55	City of San Jose Municipal Code 20.40.600
Public Quasi public (adjacent to non-residential)	60	
Any residential use	55	City of San Jose Municipal Code 20.30.700

Sound from Pump 1 at Pump 2			Notes: Maximum allowable sound 5' from enclosure per pump specification. Sound at Pump 2 Estimated with Inverse Square Law
Location	Pump 1	At Pump 2	
Distance (ft)	5	242	
Sound (dbA)	70.0	36.3	
Sound from Pump 2 at Pump 1			Maximum allowable sound 5' from enclosure per pump specification. Sound at Pump 1 Estimated with Inverse Square Law
Location	Pump 2	At Pump 1	
Distance (ft)	5	242	
Sound (dbA)	70.0	36.3	
Distance to Fence Line			Use the minimum distance (Pump 2 to Fence) to calculate maximum sound at fence line
Location	Pump 1 to Fence Line	Pump 2 to Fence Line	
Distance (ft)	148	50	
Combined Sound of Both Pumps at Fence Line			Combined Sound using logarithmic addition from sound of Pump 1 at Pump 2 and sound of Pump 2. Sound at fence line estimated with Inverse Square Law.
Location	Combined at Pump 2	At Fence Line	
Distance (ft)	5	50	
Sound (dbA)	70.0	50.0	

PASS as combined noise at fence line is < 55 dbA



Reference: Caltrans Technical Noise Supplement to the Traffic Noise Analysis Protocol report equation 2-13 for Point Source Propagation



BUDGET # SJWXXXXX	
SJW SAN JOSE WATER	
CAMBRIAN ZONE STORAGE CONSOLIDATION	
OVERVIEW AND KEY MAP	
HEALTH AND SAFETY / DATE	REF. NOS.
BY M. TRUITT	J3-011
OPERATIONS / DATE	
DATE FEBRUARY 2023	DWG. NO.
CHECK / DATE	C-1
ENGINEERING, PLANNING / DATE	SHEET OF XX
ENGINEERING, SPECIAL FACILITIES / DATE	
SCALE	
AS SHOWN	
CHIEF ENGINEER / DATE	



AS-BUILT STAMP					
BY	REVISION	DATE	CK	DATE	CK