

Appendix H

Noise and Vibration Supporting Information

Appendix NOI

Noise and Vibration Appendix

RCNM Outputs for Construction Noise

Traffic Noise Model

Noise Monitoring

Stationary Source Noise Modeling

Vibration Model

RCNM Outputs for Construction Noise

Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 12/28/2023
 Case Description: Site Preparation - Trailers

**** Receptor #1 ****

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Santa Teresa Apartment	Residential	62.0	55.0	50.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Saw	No	20		89.6	50.0	0.0
Concrete Saw	No	20		89.6	50.0	0.0

Results

Noise Limit Exceedance (dBA) Noise Limits (dBA)

Day		Calculated (dBA)			Day Night		Evening		Night
Equipment	Leq	Lmax	Leq	Lmax	Lmax	Leq	Lmax	Leq	Lmax
Concrete Saw	N/A	89.6	82.6	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	N/A	89.6	82.6	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total		89.6	85.6	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

**** Receptor #2 ****

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Bright Horizons at San Jose	Commercial	61.0	55.0	50.0

Description	Equipment		Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
	Impact Device	Usage (%)				
Concrete Saw	No	20		89.6	100.0	0.0
Concrete Saw	No	20		89.6	220.0	0.0

Results

Noise Limit Exceedance (dBA)					Noise Limits (dBA)				
Day		Calculated (dBA) Evening		Day Night		Evening		Night	
Equipment	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Concrete Saw	N/A	N/A	83.6	76.6	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	N/A	N/A	76.7	69.7	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
		Total	83.6	77.4	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

**** Receptor #3 ****

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Del Canto Dr Residences	Residential	67.0	55.0	50.0

Description	Equipment		Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
	Impact Device	Usage (%)				
Concrete Saw	No	20		89.6	1300.0	0.0
Concrete Saw	No	20		89.6	320.0	0.0

Results

Noise Limit Exceedance (dBA)

Noise Limits (dBA)

Day		Calculated (dBA) Evening			Day Night		Evening		Night
Equipment	Leq	Lmax	Leq	Lmax	Lmax	Leq	Lmax	Leq	Lmax
Concrete Saw	N/A	61.3	54.3	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	N/A	73.5	66.5	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	73.5	66.7	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

**** Receptor #4 ****

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Santa Teresa Branch Library	Commercial	59.0	55.0	50.0

Description	Equipment		Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
	Impact Device	Usage (%)				
Concrete Saw	No	20	89.6	89.6	1000.0	0.0
Concrete Saw	No	20	89.6	89.6	120.0	0.0

Results

Noise Limit Exceedance (dBA)

Noise Limits (dBA)

Day	Calculated (dBA) Evening			Day Night	Evening	Night
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Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 08/14/2023
 Case Description: Demolition

**** Receptor #1 ****

Description	Baselines (dBA)			
	Land Use	Daytime	Evening	Night
Santa Teresa Apartment	Residential	55.0	55.0	50.0

Description	Equipment					
	Impact Device	Spec Usage (%)	Actual Lmax (dBA)	Receptor Lmax (dBA)	Estimated Distance (feet)	Shielding (dBA)
Concrete Saw	No	20	89.6	290.0	0.0	
Mounted Impact Hammer (hoe ram)	Yes	20	90.3	290.0	0.0	

Equipment Lmax Leq	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				
Concrete Saw	74.3	67.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A				
Mounted Impact Hammer (hoe ram)	N/A	N/A	75.0	68.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A				
Total	75.0	70.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A				

**** Receptor #2 ****

Description	Baselines (dBA)			
	Land Use	Daytime	Evening	Night
Bright Horizons at San Jose	Residential	55.0	55.0	50.0

Description	Equipment					
	Impact Device	Spec Usage (%)	Actual Lmax (dBA)	Receptor Lmax (dBA)	Estimated Distance (feet)	Shielding (dBA)
Concrete Saw	No	20	89.6	220.0	0.0	
Mounted Impact Hammer (hoe ram)	Yes	20	90.3	220.0	0.0	

Results

			Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Calculated (dBA)		Day		Evening		Night		Day		Evening	
Equipment	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Concrete Saw	76.7	69.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Mounted Impact Hammer (hoe ram)	77.4	70.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	77.4	73.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

N/A

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 08/14/2023
 Case Description: Site Preparation

**** Receptor #1 ****

Description	Baselines (dBA)			
	Land Use	Daytime	Evening	Night
Santa Teresa Apartment	Residential	55.0	55.0	50.0

Equipment

Description	Impact Device	Spec Usage (%)	Actual Lmax (dBA)	Receptor Lmax (dBA)	Estimated Distance (feet)	Shielding (dBA)
Concrete Saw	No	20	89.6	290.0	0.0	

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	Lmax	Leq
Concrete Saw N/A	74.3	67.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw N/A	74.3	67.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total N/A	74.3	70.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

**** Receptor #2 ****

Description	Baselines (dBA)			
	Land Use	Daytime	Evening	Night
Bright Horizons at San Jose	Commercial	55.0	55.0	50.0

Equipment

Description	Impact Device	Spec Usage (%)	Actual Lmax (dBA)	Receptor Lmax (dBA)	Estimated Distance (feet)	Shielding (dBA)
Concrete Saw	No	20	89.6	220.0	0.0	

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	Lmax	Leq
Concrete Saw N/A	76.7	69.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw N/A	76.7	69.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total N/A	76.7	72.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

**** Receptor #3 ****

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night
Del Canto Dr Residences	Residential	55.0	55.0	50.0

Equipment

Description	Impact Device	Spec Usage (%)	Actual Receptor		Estimated	
			Lmax (dBA)	Lmax (dBA)	Distance (feet)	Shielding (dBA)
Concrete Saw	No	20	89.6	89.6	320.0	0.0
Concrete Saw	No	20	89.6	89.6	320.0	0.0

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	Lmax	Leq
Concrete Saw N/A	73.5	66.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw N/A	73.5	66.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total N/A	73.5	69.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

**** Receptor #4 ****

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night
Santa Teresa Branch Library	Commercial	55.0	55.0	50.0

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 07/13/2023
 Case Description: Grading (Parking Structure)

**** Receptor #1 ****

Description	Baselines (dBA)			
	Land Use	Daytime	Evening	Night
Santa Teresa Apartment	Residential	55.0	55.0	50.0

Description	Equipment					
	Impact Device	Spec Usage (%)	Actual Lmax (dBA)	Receptor Lmax (dBA)	Estimated Distance (feet)	Shielding (dBA)
Grader	No	40	85.0	310.0	0.0	
Tractor	No	40	84.0	310.0	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
Grader	69.2	65.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A													
Tractor	68.2	64.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A													
Total	69.2	67.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A													

**** Receptor #2 ****

Description	Baselines (dBA)			
	Land Use	Daytime	Evening	Night
Santa Teresa Branch Library	Commercial	55.0	55.0	50.0

Description	Equipment					
	Impact Device	Spec Usage (%)	Actual Lmax (dBA)	Receptor Lmax (dBA)	Estimated Distance (feet)	Shielding (dBA)
Grader	No	40	85.0	120.0	0.0	
Tractor	No	40	84.0	120.0	0.0	

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 07/13/2023
 Case Description: Grading (Hospital)

**** Receptor #1 ****

Description	Baselines (dBA)			
	Land Use	Daytime	Evening	Night
Del Canto Dr Residences	Residential	55.0	55.0	50.0

Description	Equipment					
	Impact Device	Spec Usage (%)	Actual Lmax (dBA)	Receptor Lmax (dBA)	Estimated Distance (feet)	Shielding (dBA)
Concrete Saw	No	20	89.6	89.6	700.0	0.0
Tractor	No	40	84.0	84.0	700.0	0.0

Equipment Lmax Leq	Results													
	Noise Limits (dBA)						Noise Limit Exceedance (dBA)							
	Calculated (dBA)		Day		Evening		Night		Day		Evening		Night	
Concrete Saw	66.7	59.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	61.1	57.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	66.7	61.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

**** Receptor #2 ****

Description	Baselines (dBA)			
	Land Use	Daytime	Evening	Night
Coffeeberry Drive Residences	Residential	55.0	55.0	50.0

Description	Equipment					
	Impact Device	Spec Usage (%)	Actual Lmax (dBA)	Receptor Lmax (dBA)	Estimated Distance (feet)	Shielding (dBA)
Concrete Saw	No	20	89.6	89.6	390.0	0.0
Tractor	No	40	84.0	84.0	390.0	0.0

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 07/12/2023
 Case Description: Trenching (Parking Structure)

**** Receptor #1 ****

Description	Baselines (dBA)			
	Land Use	Daytime	Evening	Night
Santa Teresa Apartment	Residential	55.0	55.0	50.0

Description	Equipment					
	Impact Device	Spec Usage (%)	Actual Lmax (dBA)	Receptor Lmax (dBA)	Estimated Distance (feet)	Shielding (dBA)
Tractor	No	40	84.0	310.0	0.0	
Tractor	No	40	84.0	310.0	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				
Tractor	68.2	64.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A			
N/A																		
Tractor	68.2	64.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A			
N/A																		
Total	68.2	67.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A			
N/A																		

**** Receptor #2 ****

Description	Baselines (dBA)			
	Land Use	Daytime	Evening	Night
Santa Teresa Branch Library	Commercial	55.0	55.0	50.0

Description	Equipment					
	Impact Device	Spec Usage (%)	Actual Lmax (dBA)	Receptor Lmax (dBA)	Estimated Distance (feet)	Shielding (dBA)
Tractor	No	40	84.0	120.0	0.0	
Tractor	No	40	84.0	120.0	0.0	

Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 07/12/2023
 Case Description: Trenching (Hospital)

**** Receptor #1 ****

Description	Baselines (dBA)			
	Land Use	Daytime	Evening	Night
Del Canto Dr Residences	Residential	55.0	55.0	50.0

Description	Equipment					
	Impact Device	Spec Usage (%)	Actual Lmax (dBA)	Receptor Lmax (dBA)	Estimated Distance (feet)	Shielding (dBA)
Concrete Saw	No	20	89.6	89.6	700.0	0.0
Tractor	No	40	84.0	84.0	700.0	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	
Concrete Saw	66.7	59.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A														
Tractor	61.1	57.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A														
Total	66.7	61.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A														

**** Receptor #2 ****

Description	Baselines (dBA)			
	Land Use	Daytime	Evening	Night
Coffeeberry Drive Residences	Residential	55.0	55.0	50.0

Description	Equipment					
	Impact Device	Spec Usage (%)	Actual Lmax (dBA)	Receptor Lmax (dBA)	Estimated Distance (feet)	Shielding (dBA)
Concrete Saw	No	20	89.6	89.6	390.0	0.0
Tractor	No	40	84.0	84.0	390.0	0.0

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 07/12/2023
 Case Description: Trenching (Hospital)

**** Receptor #1 ****

Description	Baselines (dBA)			
	Land Use	Daytime	Evening	Night
Del Canto Dr Residences	Residential	55.0	55.0	50.0

Description	Equipment					
	Impact Device	Spec Usage (%)	Actual Lmax (dBA)	Receptor Lmax (dBA)	Estimated Distance (feet)	Shielding (dBA)
Concrete Saw	No	20	89.6	89.6	500.0	0.0
Concrete Saw	No	20	89.6	89.6	500.0	0.0

Equipment Lmax Leq	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		
Concrete Saw N/A	69.6	62.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw N/A	69.6	62.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total N/A	69.6	65.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

**** Receptor #2 ****

Description	Baselines (dBA)			
	Land Use	Daytime	Evening	Night
Coffeeberry Drive Residences	Residential	55.0	55.0	50.0

Description	Equipment					
	Impact Device	Spec Usage (%)	Actual Lmax (dBA)	Receptor Lmax (dBA)	Estimated Distance (feet)	Shielding (dBA)
Concrete Saw	No	20	89.6	89.6	390.0	0.0
Concrete Saw	No	20	89.6	89.6	390.0	0.0

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 07/13/2023
 Case Description: Trenching (Parking Structure)

**** Receptor #1 ****

Description	Baselines (dBA)			
	Land Use	Daytime	Evening	Night
Santa Teresa Apartment	Residential	55.0	55.0	50.0

Equipment

Description	Impact Device	Spec Usage (%)	Actual Receptor		Estimated	
			Lmax (dBA)	Lmax (dBA)	Distance (feet)	Shielding (dBA)
Gradall	No	40	83.4	310.0	0.0	
Gradall	No	40	83.4	310.0	0.0	

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	Lmax	Leq
Gradall N/A	67.6	63.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gradall N/A	67.6	63.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total N/A	67.6	66.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

**** Receptor #2 ****

Description	Baselines (dBA)			
	Land Use	Daytime	Evening	Night
Santa Teresa Branch Library	Commercial	55.0	55.0	50.0

Equipment

Description	Impact Device	Spec Usage (%)	Actual Receptor		Estimated	
			Lmax (dBA)	Lmax (dBA)	Distance (feet)	Shielding (dBA)
Gradall	No	40	83.4	120.0	0.0	
Gradall	No	40	83.4	120.0	0.0	

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 08/14/2023
 Case Description: Paving Phase

**** Receptor #1 ****

Description	Baselines (dBA)			
	Land Use	Daytime	Evening	Night
Santa Teresa Apartment	Residential	55.0	55.0	50.0

Description	Equipment					
	Impact Device	Spec Usage (%)	Actual Lmax (dBA)	Receptor Lmax (dBA)	Estimated Distance (feet)	Shielding (dBA)
Grader	No	40	85.0	310.0	0.0	
Tractor	No	40	84.0	310.0	0.0	

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	Lmax	Leq
Grader N/A	69.2	65.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor N/A	68.2	64.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total N/A	69.2	67.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

**** Receptor #2 ****

Description	Baselines (dBA)			
	Land Use	Daytime	Evening	Night
Bright Horizons at San Jose	Commercial	55.0	55.0	50.0

Description	Equipment					
	Impact Device	Spec Usage (%)	Actual Lmax (dBA)	Receptor Lmax (dBA)	Estimated Distance (feet)	Shielding (dBA)
Grader	No	40	85.0	220.0	0.0	
Tractor	No	40	84.0	220.0	0.0	

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	Lmax	Leq
Grader N/A	72.1	68.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor N/A	71.1	67.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total N/A	72.1	70.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

**** Receptor #3 ****

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night
Del Canto Dr Residences	Residential	55.0	55.0	50.0

Equipment

Description	Impact Device	Spec Usage (%)	Actual Receptor Estimated		
			Lmax (dBA)	Lmax (dBA)	Distance (feet)
Grader	No	40	85.0	320.0	0.0
Tractor	No	40	84.0	320.0	0.0

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	Lmax	Leq
Grader N/A	68.9	64.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor N/A	67.9	63.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total N/A	68.9	67.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

**** Receptor #4 ****

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night
Santa Teresa Branch Library	Commercial	55.0	55.0	50.0

Traffic Noise Model

Existing

ROAD SEGMENT	from:	to:	TOTAL # VEHICLES	VEHICLE TYPE %			VEHICLE SPEED				NOISE LEVEL (dBA)			CALCULATED NOISE LEVEL 15 meters from roadway center)	Receptor Dist. from Roadway Center (m.)	Adjusted Noise Level (dBA)	Distance from Roadway to 65 dBA (m.)	Distance from Roadway to 65 dBA (ft)					
				Auto	MT	HT	Auto	k/h	MT	k/h	HT	k/h	Auto						MT	HT			
				%	Auto	%	MT	%	HT														
Calveno Peak																							
Cottle Road	SR 85 SB Off-Ramp	Hospital Pkwy/Palmia Dr	3129	95	2972.6	3	93.87	2	62.58	35	56	35	56	35	56	69.0	63.8	68.7	72.5	40	68.2	84.5	277.3
Palmia Dr	Cottle Road	Primrose Drive	665	95	631.75	3	19.95	2	13.3	25	40	25	40	25	40	58.1	54.8	60.6	63.2	40	59.0	10.0	32.7
Hospital Pkwy	Cottle Road	International Circle	1028	95	976.6	3	30.84	2	20.56	25	40	25	40	25	40	60.0	56.6	62.5	65.1	40	60.9	15.4	50.6
Cottle Road	Hospital Pkwy/Palmia Dr	Santa Teresa Boulevard	2271	95	2157.5	3	68.13	2	45.42	35	56	35	56	35	56	67.6	62.4	67.3	71.1	40	66.9	61.4	201.3
Cottle Road	Santa Teresa Boulevard	El Portal Way	1142	95	1084.9	3	34.26	2	22.84	35	56	35	56	35	56	64.7	59.4	64.3	68.1	40	63.9	30.9	101.2
Santa Teresa Boulevard	Lean Avenue	Cottle Road	1691	95	1606.5	3	50.73	2	33.82	45	72	45	72	45	72	69.5	62.8	67.0	72.0	40	67.8	75.4	247.3
Santa Teresa Boulevard	Cottle Road	Camino Verde Drive	1881	95	1787	3	56.43	2	37.62	45	72	45	72	45	72	70.0	63.3	67.5	72.5	40	68.2	83.9	275.1
Camino Verde Drive	El Portal Way	Santa Teresa Boulevard	416	95	395.2	3	12.48	2	8.32	25	40	25	40	25	40	56.1	52.7	58.6	61.2	40	56.9	6.2	20.5
Santa Teresa Boulevard	Camino Verde Drive	Lissow Drive/Encinal Drive	1502	95	1426.9	3	45.06	2	30.04	45	72	45	72	45	72	69.0	62.3	66.5	71.5	40	67.2	67.0	219.7

Assumptions: PM peak hour traffic data from Fehr & Peers

Cumulative Program-Level

ROAD SEGMENT	from:	to:	TOTAL # VEHICLES	VEHICLE TYPE %			VEHICLE SPEED				NOISE LEVEL (dBA)			CALCULATED NOISE LEVEL 15 meters from roadway center)	Receptor Dist. from Roadway Center (m.)	Adjusted Noise Level (dBA)	Distance from Roadway to 65 dBA (m.)	Distance from Roadway to 65 dBA (ft)					
				Auto	MT	HT	Auto	k/h	MT	k/h	HT	k/h	Auto						MT	HT			
				%	Auto	%	MT	%	HT														
Calveno Peak																							
Cottle Road	SR 85 SB Off-Ramp	Hospital Pkwy/Palmia Dr	3926	95	3729.7	3	117.8	2	78.52	35	56	35	56	35	56	70.0	64.7	69.7	73.5	40	69.2	106.1	348.0
Palmia Dr	Cottle Road	Primrose Drive	665	95	631.75	3	19.95	2	13.3	25	40	25	40	25	40	58.1	54.8	60.6	63.2	40	59.0	10.0	32.7
Hospital Pkwy	Cottle Road	International Circle	1440	95	1368	3	43.2	2	28.8	25	40	25	40	25	40	61.5	58.1	64.0	66.6	40	62.3	21.6	70.9
Cottle Road	Hospital Pkwy/Palmia Dr	Santa Teresa Boulevard	2850	95	2707.5	3	85.5	2	57	35	56	35	56	35	56	68.6	63.4	68.3	72.1	40	67.8	77.0	252.6
Cottle Road	Santa Teresa Boulevard	El Portal Way	1583	95	1503.9	3	47.49	2	31.66	35	56	35	56	35	56	66.1	60.8	65.7	69.5	40	65.3	42.8	140.3
Santa Teresa Boulevard	Lean Avenue	Cottle Road	3911	95	3715.5	3	117.3	2	78.22	45	72	45	72	45	72	73.2	66.4	70.7	75.7	40	71.4	174.4	572.1
Santa Teresa Boulevard	Cottle Road	Camino Verde Drive	4124	95	3917.8	3	123.7	2	82.48	45	72	45	72	45	72	73.4	66.7	70.9	75.9	40	71.6	183.9	603.2
Camino Verde Drive	El Portal Way	Santa Teresa Boulevard	408	95	387.6	3	12.24	2	8.16	25	40	25	40	25	40	56.0	52.6	58.5	61.1	40	56.8	6.1	20.1
Santa Teresa Boulevard	Camino Verde Drive	Lissow Drive/Encinal Drive	2713	95	2577.4	3	81.39	2	54.26	45	72	45	72	45	72	71.6	64.8	69.1	74.1	40	69.8	121.0	396.8

Assumptions: AM peak hour traffic data from Fehr & Peers

Background

ROAD SEGMENT	from:	to:	TOTAL # VEHICLES	VEHICLE TYPE %			VEHICLE SPEED				NOISE LEVEL (dBA)			CALCULATED NOISE LEVEL 15 meters from roadway center)	Receptor Dist. from Roadway Center (m.)	Adjusted Noise Level (dBA)	Distance from Roadway to 65 dBA (m.)	Distance from Roadway to 65 dBA (ft)					
				Auto	MT	HT	Auto	k/h	MT	k/h	HT	k/h	Auto						MT	HT			
				%	Auto	%	MT	%	HT														
Calveno Peak																							
Cottle Road	SR 85 SB Off-Ramp	Hospital Pkwy/Palmia Dr	3317	95	3151.2	3	99.51	2	66.34	35	56	35	56	35	56	69.3	64.0	69.0	72.8	40	68.5	89.6	294.0
Palmia Dr	Cottle Road	Primrose Drive	665	95	631.75	3	19.95	2	13.3	25	40	25	40	25	40	58.1	54.8	60.6	63.2	40	59.0	10.0	32.7
Hospital Pkwy	Cottle Road	International Circle	1028	95	976.6	3	30.84	2	20.56	25	40	25	40	25	40	60.0	56.6	62.5	65.1	40	60.9	15.4	50.6
Cottle Road	Hospital Pkwy/Palmia Dr	Santa Teresa Boulevard	2438	95	2316.1	3	73.14	2	48.76	35	56	35	56	35	56	68.0	62.7	67.6	71.4	40	67.2	65.9	216.1
Cottle Road	Santa Teresa Boulevard	El Portal Way	1583	95	1503.9	3	47.49	2	31.66	35	56	35	56	35	56	66.1	60.8	65.7	69.5	40	65.3	42.8	140.3
Santa Teresa Boulevard	Lean Avenue	Cottle Road	3821	95	3630	3	114.6	2	76.42	45	72	45	72	45	72	73.1	66.3	70.6	75.6	40	71.3	170.3	558.9
Santa Teresa Boulevard	Cottle Road	Camino Verde Drive	3712	95	3526.4	3	111.4	2	74.24	45	72	45	72	45	72	72.9	66.2	70.5	75.4	40	71.2	165.5	543.0
Camino Verde Drive	El Portal Way	Santa Teresa Boulevard	418	95	397.1	3	12.54	2	8.36	25	40	25	40	25	40	56.1	52.7	58.6	61.2	40	57.0	6.3	20.6
Santa Teresa Boulevard	Camino Verde Drive	Lissow Drive/Encinal Drive	2669	95	2535.6	3	80.07	2	53.38	45	72	45	72	45	72	71.5	64.8	69.0	74.0	40	69.7	119.0	390.4

Assumptions: AM peak hour traffic data from Fehr & Peers

Background Plus Project

ROAD SEGMENT	from:	to:	TOTAL # VEHICLES	VEHICLE TYPE %			VEHICLE SPEED				NOISE LEVEL (dBA)			CALCULATED NOISE LEVEL 15 meters from roadway center)	Receptor Dist. from Roadway Center (m.)	Adjusted Noise Level (dBA)	Distance from Roadway to 65 dBA (m.)	Distance from Roadway to 65 dBA (ft)					
				Auto	MT	HT	Auto	k/h	MT	k/h	HT	k/h	Auto						MT	HT			
				%	Auto	%	MT	%	HT														
Calveno Peak																							
Cottle Road	SR 85 SB Off-Ramp	Hospital Pkwy/Palmia Dr	3505	95	3329.8	3	105.2	2	70.1	35	56	35	56	35	56	69.5	64.3	69.2	73.0	40	68.7	94.7	310.7
Palmia Dr	Cottle Road	Primrose Drive	665	95	631.75	3	19.95	2	13.3	25	40	25	40	25	40	58.1	54.8	60.6	63.2	40	59.0	10.0	32.7
Hospital Pkwy	Cottle Road	International Circle	1121	95	1065	3	33.63	2	22.42	25	40	25	40	25	40	60.4	57.0	62.9	65.5	40	61.2	16.8	55.2
Cottle Road	Hospital Pkwy/Palmia Dr	Santa Teresa Boulevard	2531	95	2404.5	3	75.93	2	50.62	35	56	35	56	35	56	68.1	62.8	67.8	71.6	40	67.3	68.4	224.3
Cottle Road	Santa Teresa Boulevard	El Portal Way	1583	95	1503.9	3	47.49	2	31.66	35	56	35	56	35	56	66.1	60.8	65.7	69.5	40	65.3	42.8	140.3
Santa Teresa Boulevard	Lean Avenue	Cottle Road	3847	95	3654.7	3	115.4	2	76.94	45	72	45	72	45	72	73.1	66.4	70.6	75.6	40	71.3	171.5	562.7
Santa Teresa Boulevard	Cottle Road	Camino Verde Drive	3806	95	3615.7	3	114.2	2	76.12	45	72	45	72	45	72	73.0	66.3	70.6	75.5	40	71.3	169.7	556.7
Camino Verde Drive	El Portal Way	Santa Teresa Boulevard	408	95	387.6	3	12.24	2	8.16	25	40	25	40	25	40	56.0	52.6	58.5	61.1	40	56.8	6.1	20.1
Santa Teresa Boulevard	Camino Verde Drive	Lissow Drive/Encinal Drive	2681	95	2547	3	80.43	2	53.62	45	72	45	72	45	72	71.5	64.8	69.0	74.0	40	69.8	119.5	392.2

Assumptions: AM peak hour traffic data from Fehr & Peers

Noise Monitoring

Summary

File Name on Meter 831_Data.083.s
 File Name on PC 831_0002783-20230620 124739-831_Data.083.lbin
 Serial Number 0002783
 Model Model 831
 Firmware Version 2.403
 User Nick Reynoso
 Location ST-1: Behind 114 Coffeeberry Drive where Cottle Road meets Pamia Drive
 Job Description Kaiser Permanente San José Medical Center
 Note

Measurement

Description
 Start 2023-06-20 12:47:39
 Stop 2023-06-20 13:03:01
 Duration 00:15:21.9
 Run Time 00:15:21.9
 Pause 00:00:00.0
 Pre-Calibration 2023-06-20 11:35:42
 Post-Calibration None
 Calibration Deviation ---

Overall Settings

RMS Weight A Weighting
 Peak Weight Z Weighting
 Detector Slow
 Preamplifier PRM831
 Microphone Correction Off
 Integration Method Linear
 OBA Range Low
 OBA Bandwidth 1/1 and 1/3
 OBA Frequency Weighting Z Weighting
 OBA Max Spectrum Bin Max
 Gain 0.0 dB
 Overload 142.2 dB

	A	C	Z
Under Range Peak	74.7	71.7	76.7 dB
Under Range Limit	25.8	25.8	30.7 dB
Noise Floor	16.6	16.7	21.6 dB

Instrument Identification

Results

LAeq 72.1
 LAE 101.7
 EA 1.656 mPa²h
 LZpeak (max) 2023-06-20 12:49:52 114.0 dB
 LASmax 2023-06-20 12:49:53 89.8 dB
 LASmin 2023-06-20 13:00:36 55.5 dB
 SEA -99.9 dB

	Exceedance Counts	Duration
LAS > 65.0 dB	23	606.6 s
LAS > 85.0 dB	3	9.9 s
LZpeak > 135.0 dB	0	0.0 s
LZpeak > 137.0 dB	0	0.0 s
LZpeak > 140.0 dB	0	0.0 s

Community Noise	Ldn	LDay 07:00-22:00	LNight 22:00-07:00	Lden	LDay 07:00-19:00	LEvening 19:00-22:00	LNight 22:00-07:00	dB
	72.1	72.1	-99.9	72.1	72.1	-99.9	-99.9	

LCeq 80.4 dB
 LAeq 72.1 dB
 LCeq - LAeq 8.4 dB
 LAleq 74.3 dB
 LAeq 72.1 dB
 LAleq - LAeq 2.2 dB

	A		C		Z	
	dB	Time Stamp	dB	Time Stamp	dB	Time Stamp
Leq	72.1		80.4		81.0	
LS(max)	89.8	2023/06/20 12:49:53	101.3	2023/06/20 12:49:54	101.6	2023/06/20 12:49:54
LF(max)	91.8	2023/06/20 12:49:53	103.6	2023/06/20 12:49:53	103.9	2023/06/20 12:49:53
LI(max)	92.7	2023/06/20 12:49:53	104.4	2023/06/20 12:49:53	104.6	2023/06/20 12:49:53
LS(min)	55.5	2023/06/20 13:00:36	66.4	2023/06/20 12:54:40	68.9	2023/06/20 12:54:42
LF(min)	54.7	2023/06/20 13:00:33	64.6	2023/06/20 12:51:19	66.5	2023/06/20 12:51:20
LI(min)	55.3	2023/06/20 13:00:38	66.7	2023/06/20 12:51:20	70.0	2023/06/20 12:56:12
LPeak(max)	109.9	2023/06/20 12:49:54	113.9	2023/06/20 12:49:52	114.0	2023/06/20 12:49:52

Overload Count 0
 Overload Duration 0.0 s
 OBA Overload Count 2
 OBA Overload Duration 6.5 s

Summary

File Name on Meter 831_Data.080.s
 File Name on PC 831_0002783-20230620 114005-831_Data.080.ldbin
 Serial Number 0002783
 Model Model 831
 Firmware Version 2.403
 User Nick Reynoso
 Location ST-2: In front of Bright Horizons at San Jose
 Job Description Kaiser Permanente San José Medical Center
 Note

Measurement

Description

Start 2023-06-20 11:40:05
 Stop 2023-06-20 11:55:06
 Duration 00:15:00.8
 Run Time 00:15:00.8
 Pause 00:00:00.0

 Pre-Calibration 2023-06-20 11:35:43
 Post-Calibration None
 Calibration Deviation ---

Overall Settings

RMS Weight A Weighting
 Peak Weight Z Weighting
 Detector Slow
 Preamplifier PRM831
 Microphone Correction Off
 Integration Method Linear
 OBA Range Low
 OBA Bandwidth 1/1 and 1/3
 OBA Frequency Weighting Z Weighting
 OBA Max Spectrum Bin Max
 Gain 0.0 dB
 Overload 142.2 dB

	A	C	Z
Under Range Peak	74.7	71.7	76.7 dB
Under Range Limit	25.8	25.8	30.7 dB
Noise Floor	16.6	16.7	21.6 dB

Instrument Identification

Results

LAeq 60.7
 LAE 90.2
 EA 117.530 $\mu\text{Pa}^2\text{h}$
 LZpeak (max) 2023-06-20 11:50:53 98.0 dB
 LASmax 2023-06-20 11:50:53 79.7 dB
 LASmin 2023-06-20 11:40:21 48.5 dB
 SEA -99.9 dB

	Exceedance Counts	Duration
LAS > 65.0 dB	5	56.7 s
LAS > 85.0 dB	0	0.0 s
LZpeak > 135.0 dB	0	0.0 s
LZpeak > 137.0 dB	0	0.0 s
LZpeak > 140.0 dB	0	0.0 s

Community Noise Ldn LDay 07:00-22:00 LNight 22:00-07:00 Lden LDay 07:00-19:00 LEvening 19:00-22:00 LNight 22:00-07:00
 60.7 60.7 -99.9 60.7 60.7 -99.9 -99.9 dB

LCeq 68.8 dB
 LAeq 60.7 dB
 LCeq - LAeq 8.1 dB
 LAleq 62.0 dB
 LAeq 60.7 dB
 LAleq - LAeq 1.3 dB

	A		C		Z	
	dB	Time Stamp	dB	Time Stamp	dB	Time Stamp
Leq	60.7		68.8		72.1	
LS(max)	79.7	2023/06/20 11:50:53	84.6	2023/06/20 11:50:53	85.4	2023/06/20 11:50:53
LF(max)	80.8	2023/06/20 11:50:52	85.8	2023/06/20 11:50:52	86.7	2023/06/20 11:50:53
LI(max)	81.1	2023/06/20 11:50:52	86.7	2023/06/20 11:50:52	89.2	2023/06/20 11:45:24
LS(min)	48.5	2023/06/20 11:40:21	59.8	2023/06/20 11:53:55	62.5	2023/06/20 11:48:37
LF(min)	47.9	2023/06/20 11:53:54	57.8	2023/06/20 11:53:58	60.5	2023/06/20 11:40:11
LI(min)	48.3	2023/06/20 11:40:24	60.1	2023/06/20 11:46:13	63.6	2023/06/20 11:48:35
LPeak(max)	92.4	2023/06/20 11:50:52	97.0	2023/06/20 11:50:52	98.0	2023/06/20 11:50:53

Overload Count 0
 Overload Duration 0.0 s
 OBA Overload Count 0
 OBA Overload Duration 0.0 s

Summary

File Name on Meter 831_Data.082.s
 File Name on PC 831_0002783-20230620 121945-831_Data.082.ldbin
 Serial Number 0002783
 Model Model 831
 Firmware Version 2.403
 User Nick Reynoso
 Location ST-3: Behind 6107 Del Canto Drive on Santa Teresa Blvd
 Job Description Kaiser Permanente San José Medical Center
 Note

Measurement

Description
 Start 2023-06-20 12:19:45
 Stop 2023-06-20 12:35:36
 Duration 00:15:51.2
 Run Time 00:15:51.2
 Pause 00:00:00.0
 Pre-Calibration 2023-06-20 11:35:42
 Post-Calibration None
 Calibration Deviation ---

Overall Settings

RMS Weight A Weighting
 Peak Weight Z Weighting
 Detector Slow
 Preamplifier PRM831
 Microphone Correction Off
 Integration Method Linear
 OBA Range Low
 OBA Bandwidth 1/1 and 1/3
 OBA Frequency Weighting Z Weighting
 OBA Max Spectrum Bin Max
 Gain 0.0 dB
 Overload 142.2 dB
 Under Range Peak A 74.7 C 71.7 Z 76.7 dB
 Under Range Limit A 25.8 C 25.8 Z 30.7 dB
 Noise Floor A 16.6 C 16.7 Z 21.6 dB

Instrument Identification

Results

LAeq 67.3
 LAE 97.0
 EA 561.864 µPa²h
 LZpeak (max) 2023-06-20 12:35:14 105.0 dB
 LASmax 2023-06-20 12:35:14 84.7 dB
 LASmin 2023-06-20 12:27:42 49.2 dB
 SEA -99.9 dB

	Exceedance Counts	Duration
LAS > 65.0 dB	38	380.6 s
LAS > 85.0 dB	0	0.0 s
LZpeak > 135.0 dB	0	0.0 s
LZpeak > 137.0 dB	0	0.0 s
LZpeak > 140.0 dB	0	0.0 s

Community Noise	Ldn	LDay 07:00-22:00	LNight 22:00-07:00	Lden	LDay 07:00-19:00	LEvening 19:00-22:00	LNight 22:00-07:00
	67.3	67.3	-99.9	67.3	67.3	-99.9	-99.9 dB

LCeq 75.2 dB
 LAeq 67.3 dB
 LCeq - LAeq 7.9 dB
 LAleq 68.8 dB
 LAeq 67.3 dB
 LAleq - LAeq 1.6 dB

	A		C		Z	
	dB	Time Stamp	dB	Time Stamp	dB	Time Stamp
Leq	67.3		75.2		76.0	
LS(max)	84.7	2023/06/20 12:35:14	93.9	2023/06/20 12:35:14	94.0	2023/06/20 12:35:14
LF(max)	86.7	2023/06/20 12:35:14	96.9	2023/06/20 12:26:02	97.1	2023/06/20 12:26:02
LI(max)	87.7	2023/06/20 12:35:14	97.8	2023/06/20 12:35:13	98.0	2023/06/20 12:35:13
LS(min)	49.2	2023/06/20 12:27:42	61.6	2023/06/20 12:27:41	64.1	2023/06/20 12:30:48
LF(min)	48.6	2023/06/20 12:27:37	59.8	2023/06/20 12:27:40	62.5	2023/06/20 12:30:48
LI(min)	49.2	2023/06/20 12:27:42	62.5	2023/06/20 12:27:41	64.9	2023/06/20 12:30:52
LPeak(max)	97.6	2023/06/20 12:35:14	106.1	2023/06/20 12:35:14	105.0	2023/06/20 12:35:14

Overload Count 0
 Overload Duration 0.0 s
 OBA Overload Count 0
 OBA Overload Duration 0.0 s

Summary

File Name on Meter 831_Data.081.s
 File Name on PC 831_0002783-20230620 115943-831_Data.081.ldbin
 Serial Number 0002783
 Model Model 831
 Firmware Version 2.403
 User Nick Reynoso
 Location ST-4: In front of Santa Teresa Branch Library
 Job Description Kaiser Permanente San José Medical Center
 Note

Measurement

Description
 Start 2023-06-20 11:59:43
 Stop 2023-06-20 12:14:43
 Duration 00:15:00.6
 Run Time 00:15:00.6
 Pause 00:00:00.0
 Pre-Calibration 2023-06-20 11:35:42
 Post-Calibration None
 Calibration Deviation ---

Overall Settings

RMS Weight A Weighting
 Peak Weight Z Weighting
 Detector Slow
 Preamplifier PRM831
 Microphone Correction Off
 Integration Method Linear
 OBA Range Low
 OBA Bandwidth 1/1 and 1/3
 OBA Frequency Weighting Z Weighting
 OBA Max Spectrum Bin Max
 Gain 0.0 dB
 Overload 142.2 dB

	A	C	Z
Under Range Peak	74.7	71.7	76.7 dB
Under Range Limit	25.8	25.8	30.7 dB
Noise Floor	16.6	16.7	21.6 dB

Instrument Identification

Results

LAeq 58.7
 LAE 88.2
 EA 73.868 µPa²h
 LZpeak (max) 2023-06-20 12:08:48 100.6 dB
 LASmax 2023-06-20 12:13:57 71.7 dB
 LASmin 2023-06-20 12:12:10 50.3 dB
 SEA -99.9 dB

	Exceedance Counts	Duration
LAS > 65.0 dB	7	67.6 s
LAS > 85.0 dB	0	0.0 s
LZpeak > 135.0 dB	0	0.0 s
LZpeak > 137.0 dB	0	0.0 s
LZpeak > 140.0 dB	0	0.0 s

Community Noise Ldn LDay 07:00-22:00 LNight 22:00-07:00 Lden LDay 07:00-19:00 LEvening 19:00-22:00 LNight 22:00-07:00 dB

58.7	58.7	-99.9	58.7	58.7	-99.9	-99.9
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LCeq 69.5 dB
 LAeq 58.7 dB
 LCeq - LAeq 10.8 dB
 LAleq 61.2 dB
 LAeq 58.7 dB
 LAleq - LAeq 2.5 dB

	A		C		Z	
	dB	Time Stamp	dB	Time Stamp	dB	Time Stamp
Leq	58.7		69.5		71.4	
LS(max)	71.7	2023/06/20 12:13:57	81.7	2023/06/20 12:11:20	82.3	2023/06/20 12:11:20
LF(max)	74.4	2023/06/20 12:07:46	85.4	2023/06/20 12:08:48	88.1	2023/06/20 12:08:48
LI(max)	76.2	2023/06/20 12:07:46	89.8	2023/06/20 12:08:48	92.1	2023/06/20 12:08:48
LS(min)	50.3	2023/06/20 12:12:10	62.6	2023/06/20 12:12:29	65.1	2023/06/20 12:12:29
LF(min)	49.5	2023/06/20 12:12:09	61.1	2023/06/20 12:12:27	63.4	2023/06/20 12:12:28
LI(min)	50.2	2023/06/20 12:12:10	63.2	2023/06/20 12:12:29	65.9	2023/06/20 12:12:29
LPeak(max)	87.1	2023/06/20 12:13:56	97.7	2023/06/20 12:08:48	100.6	2023/06/20 12:08:48

Overload Count 0
 Overload Duration 0.0 s
 OBA Overload Count 0
 OBA Overload Duration 0.0 s

Summary

File Name on Meter LxT_Data.165.s
File Name on PC LxT_0004435-20230620 120000-LxT_Data.165.ldbin
Serial Number 0004435
Model SoundTrack LxT®
Firmware Version 2.404
User Nick Reynoso
Location LT-1: East side of 6054 Larchmont Drive on Cottle Road
Job Description Kaiser Permanente San José Medical Center
Note

Measurement

Description
Start 2023-06-20 12:00:00
Stop 2023-06-22 12:00:00
Duration 48:00:00.0
Run Time 48:00:00.0
Pause 00:00:00.0

Pre-Calibration 2023-06-20 11:22:35
Post-Calibration None
Calibration Deviation ---

Overall Settings

RMS Weight A Weighting
Peak Weight Z Weighting
Detector Slow
Preamplifier PRMLxT2B
Microphone Correction Off
Integration Method Exponential
Overload 144.4 dB

	A	C	Z
Under Range Peak	100.6	97.6	102.6 dB
Under Range Limit	38.9	38.5	45.3 dB
Noise Floor	29.8	29.4	36.2 dB

	First	Second	Third
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Instrument Identification

Results

LASeq 59.6
LASE 112.0
EAS 17.499 mPa²h
EAS8 2.916 mPa²h
EAS40 14.582 mPa²h
LZpeak (max) 2023-06-21 14:08:44 117.4 dB
LASmax 2023-06-22 10:52:44 89.1 dB
LASmin 2023-06-22 03:35:16 46.4 dB
SEA -99.9 dB

	Exceedance Counts	Duration
LAS > 85.0 dB	3	6.1 s
LAS > 115.0 dB	0	0.0 s
LZpeak > 135.0 dB	0	0.0 s
LZpeak > 137.0 dB	0	0.0 s
LZpeak > 140.0 dB	0	0.0 s

LCSeq 69.8 dB
LASeq 59.6 dB
LCSeq - LASeq 10.2 dB
LAleq 62.4 dB
LAeq 59.6 dB
LAleq - LAeq 2.8 dB

	A		C		Z	
	dB	Time Stamp	dB	Time Stamp	dB	Time Stamp
Leq	59.6					
LS(max)	89.1	2023/06/22 10:52:44				
LS(min)	46.4	2023/06/22 3:35:16				
LPeak(max)					117.4	2023/06/21 14:08:44

Overload Count 0
Overload Duration 0.0 s

Calculated Ldn from Long-Term Noise Monitoring Data

LT-1 East side of 6054 Larchmont Drive on Cottle Road
 June 21/22
 Wednesday/Thursday

	TIME	dBA	Numbers...	More Numbers...	10 dBA	5 dBA
Midnight	0 / 24	52.5	177776	1777764	562178	
am	1:00	100	50.1	102811	1028106	325116
	2:00	200	49.3	85193	851934	269405
	3:00	300	49.2	83346	833464	263565
	4:00	400	49.9	98090	980901	310188
	5:00	500	63.4	2210202	22102022	6989273
	6:00	600	58.7	739078	7390775	2337168
	7:00	700	58.7	745597	7455967	2357784
	8:00	800	61.2	1303368	13033678	4121611
	9:00	900	64.2	2618105	26181046	8279174
	10:00	1000	60.4	1102399	11023995	3486093
	11:00	1100	58.7	746487	7464866	2360598
	12:00	1200	61.5	1408844	14088443	4455157
pm	13:00	1300	61.3	1348140	13481400	4263193
	14:00	1400	62.8	1883797	18837966	5957088
	15:00	1500	60.8	1197865	11978653	3787983
	16:00	1600	61.7	1476580	14765801	4669356
	17:00	1700	62.2	1673127	16731274	5290893
	18:00	1800	59.5	889660	8896599	2813352
	19:00	1900	59.5	898096	8980965	2840030
	20:00	2000	57.7	588023	5880226	1859491
	21:00	2100	59.3	844275	8442751	2669832
	22:00	2200	57.4	545178	5451776	1724003
pm	23:00	2300	54.6	290435	2904350	918436

Leq Nighttime 10:00 p.m.-7:00 a.m. (not penalized)

57 dBA

Leq Daytime 7:00 am-10:00 p.m.

62 dBA

Leq 24-Hour

60 dBA

Ldn: 10 dBA penalty for noise between 10:00 p.m. and 7:00 a.m.

64 dBA

**CNEL: 5 dBA penalty for noise between 7:00p.m. and 10:00 p.m.,
 and 10 dBA penalty for noise between
 10:00 p.m. and 7:00 a.m.**

64 dBA

CNEL - Ldn 0.339117

Summary

File Name on Meter LxT_Data.117.s
 File Name on PC LxT_0004337-20230620 120000-LxT_Data.117.ldbin
 Serial Number 0004337
 Model SoundTrack LxT®
 Firmware Version 2.404
 User Nick Reynoso
 Location LT-2: West side parking lot of Santa Teresa Apartments
 Job Description Kaiser Permanente San José Medical Center
 Note

Measurement

Description
 Start 2023-06-20 12:00:00
 Stop 2023-06-22 12:00:00
 Duration 48:00:00.0
 Run Time 48:00:00.0
 Pause 00:00:00.0
 Pre-Calibration 2023-06-20 11:04:18
 Post-Calibration None
 Calibration Deviation ---

Overall Settings

RMS Weight A Weighting
 Peak Weight Z Weighting
 Detector Slow
 Preamplifier PRMLxT2B
 Microphone Correction Off
 Integration Method Linear
 Overload 143.4 dB
 Under Range Peak 99.6 A 96.6 C 101.6 Z dB
 Under Range Limit 38.0 37.5 44.3 dB
 Noise Floor 28.8 28.4 35.2 dB

Instrument Identification

Results

LAeq 66.9
 LAE 119.3
 EA 94.937 mPa²h
 EA8 15.823 mPa²h
 EA40 79.114 mPa²h
 LZpeak (max) 2023-06-20 17:25:46 124.9 dB
 LASmax 2023-06-21 14:33:02 100.6 dB
 LASmin 2023-06-22 01:32:50 38.9 dB
 SEA 137.8 dB

	Exceedance Counts	Duration
LAS > 85.0 dB	46	131.2 s
LAS > 115.0 dB	0	0.0 s
LZpeak > 135.0 dB	0	0.0 s
LZpeak > 137.0 dB	0	0.0 s
LZpeak > 140.0 dB	0	0.0 s

LCeq 74.4 dB
 LAeq 66.9 dB
 LCeq - LAeq 7.5 dB
 LAleq 69.5 dB
 LAeq 66.9 dB
 LAleq - LAeq 2.5 dB

	A		C		Z	
	dB	Time Stamp	dB	Time Stamp	dB	Time Stamp
Leq	66.9		74.4			
LS(max)	100.6	2023/06/21 14:33:02				
LS(min)	38.9	2023/06/22 1:32:50				
LPeak(max)					124.9	2023/06/20 17:25:46

Overload Count 0
 Overload Duration 0.0 s

Calculated Ldn from Long-Term Noise Monitoring Data

LT-2 West side parking lot of Santa Teresa Apartments
 June 21/22
 Wednesday/Thursday

	TIME	dBA	Numbers...	More Numbers...	10 dBA	5 dBA
Midnight	0 / 24	62.1	1620466	16204663	5124364	
am	1:00	100	59.1	821648	8216484	2598280
	2:00	200	55.1	326180	3261798	1031471
	3:00	300	57.5	564362	5643623	1784670
	4:00	400	60.6	1159455	11594553	3666520
	5:00	500	63.1	2063293	20632935	6524707
	6:00	600	65.7	3724552	37245516	11778066
	7:00	700	67.1	5146690	51466899	16275262
	8:00	800	67.7	5936316	59363158	18772279
	9:00	900	67.4	5532202	55322016	17494358
	10:00	1000	66.3	4302224	43022238	13604826
	11:00	1100	67.7	5932312	59323122	18759618
	12:00	1200	67.5	5597408	55974085	17700560
pm	13:00	1300	67.1	5097356	50973564	16119256
	14:00	1400	71.8	15059446	150594462	47622150
	15:00	1500	68.5	7111234	71112345	22487698
	16:00	1600	68.8	7569932	75699324	23938228
	17:00	1700	70.9	12314988	123149882	38943412
	18:00	1800	69.3	8457617	84576167	26745332
	19:00	1900	69.2	8352625	83526253	26413320
	20:00	2000	67.2	5234835	52348350	16554002
	21:00	2100	66.2	4200123	42001229	13281955
	22:00	2200	65.8	3762522	37625216	11898138
pm	23:00	2300	61.9	1540558	15405578	4871672

Leq Nighttime 10:00 p.m.-7:00 a.m. (not penalized)

62 dBA

Leq Daytime 7:00 am-10:00 p.m.

69 dBA

Leq 24-Hour

67 dBA

Ldn: 10 dBA penalty for noise between 10:00 p.m. and 7:00 a.m.

70 dBA

**CNEL: 5 dBA penalty for noise between 7:00p.m. and 10:00 p.m.,
 and 10 dBA penalty for noise between
 10:00 p.m. and 7:00 a.m.**

CNEL - Ldn 0.595567

Stationary Source Noise Modeling

Calculation of A-Weighted Sound Pressure Levels Podium Exhaust Fans

From Mecanical Plans sound power level = 80 dB

Conversion of Sound power level to Sould Pressure level

$$Lp = Lw - \left| 10 \log \left(\frac{Q}{4\pi r^2} \right) \right|$$

Q = 2
r = 1 meter

-7.98236

Sound Power Level =	80	Sound pressure level (unweighted)	Distance feet	# of units	Resultant SPL(dB)	dB(A)
		88	3.28 feet	8	97	88
		Distance to Receiver Property Line (ft) =	Residential	200		
			Commercial	100		
		Combined A-weighted SPL @ receptor =	Residential	52		
			Commercial	58		
		With 5 dBA rooftop reduction =	Residential	47		
			Commercial	53		

Calculation of A-Weighted Sound Pressure Levels Podium Exhaust Fans

From Mecanical Plans sound power level = 80 dB

Conversion of Sound power level to Sould Pressure level

$$Lp = Lw - \left| 10 \log \left(\frac{Q}{4\pi r^2} \right) \right|$$

Q = 2
r = 1 meter

-7.98236

Sound Power Level =	80	Sound pressure level (unweighted)	Distance feet)	# of units	Resultant SPL(dB)	dBA
		88	3.28 feet	20	101	92
		Distance to Receiver (ft) =	Residential	367		
			Commercial	150		
		Combined A-weighted SPL @ receptor =	Residential	51		
			Commercial	59		
		With 5 dBA rooftop reduction =	Residential	46		
			Commercial	54		

Calculation of A-Weighted Sound Pressure Levels Podium AHUs

From mechanical Plans sound power level = 83 dB

Conversion of Sound power level to Sould Pressure level

$$Lp = Lw - \left| 10 \log \left(\frac{Q}{4\pi r^2} \right) \right|$$

Q = 2
r = 1 meter

-7.98236

Sound Power Level =	83	Sound pressure level (unweighted)	Distance feet)	# of units	Resultant SPL(dB)	dB(A)
		91	3.28 feet	6	99	90
			Distance to Receiver (ft) =	Residential 200		
				Commercial 100		
			Combined A-weighted SPL @ receptor =	Residential 54		
				Commercial 60		
			With 5 dBA rooftop reduction =	Residential 49		
				Commercial 55		

Calculation of A-Weighted Sound Pressure Levels Tower AHUs

From mechanical Plans sound power level = 83 dB

Conversion of Sound power level to Sould Pressure level

$$Lp = Lw - \left| 10 \log \left(\frac{Q}{4\pi r^2} \right) \right|$$

Q = 2
r = 1 meter

-7.98236

Sound Power Level =	Sound pressure level (unweighted)	Distance feet	# of units	Resultant SPL(dB)	dBA
83	91	3.28 feet	6	99	90
	Distance to Receiver (ft) =	Residential	367		
		Commercial	150		
	Combined A-weighted SPL @ receptor =	Residential	49		
		Commercial	57		
	With 5 dBA rooftop reduction =	Residential	44		
		Commercial	52		

Calculation of A-Weighted Sound Pressure Levels Tower Chiller

From mechanical Plans sound power level = 68 dB

Conversion of Sound power level to Sould Pressure level

$$Lp = Lw - \left| 10 \log \left(\frac{Q}{4\pi r^2} \right) \right|$$

Q = 2
r = 1 meter

-7.98236

Sound Power Level =	Sound pressure level (unweighted)	Distance feet	# of units	Resultant SPL(dB)	dB(A)
68	76	3.28 feet	1	76	67
	Distance to Receiver (ft) =	Residential	367		
		Commercial	150		
	Combined A-weighted SPL @ receptor =	Residential	26		
		Commercial	34		
	With 5 dBA rooftop reduction =	Residential	21		
		Commercial	29		

Calculation of A-Weighted Sound Pressure Levels MRI Chillers

From mechanical Plans sound power level = 61 dB

Conversion of Sound power level to Sould Pressure level

$$Lp = Lw - \left| 10 \log \left(\frac{Q}{4\pi r^2} \right) \right|$$

Q = 2
r = 1 meter

-7.98236

Sound Power Level =	Sound pressure level (unweighted)	Distance feet	# of units	Resultant SPL(dB)	dBa
61	69	3.28 feet	3	74	65
	Distance to Receiver (ft) =	Residential	200		
		Commercial	100		
	Combined A-weighted SPL @ receptor =	Residential	29		
		Commercial	35		

Calculation of A-Weighted Sound Pressure Levels CUP ACC

From mechanical Plans sound power level = 93 dB

Conversion of Sound power level to Sould Pressure level

$$Lp = Lw - \left| 10 \log \left(\frac{Q}{4\pi r^2} \right) \right|$$

Q = 2
r = 1 meter

-7.98236

Sound Power Level =	Sound pressure level (unweighted)	Distance feet	# of units	Resultant SPL(dB)	dBA
93	101	3.28 feet	4	107	98
	Distance to Receiver (ft) =		200 Commercial		
	Combined A-weighted SPL @ receptor =		540 Residential	62 at commercial receptor property line	
	With 5 dBA rooftop reduction =	Commercial	57	54 at residential receptor property line	
		Residential	49		

Calculation of A-Weighted Sound Pressure Levels CUP ASHP

From mechanical Plans sound power level = 105 dB

Conversion of Sound power level to Sould Pressure level

$$Lp = Lw - \left| 10 \log \left(\frac{Q}{4\pi r^2} \right) \right|$$

Q = 2
r = 1 meter

-7.98236

Sound Power Level =	105	Sound pressure level (unweighted)	Distance feet	# of units	Resultant SPL(dB)	dBA
		113	3.28 feet	4	119	110
		Distance to Receiver (ft) =		200 Commercial		
		Combined A-weighted SPL @ receptor =		540 Residential	74 at commercial receptor property line	66 at residential receptor property line
		With 5 dBA rooftop reduction =		Commercial	69	
				Residential	61	

Calculation of A-Weighted Sound Pressure Levels CUP Generators

From mechanical Plans sound power level = 75 dB

Conversion of Sound power level to Sould Pressure level

$$Lp = Lw - \left| 10 \log \left(\frac{Q}{4\pi r^2} \right) \right|$$

Q = 2
r = 1 meter

-7.98236

	Sound pressure level (unweighted)	Distance feet	# of units	Resultant SPL(dB)	dBA
Sound Power Level =	75	83	3	88	79

Distance to Receiver (ft) =

Combined A-weighted SPL @ receptor =

200 Commercial

540 Residential

43 at commercial receptor property line

34 at residential receptor property line

Calculated Ldn from Energy Center

Residential Property line	1258925	1258925
Remove LOG	49	73664.17604
AHSP Residential Property Line =	61	1167498.511
ACCs Residential property lines =	34	2768.965846
Generator	61	
Total Podium sources Residential =		

DNL Residential Property line

TIME	dBA	Remove LOG	10 dBA Penalized Values	5 dBA Penalized Values
Midnight 0 / 24	61.0		1258925	12589254
am 1:00	100	61.0	1258925	12589254
2:00	200	61.0	1258925	12589254
3:00	300	61.0	1258925	12589254
4:00	400	61.0	1258925	12589254
5:00	500	61.0	1258925	12589254
6:00	600	61.0	1258925	12589254
7:00	700	61.0	1258925	12589254
8:00	800	61.0	1258925	12589254
9:00	900	61.0	1258925	12589254
10:00	1000	61.0	1258925	12589254
11:00	1100	61.0	1258925	12589254
12:00	1200	61.0	1258925	12589254
pm 1:00	1300	61.0	1258925	12589254
2:00	1400	61.0	1258925	12589254
3:00	1500	61.0	1258925	12589254
4:00	1600	61.0	1258925	12589254
5:00	1700	61.0	1258925	12589254
6:00	1800	61.0	1258925	12589254
7:00	1900	61.0	1258925	12589254
8:00	2000	61.0	1258925	12589254
9:00	2100	61.0	1258925	12589254
10:00	2200	61.0	1258925	12589254
pm 11:00	2300	61.0	1258925	12589254

Leq 24-Hour

61 dBA

Ldn: 10 dBA penalty for noise between 10:00 p.m. and 7:00 a.m.

67 dBA

**CNEL: 5 dBA penalty for noise between 7:00p.m. and 10:00 p.m.,
and 10 dBA penalty for noise between
10:00 p.m. and 7:00 a.m.**

68 dBA

CNEL - Ldr 0.2603428

	Remove LOG	
AHSPs Commercial Property Line =	57	537011.8433
ACCs Commercial property lines =	69	8511064.148
Generator Commercial property lines =	43	20185.76101
Total Podium sources Commercial =	70	

DNL Commercial Property line

TIME	dBA	Remove LOG	10 dBA Penalized Values	5 dBA Penalized Values
Midnight 0 / 24	70.0		10000000	100000000
am 1:00	100	70.0	10000000	100000000
2:00	200	70.0	10000000	100000000
3:00	300	70.0	10000000	100000000
4:00	400	70.0	10000000	100000000
5:00	500	70.0	10000000	100000000
6:00	600	70.0	10000000	100000000
7:00	700	70.0	10000000	100000000
8:00	800	70.0	10000000	100000000
9:00	900	70.0	10000000	100000000
10:00	1000	70.0	10000000	100000000
11:00	1100	70.0	10000000	100000000
12:00	1200	70.0	10000000	100000000
pm 1:00	1300	70.0	10000000	100000000
2:00	1400	70.0	10000000	100000000
3:00	1500	70.0	10000000	100000000
4:00	1600	70.0	10000000	100000000
5:00	1700	70.0	10000000	100000000
6:00	1800	70.0	10000000	100000000
7:00	1900	70.0	10000000	100000000
8:00	2000	70.0	10000000	100000000
9:00	2100	70.0	10000000	100000000
10:00	2200	70.0	10000000	100000000
pm 11:00	2300	70.0	10000000	100000000

Leq 24-Hour

70 dBA

Ldn: 10 dBA penalty for noise between 10:00 p.m. and 7:00 a.m.

76 dBA

**CNEL: 5 dBA penalty for noise between 7:00p.m. and 10:00 p.m.,
and 10 dBA penalty for noise between
10:00 p.m. and 7:00 a.m.**

77 dBA

CNEL - Ldr 0.2603428

Calculated Ldn from Podium Sources Residential Property line
 Exhaust Fans Residential Property Line = 47 53828.69604
 AHUs Residential property lines = 49 80551.7765
 Total Podium sources Residential = 51

DNL Residential Property line

TIME	dBA	Remove LOG	10 dBA Penalized Values	5 dBA Penalized Values	
Midnight 0 / 24	51.0		125893	1258925	398107
am 1:00	100	51.0	125893	1258925	398107
2:00	200	51.0	125893	1258925	398107
3:00	300	51.0	125893	1258925	398107
4:00	400	51.0	125893	1258925	398107
5:00	500	51.0	125893	1258925	398107
6:00	600	51.0	125893	1258925	398107
7:00	700	51.0	125893	1258925	398107
8:00	800	51.0	125893	1258925	398107
9:00	900	51.0	125893	1258925	398107
10:00	1000	51.0	125893	1258925	398107
11:00	1100	51.0	125893	1258925	398107
12:00	1200	51.0	125893	1258925	398107
pm 1:00	1300	51.0	125893	1258925	398107
2:00	1400	51.0	125893	1258925	398107
3:00	1500	51.0	125893	1258925	398107
4:00	1600	51.0	125893	1258925	398107
5:00	1700	51.0	125893	1258925	398107
6:00	1800	51.0	125893	1258925	398107
7:00	1900	51.0	125893	1258925	398107
8:00	2000	51.0	125893	1258925	398107
9:00	2100	51.0	125893	1258925	398107
10:00	2200	51.0	125893	1258925	398107
pm 11:00	2300	51.0	125893	1258925	398107

Leq Morning Peak Hour 7:00-10:00 a.m.

51 dBA

Leq Evening Peak Hour 4:00-8:00 p.m.

51 dBA

Leq Nighttime 10:00 pm-7:00 a.m. (not penalized)

51 dBA

Leq Daytime 7:00 am-10:00 p.m.

51 dBA

Leq 24-Hour

51 dBA

Ldn: 10 dBA penalty for noise between 10:00 p.m. and 7:00 a.m.

57 dBA

CNEL: 5 dBA penalty for noise between 7:00p.m. and 10:00 p.m.,

58 dBA and 10 dBA penalty for noise between 10:00 p.m. and 7:00 a.m.

CNEL - Ldr 0.2603428

Exhaust Fans Commercial Property Line = 53 215314.7841
 AHUs Commercial property lines = 55 322207.106
 Total Podium sources Commercial = 57

DNL Commercial Property line

TIME	dBA	Remove LOG	10 dBA Penalized Values	5 dBA Penalized Values	
Midnight 0 / 24	57.0		501187	5011872	1584893
am 1:00	100	57.0	501187	5011872	1584893
2:00	200	57.0	501187	5011872	1584893
3:00	300	57.0	501187	5011872	1584893
4:00	400	57.0	501187	5011872	1584893
5:00	500	57.0	501187	5011872	1584893
6:00	600	57.0	501187	5011872	1584893
7:00	700	57.0	501187	5011872	1584893
8:00	800	57.0	501187	5011872	1584893
9:00	900	57.0	501187	5011872	1584893
10:00	1000	57.0	501187	5011872	1584893
11:00	1100	57.0	501187	5011872	1584893
12:00	1200	57.0	501187	5011872	1584893
pm 1:00	1300	57.0	501187	5011872	1584893
2:00	1400	57.0	501187	5011872	1584893
3:00	1500	57.0	501187	5011872	1584893
4:00	1600	57.0	501187	5011872	1584893
5:00	1700	57.0	501187	5011872	1584893
6:00	1800	57.0	501187	5011872	1584893
7:00	1900	57.0	501187	5011872	1584893
8:00	2000	57.0	501187	5011872	1584893
9:00	2100	57.0	501187	5011872	1584893
10:00	2200	57.0	501187	5011872	1584893
pm 11:00	2300	57.0	501187	5011872	1584893

Leq Morning Peak Hour 7:00-10:00 a.m.

57 dBA

Leq Evening Peak Hour 4:00-8:00 p.m.

57 dBA

Leq Nighttime 10:00 pm-7:00 a.m. (not penalized)

57 dBA

Leq Daytime 7:00 am-10:00 p.m.

57 dBA

Leq 24-Hour

57 dBA

Ldn: 10 dBA penalty for noise between 10:00 p.m. and 7:00 a.m.

63 dBA

CNEL: 5 dBA penalty for noise between 7:00p.m. and 10:00 p.m.,

64 dBA and 10 dBA penalty for noise between 10:00 p.m. and 7:00 a.m.

CNEL - Ldr 0.2603428

Calculated Ldn from Tower Sources

	Residential Property line
	Remove LOG
Exhaust Fans Residential Property Line =	46 39965.1761
AHUs Residential property lines =	44 23922.30293
Chiller Residential property lines =	21 126.0816069
Total Podium sources Residential =	48

DNL Residential Property line

TIME	dBA	Remove LOG	10 dBA Penalized Values	5 dBA Penalized Values	
Midnight 0 / 24	48.0		63096	630957	199526
am 1:00	100		63096	630957	199526
2:00	200		63096	630957	199526
3:00	300		63096	630957	199526
4:00	400		63096	630957	199526
5:00	500		63096	630957	199526
6:00	600		63096	630957	199526
7:00	700		63096	630957	199526
8:00	800		63096	630957	199526
9:00	900		63096	630957	199526
10:00	1000		63096	630957	199526
11:00	1100		63096	630957	199526
12:00	1200		63096	630957	199526
pm 1:00	1300		63096	630957	199526
2:00	1400		63096	630957	199526
3:00	1500		63096	630957	199526
4:00	1600		63096	630957	199526
5:00	1700		63096	630957	199526
6:00	1800		63096	630957	199526
7:00	1900		63096	630957	199526
8:00	2000		63096	630957	199526
9:00	2100		63096	630957	199526
10:00	2200		63096	630957	199526
pm 11:00	2300		63096	630957	199526

Leq 24-Hour

48 dBA

Ldn: 10 dBA penalty for noise between 10:00 p.m. and 7:00 a.m.

54 dBA

CNEL: 5 dBA penalty for noise between 7:00p.m. and 10:00 p.m.,
and 10 dBA penalty for noise between
10:00 p.m. and 7:00 a.m.

55 dBA

CNEL - Ldr 0.2603428

	Remove LOG
Exhaust Fans Commercial Property Line =	54 239238.6491
AHUs Commercial property lines =	52 143203.1582
Chiller Commercial property lines =	29 754.7469135
Total Podium sources Commercial =	56

DNL Commercial Property line

TIME	dBA	Remove LOG	10 dBA Penalized Values	5 dBA Penalized Values	
Midnight 0 / 24	56.0		398107	3981072	1258925
am 1:00	100		398107	3981072	1258925
2:00	200		398107	3981072	1258925
3:00	300		398107	3981072	1258925
4:00	400		398107	3981072	1258925
5:00	500		398107	3981072	1258925
6:00	600		398107	3981072	1258925
7:00	700		398107	3981072	1258925
8:00	800		398107	3981072	1258925
9:00	900		398107	3981072	1258925
10:00	1000		398107	3981072	1258925
11:00	1100		398107	3981072	1258925
12:00	1200		398107	3981072	1258925
pm 1:00	1300		398107	3981072	1258925
2:00	1400		398107	3981072	1258925
3:00	1500		398107	3981072	1258925
4:00	1600		398107	3981072	1258925
5:00	1700		398107	3981072	1258925
6:00	1800		398107	3981072	1258925
7:00	1900		398107	3981072	1258925
8:00	2000		398107	3981072	1258925
9:00	2100		398107	3981072	1258925
10:00	2200		398107	3981072	1258925
pm 11:00	2300		398107	3981072	1258925

Leq 24-Hour

56 dBA

Ldn: 10 dBA penalty for noise between 10:00 p.m. and 7:00 a.m.

62 dBA

CNEL: 5 dBA penalty for noise between 7:00p.m. and 10:00 p.m.,
and 10 dBA penalty for noise between
10:00 p.m. and 7:00 a.m.

63 dBA

CNEL - Ldr 0.2603428

Vibration Model

Vibration propagation from Construction Equipment

Formula from FTA, 2018 = $PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}$
 where

Receptor 1: Santa Teresa Library

PPV refs @ 25 ft =		PPV@25ft
	pile driver (impact)	0.65
	Vibratory Roller	0.21
	Bulldozer (large)	0.089
	Truck(loaded)	0.076
	Jackhammer	0.035
	Dozer (Small)	0.003

Enter distance = Adjacent Buildings

Resultant PPV =	pile driver (impact)	1.398577
	Vibratory Roller	0.451848
	Bulldozer (large)	0.191498
	Truck(loaded)	0.163526
	Jackhammer	0.075308
	Dozer (Small)	0.006455

	Lv@25 ft
pile driver (impact)	104
Vibratory Roller	94
Bulldozer (large)	87
Truck(loaded)	86
Jackhammer	79
Dozer (Small)	53

Formula from FTA 2006 = $Lv(D) = Lv(25 ft) - 30\log(D/25)$

Resultant Lv =	pile driver (impact)	110.6555
	Vibratory Roller	100.6555
	Bulldozer (large)	93.65546
	Truck(loaded)	92.65546
	Jackhammer	85.65546
	Dozer (Small)	59.65546

Receptor 2: Sanat Teresa Apartments

PPV refs @ 25 ft =		PPV@25ft
	pile driver (impact)	0.644
	Vibratory Roller	0.21
	Bulldozer (large)	0.089
	Truck(loaded)	0.076
	Jackhammer	0.035

Enter distance = Adjacent Buildings

Resultant PPV =	pile driver (impact)	0.094283
	Vibratory Roller	0.030744
	Bulldozer (large)	0.01303
	Truck(loaded)	0.011127
	Jackhammer	0.005124

	Lv@25 ft
pile driver (impact)	104
Vibratory Roller	94
Bulldozer (large)	87
Truck(loaded)	86
Jackhammer	79

Resultant Lv =	pile driver (impact)	87.31092
	Vibratory Roller	77.31092
	Bulldozer (large)	70.31092
	Truck(loaded)	69.31092
	Jackhammer	62.31092