Revised Appendix K

Noise Calculation Worksheets

LACMA Building for the Permanent Collection Project EIR

Noise Calculations Worksheets

Provided by Acoustical Engineering Services

Ambient Noise Measurements

LACMA East Project EIR - Ambient Noise Measurements

Leq	**Measured Leq Levels**		**Estimated CNEL Levels**
Receptor	Daytime	Nighttime	CNEL
R1	58.6	54.8	60.5
R2	57.8	53.5	59.4
R3	64.0	61.3	66.6
R4	69.9	65.5	71.4
R5	63.0	53.8	62.3
R6	53.1	48.7	61.4

CNEL levels estimated based on FTA guidelines (Transit Noise and Vibration Impact Assessment, 2006)

AES
ACOUSTICAL ENGINEERING SERVICES

Location: R1
Date: 11/16/2016

Time	Overload	Leq	Lmax	L10	L90
10:11:17 AM	No	57.2	61.2	60	54.1
10:12:17 AM	No	57	61.9	59.3	53.8
10:13:17 AM	No	60.4	66.6	64.4	57.2
10:14:17 AM	No	64	77	68.2	53.2
10:15:17 AM	No	57.7	62	60	52.8
10:16:17 AM	No	55.6	60.1	58.1	51
10:17:17 AM	No	58.4	62.9	61.1	55.2
10:18:17 AM	No	53.9	58.9	55.9	51.1
10:19:17 AM	No	58.6	66.9	60.6	51.9
10:20:17 AM	No	54.8	62.6	58.5	50.3
10:21:17 AM	No	58.5	64.5	62.6	53.5
10:22:17 AM	No	57.8	61.6	59.9	53
10:23:17 AM	No	57.8	62.7	60.7	52.4
10:24:17 AM	No	59.2	66.2	61.1	54.8
10:25:17 AM	No	58.2	63.1	60.6	54
		58.6			

	Overload	Leq	Lmax	L10	L90
10:00:32 PM	No	55.9	61.1	59.7	51
10:01:32 PM	No	53.1	58.3	55	48.8
10:02:32 PM	No	53.3	57.8	55.6	49.8
10:03:32 PM	No	54.4	58.8	57	50.1
10:04:32 PM	No	53.7	58.9	55.2	51.2
10:05:32 PM	No	56.3	62.3	59.1	51.6
10:06:32 PM	No	53.6	59.4	55.7	49.8
10:07:32 PM	No	52.4	57.4	55.1	49
10:08:32 PM	No	54.8	58.7	57.7	51.4
10:09:32 PM	No	56.5	65.3	58.7	53.2
10:10:32 PM	No	54	59.4	56.9	48.8
10:11:32 PM	No	58	63.6	61.6	49.1
10:12:32 PM	No	53.6	60.3	56.8	48.4
10:13:32 PM	No	51	55.4	54.1	47.3
10:14:32 PM	No	56.4	59.4	58.1	53.3
		54.8			

AES
ACOUSTICAL ENGINEERING SERVICES

Location: R2
Date: 11/16/2016

Time	Overload	Leq	Lmax	L10	L90
10:33:34 AM	No	58.2	67.2	62.4	52.3
10:34:34 AM	No	55.5	65.8	56.5	51.7
10:35:34 AM	No	54.6	58	56.4	51.8
10:36:34 AM	No	52.3	54.9	53.9	50
10:37:34 AM	No	59.1	72.2	60	49.4
10:38:34 AM	No	54.7	66.4	55.1	48.6
10:39:34 AM	No	59.7	70.3	60	50.7
10:40:34 AM	No	55	67.2	57.1	50.3
10:41:34 AM	No	51.7	55.3	53.4	49.6
10:42:34 AM	No	57.4	68.8	59.9	48.9
10:43:34 AM	No	57.6	70.7	59.5	49.5
10:44:34 AM	No	60.9	71.9	65.9	48.4
10:45:34 AM	No	52	60	53.7	48.8
10:46:34 AM	No	58.6	65.2	63.7	50.5
10:47:34 AM	No	62.7	73.4	66	52.7
		57.8			

	Overload	Leq	Lmax	L10	L90
10:20:24 PM	No	58.7	74.6	57.3	50
10:21:24 PM	No	48.7	56	50.8	46.1
10:22:24 PM	No	53.8	63	57.3	47.2
10:23:24 PM	No	50.4	59.1	53.7	45.3
10:24:24 PM	No	53.8	63.5	56.8	46
10:25:24 PM	No	51.9	58	55.8	45.1
10:26:24 PM	No	55.9	68.4	57.7	47.2
10:27:24 PM	No	53.3	67.5	55.9	44.7
10:28:24 PM	No	50.8	56.4	54.1	46.4
10:29:24 PM	No	56.6	65.3	61.4	46.9
10:30:24 PM	No	48.2	55.2	50.7	45.3
10:31:24 PM	No	52.6	58.5	56.8	46.4
10:32:24 PM	No	51	59.6	55.6	45.7
10:33:24 PM	No	52.2	59.6	55	47.2
10:34:24 PM	No	50.5	58.6	54.7	44.9
		53.5			

AES
ACOUSTICAL ENGINEERING SERVICES

Location: R3
Date: 11/16/2016

Time	Overload	Leq	Lmax	L10	L90
10:56:59 AM	No	62.6	72.9	68.2	50.8
10:57:59 AM	No	60	73.4	61.4	48.3
10:58:59 AM	No	64.4	74	69.3	53.3
10:59:59 AM	No	65.6	75.6	70.3	52.6
11:00:59 AM	No	67.2	79.2	70.8	53.7
11:01:59 AM	No	63.8	74.9	67.1	51.7
11:02:59 AM	No	64.6	72.9	69.2	52.4
11:03:59 AM	No	63.3	71.5	67.8	54.2
11:04:59 AM	No	65.2	72.1	69.2	54.2
11:05:59 AM	No	64.3	70.5	68.1	53.8
11:06:59 AM	No	64.1	71.5	68.2	54.1
11:07:59 AM	No	60.1	68.4	63.7	51.6
11:08:59 AM	No	62.7	72.5	67.9	52.8
11:09:59 AM	No	64.6	72.5	69.3	52.8
11:10:59 AM	No	60.4	72	63.7	49.1
		64.0			

	Overload	Leq	Lmax	L10	L90
10:40:04 PM	No	59.3	67.1	63.9	48.1
10:41:04 PM	No	60.2	71.7	65.1	48.1
10:42:04 PM	No	56.5	67.6	60.1	50.7
10:43:04 PM	No	62.2	69.8	67.8	48.1
10:44:04 PM	No	61.7	71.9	66.5	47.7
10:45:04 PM	No	65.5	74.4	70.4	50.1
10:46:04 PM	No	63.9	73.7	67.5	54.4
10:47:04 PM	No	62	72.9	66.1	51.5
10:48:04 PM	No	65.3	77.8	68.8	45.5
10:49:04 PM	No	59.4	68.9	64.4	45.5
10:50:04 PM	No	54.9	63	59.6	47.7
10:51:04 PM	No	54.2	66.9	56.7	45.5
10:52:04 PM	No	55.6	67.5	57.6	47.5
10:53:04 PM	No	57.4	69.8	59.7	48.3
10:54:04 PM	No	61.8	73.2	67.9	46.3
		61.3			

AES
ACOUSTICAL ENGINEERING SERVICES

Location: R4
Date: 11/16/2016

Time	Overload	Leq	Lmax	L10	L90
11:24:19 AM	No	70.3	76.9	74	57.5
11:25:19 AM	No	70.2	77.4	74.4	60
11:26:19 AM	No	68.9	73.6	72.3	53.5
11:27:19 AM	No	67.8	76.4	71.6	51.2
11:28:19 AM	No	70.3	76.9	73.7	57.1
11:29:19 AM	No	71.4	80.1	75.3	64.5
11:30:19 AM	No	70.5	75.9	73.8	64.9
11:31:19 AM	No	68.3	75.1	72.2	60.2
11:32:19 AM	No	70.1	76.7	72.5	61.2
11:33:19 AM	No	70.3	79	74.2	56.8
11:34:19 AM	No	70.5	75.6	74.3	53.5
11:35:19 AM	No	70.2	77.7	74.3	53.3
11:36:19 AM	No	68.5	75.2	72.2	52.5
11:37:19 AM	No	70.1	75.8	73.4	60.5
11:38:19 AM	No	70.3	75.4	73.6	51.1
		69.9			

	Overload	Leq	Lmax	L10	L90
11:00:02 PM	No	67.4	75.2	73.6	47.2
11:01:02 PM	No	64.6	72.8	69.3	51.4
11:02:02 PM	No	67.7	74	72.1	52.4
11:03:02 PM	No	63.9	75.2	68.6	48.1
11:04:02 PM	No	66	73.2	69.8	55.9
11:05:02 PM	No	63.3	74	68	49.1
11:06:02 PM	No	65	72.2	70.2	49.9
11:07:02 PM	No	61	71.8	66.4	47.4
11:08:02 PM	No	64.7	75.9	69.3	49.1
11:09:02 PM	No	68	75.5	71.9	52.2
11:10:02 PM	No	64	74	69.7	47.3
11:11:02 PM	No	68.2	75.4	73	56.8
11:12:02 PM	No	64.6	73.2	69.6	50.4
11:13:02 PM	No	62	72.3	68	48.6
11:14:02 PM	No	65.3	75.1	70.7	48
		65.5			

AES
ACOUSTICAL ENGINEERING SERVICES

Location: R5
Date: 11/16/2016

Time	Overload	Leq	Lmax	L10	L90
11:49:53 AM	No	64.2	69.8	67	58.5
11:50:53 AM	No	59.3	66.2	60.3	57.7
11:51:53 AM	No	64.1	71.6	67.4	57.8
11:52:53 AM	No	61.4	69.9	64.5	58.3
11:53:53 AM	No	65.1	71.6	68.9	58.1
11:54:53 AM	No	65.6	75.1	69.2	58.7
11:55:53 AM	No	60.6	69.5	61.7	56.5
11:56:53 AM	No	58.1	63.7	60.1	55.2
11:57:53 AM	No	62.4	73	66.1	55.5
11:58:53 AM	No	57.7	62.6	59.4	55.9
11:59:53 AM	No	58.2	66.1	60.7	55.4
12:00:53 PM	No	69	83.8	70.3	55.7
12:01:53 PM	No	61.6	73.7	65.5	55.3
12:02:53 PM	No	57.8	65.8	60.2	55.1
12:03:53 PM	No	57.6	61.7	58.8	55.9
		63			

	Overload	Leq	Lmax	L10	L90
11:21:18 PM	No	55.3	65.7	58.4	49.8
11:22:18 PM	No	51.2	54.2	52.5	49.9
11:23:18 PM	No	52.1	56.6	53.3	50.5
11:24:18 PM	No	53.6	58.5	55.3	51.4
11:25:18 PM	No	53.4	59.3	56	50.9
11:26:18 PM	No	52.8	57.7	54	50.5
11:27:18 PM	No	51.1	56.8	52.5	49.2
11:28:18 PM	No	50	53.8	51.2	48.1
11:29:18 PM	No	56.4	62.8	58.7	53.1
11:30:18 PM	No	53.1	55.4	54.1	51.9
11:31:18 PM	No	53	55.4	54	52.3
11:32:18 PM	No	55.5	62.7	57.8	52.9
11:33:18 PM	No	53.6	59	56.1	51.2
11:34:18 PM	No	56.7	68.8	57	51.4
11:35:18 PM	No	53	56.1	54.2	51.2
		53.8			

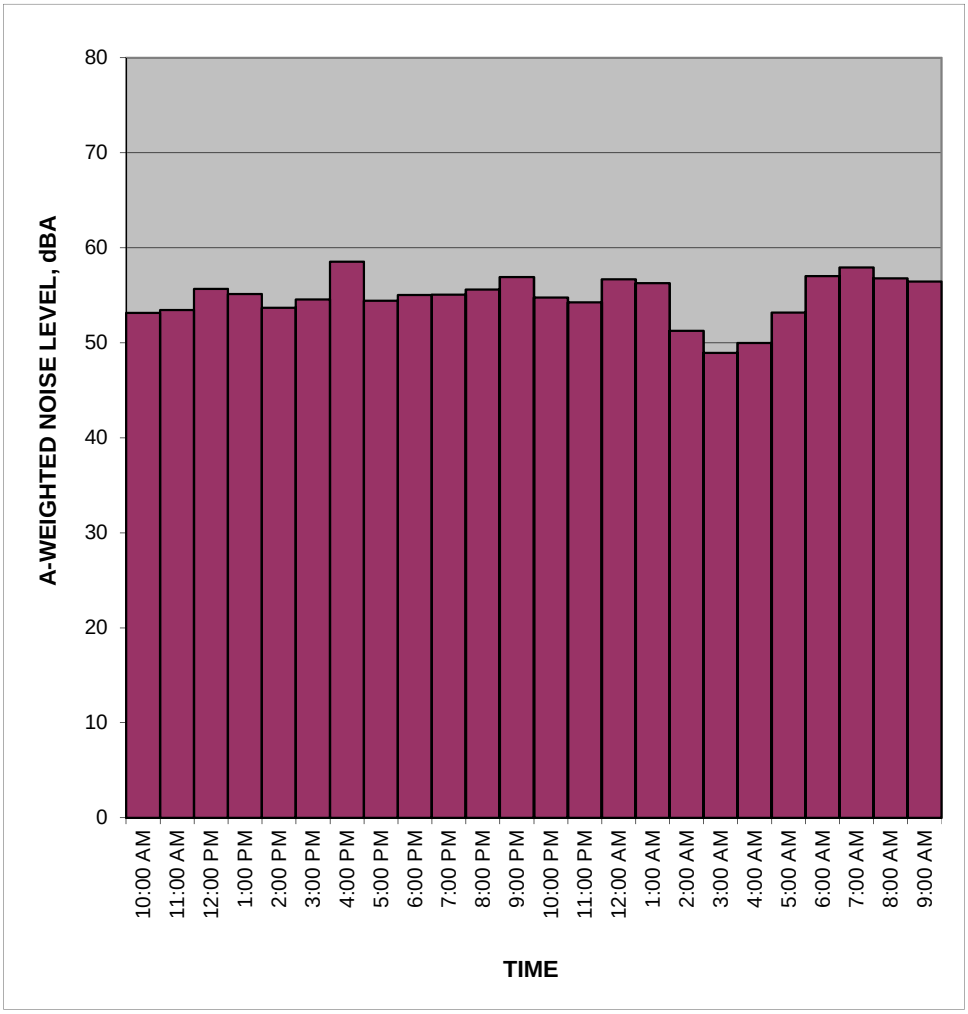
Measured Ambient Noise Levels

AES
Acoustical Engineering Services

Project: LACMA East
Location: R6
Sources: Ambient

Date: 11/16/2017

TIME	HNL, dB(A)
10:00 AM	53.1
11:00 AM	53.4
12:00 PM	55.7
1:00 PM	55.1
2:00 PM	53.7
3:00 PM	54.5
4:00 PM	58.5
5:00 PM	54.4
6:00 PM	55.0
7:00 PM	55.1
8:00 PM	55.6
9:00 PM	56.9
10:00 PM	54.7
11:00 PM	54.2
12:00 AM	56.7
1:00 AM	56.3
2:00 AM	51.3
3:00 AM	48.9
4:00 AM	50.0
5:00 AM	53.2
6:00 AM	57.0
7:00 AM	57.9
8:00 AM	56.8
9:00 AM	56.4
CNEL, dB(A):	**61.4**



NOTES:

Construction Noise Calculations

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: Ogden Parking Structure
Demolition

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Backhoe/breaker	1	85	50%	610	5
Backhoe/breaker	1	85	50%	610	5
Loader	1	79	40%	610	5

3

Receptor: ***R1***

Results:

1-hour Leq: 58.7

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: Ogden Parking Structure
Grading

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Drill Rig	1	84	20%	610	5
Crane	1	81	16%	610	5
Excavator	1	81	40%	610	5
Dozer	1	82	40%	610	5
Backhoe	1	78	40%	610	5
Forklift	1	75	20%	610	5

6

Receptor: ***R1***

Results:

1-hour Leq: 56.6

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: Ogden Parking Structure
Structure

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Crane	1	81	16%	610	5
Backhoe	1	78	40%	610	5
Backhoe	1	78	40%	610	5
Forklift	1	75	20%	610	5
Forklift	1	75	20%	610	5
Concrete Pump	1	81	20%	610	5
	6				

Receptor: ***R1***

Results:

1-hour Leq: 53.6

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: Ogden Parking Structure
Paving/Concrete/Landscape

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Crane	1	81	16%	610	5
Forklift	1	75	20%	610	5
Forklift	1	75	20%	610	5

3

Receptor: ***R1***

Results:

1-hour Leq: 48.4

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: New Museum
Demolition

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Crane	1	81	16%	25	5
Breaker	1	85	50%	50	5
Backhoe	1	78	40%	100	5
Loader	1	79	40%	125	5
Breaker	1	85	50%	150	5
Backhoe	1	78	40%	150	5
Loader	1	79	40%	370	5
Breaker	1	85	50%	370	5
Backhoe	1	78	40%	370	5
Loader	1	79	40%	370	5
Breaker	2	85	50%	370	5
Backhoe	2	78	40%	370	5
Loader	9	79	40%	370	5
Crane	1	81	16%	370	5
	24				

Receptor: ***R1***

Results:

1-hour Leq: 79.6

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: New Museum
Excavation and Shoring

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Crane	1	81	16%	25	5
Drill Rig	1	84	20%	50	5
Dewatering system	1	82	10%	100	5
Concrete Pump	1	81	20%	125	5
Excavator	1	81	40%	370	5
Dozer	1	82	40%	370	5
Loader	1	79	40%	370	5
Excavator	1	81	40%	370	5
Dozer	1	82	40%	370	5
	9				

Receptor: ***R1***

Results:

1-hour Leq: 76.5

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: New Museum
Structure

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Crane (Mobile)	1	81	16%	25	5
Excavator	1	81	40%	50	5
Crane (Tower)	1	81	16%	75	5
Welder	1	74	40%	100	5
Air Compressor	1	78	40%	100	5
Drill Rig	1	84	20%	125	5
Forklift	1	75	20%	125	5
Man Lift	1	83	40%	150	5
Backhoe	3	78	40%	370	5
Forklift	4	75	20%	370	5
Concrete Pump	3	81	20%	370	5
Crane (Tower)	5	81	16%	370	5
Air Compressor	5	78	40%	370	5
Welder	5	74	40%	370	5
Man Lift	3	83	40%	370	5
	36				

Receptor: ***R1***

Results:

1-hour Leq: 77.5

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: New Museum
Paving/Concrete/Landscape

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Paver	1	77	50%	25	5
Tractor/Loader/Backhoe	1	79	40%	50	5
Skid Steer Loaders	1	79	40%	75	5

3

Receptor: ***R1***

Results:

1-hour Leq: 76.6

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: New Museum - Worst-Case Day Scenarios
Demolition & Grading/Shoring/Excavation

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Crane	1	81	16%	25	5
Breaker	1	85	50%	50	5
Backhoe	1	78	40%	100	5
Loader	1	79	40%	125	5
Breaker	1	85	50%	150	5
Backhoe	1	78	40%	150	5
Loader	1	79	40%	370	5
Breaker	1	85	50%	370	5
Backhoe	1	78	40%	370	5
Loader	1	79	40%	370	5
Breaker	2	85	50%	370	5
Backhoe	2	78	40%	370	5
Loader	9	79	40%	370	5
Crane	2	81	16%	370	5
Excavator	1	81	40%	370	5
Drill Rig	1	84	20%	370	5
Dewatering system	1	82	10%	370	5
Concrete Pump	1	81	20%	370	5
Dozer	1	82	40%	370	5
Loader	1	79	40%	370	5
Excavator	1	81	40%	370	5
Dozer	1	82	40%	370	5
	33				

Receptor: ***R1***

Results:

1-hour Leq: 79.7

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: **New Museum - Worst-Case Day Scenarios**
Demolition & Grading/Shoring/Excavation & Piles/Foundation/Superstructure

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Crane	1	81	16%	25	5
Breaker	1	85	50%	50	5
Backhoe	1	78	40%	100	5
Loader	1	79	40%	125	5
Breaker	1	85	50%	150	5
Backhoe	1	78	40%	150	5
Drill Rig	1	84	20%	370	5
Dewatering system	1	82	10%	370	5
Concrete Pump	1	81	20%	370	5
Air Compressors	4	78	40%	370	5
Forklift	5	75	20%	370	5
Man Lift	4	83	40%	370	5
Welder	6	74	40%	370	5
Loader	5	79	40%	370	5
Concrete Pump	3	81	20%	370	5
Backhoe	7	78	40%	370	5
Crane	9	81	16%	370	5
Dozer	2	82	40%	370	5
Excavator	3	81	40%	370	5
Breaker	4	85	50%	370	5
Loader	7	79	40%	370	5
Air Compressors	2	78	40%	370	5
Drill Rig	1	84	20%	370	5
	71				

Receptor: ***R1***

Results:

1-hour Leq: **80.0**

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: **New Museum - Worst-Case Day Scenarios**
Piles/Foundation/Superstructure &
Building Envelope/Interior Construction

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Crane (tower)	1	81	16%	25	5
Concrete Pump	2	81	20%	50	5
Drill Rig	1	84	20%	75	5
Backhoe	1	78	40%	100	5
Forklift	2	75	20%	100	5
Man Lift	1	83	40%	125	5
Excavator	1	81	40%	125	5
Welder	1	74	40%	150	5
Air Compressors	1	78	40%	370	5
Crane (tower)	4	81	16%	370	5
Concrete Pump	1	81	20%	370	5
Backhoe	2	78	40%	370	5
Forklift	8	75	20%	370	5
Man Lift	3	83	40%	370	5
Air Compressors	9	78	40%	370	5
Welder	8	74	40%	370	5
Air Compressors	2	78	40%	370	5
Crane (tower)	1	81	16%	370	5
Concrete Pump	1	81	20%	370	5
	50				

Receptor: ***R1***

Results:

1-hour Leq: **78.0**

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: **New Museum - Worst-Case Day Scenarios**
Piles/Foundation/Superstructure & Building Envelope/ Interior Construction & Paving/Concrete/Landscape

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Crane (tower)	1	81	16%	25	5
Concrete Pump	2	81	20%	50	5
Backhoe	1	78	40%	75	5
Drill Rig	1	84	20%	100	5
Forklift	2	75	20%	100	5
Man Lift	1	83	40%	125	5
Excavator	1	81	40%	125	5
Welder	1	74	40%	150	5
Air Compressors	1	78	40%	150	5
Crane (tower)	5	81	16%	175	5
Concrete Pump	2	81	20%	175	5
Backhoe	2	78	40%	370	5
Forklift	8	75	20%	370	5
Man Lift	3	83	40%	370	5
Air Compressors	11	78	40%	370	5
Welder	8	74	40%	370	5
Paver	1	77	50%	370	5
Tractor/Loader/Backhoe	1	79	40%	370	5
Skid Steer Loaders	1	79	40%	370	5
	53				

Receptor: ***R1***

Results:

1-hour Leq: **78.2**

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: **New Museum - Worst-Case Day Scenarios**
Building Envelope/Interior Construction & Paving/Concrete/Landscape/Cleanup

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Crane	1	81	16%	25	5
Concrete Pump	1	81	20%	50	5
Backhoe	1	78	40%	50	5
Forklift	1	75	20%	100	5
Man Lift	1	83	40%	100	5
Welder	1	74	40%	125	5
Air Compressors	1	78	40%	125	5
Paver	1	77	50%	150	5
Skid Steer Loaders	1	79	40%	370	5
Crane	4	81	16%	370	5
Forklift	4	75	20%	370	5
Man Lift	2	83	40%	370	5
Air Compressors	5	78	40%	370	5
Welder	2	74	40%	370	5
	26				

Receptor: ***R1***

Results:

1-hour Leq: **77.3**

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: Falsework

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Crane	3	81	16%	220	5
Man Lift	2	83	40%	220	5
Backhoe	2	78	40%	220	5
Forklift	2	75	20%	220	5
Welder	2	74	40%	220	5

11

Receptor: ***R1***

Results:

1-hour Leq: 66.9

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: Ogden Parking Structure
Demolition

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Backhoe/breaker	1	85	50%	1125	5
Backhoe/breaker	1	85	50%	1125	5
Loader	1	79	40%	1125	5

3

Receptor: ***R2***

Results:

1-hour Leq: 53.4

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: Ogden Parking Structure
Grading

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Drill Rig	1	84	20%	1125	5
Crane	1	81	16%	1125	5
Excavator	1	81	40%	1125	5
Dozer	1	82	40%	1125	5
Backhoe	1	78	40%	1125	5
Forklift	1	75	20%	1125	5
	6				

Receptor: ***R2***

Results:

1-hour Leq: 51.3

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: Ogden Parking Structure
Structure

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Crane	1	81	16%	1125	5
Backhoe	1	78	40%	1125	5
Backhoe	1	78	40%	1125	5
Forklift	1	75	20%	1125	5
Forklift	1	75	20%	1125	5
Concrete Pump	1	81	20%	1125	5

6

Receptor: ***R2***

Results:

1-hour Leq: 48.3

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: Ogden Parking Structure
Paving/Concrete/Landscape

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Crane	1	81	16%	1125	5
Forklift	1	75	20%	1125	5
Forklift	1	75	20%	1125	5

3

Receptor: ***R2***

Results:

1-hour Leq: 43.1

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: New Museum
Demolition

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Crane	1	81	16%	165	0
Breaker	1	85	50%	165	0
Backhoe	1	78	40%	165	0
Loader	1	79	40%	165	0
Breaker	1	85	50%	165	0
Backhoe	1	78	40%	165	0
Loader	1	79	40%	165	0
Breaker	1	85	50%	165	0
Backhoe	1	78	40%	430	0
Loader	1	79	40%	430	0
Breaker	2	85	50%	430	0
Backhoe	2	78	40%	430	0
Loader	9	79	40%	430	0
Crane	1	81	16%	430	0
	24				

Receptor: ***R2***

Results:

1-hour Leq: 78.2

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: New Museum
Excavation and Shoring

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Crane	1	81	16%	165	0
Drill Rig	1	84	20%	165	0
Dewatering system	1	82	10%	165	0
Concrete Pump	1	81	20%	165	0
Excavator	1	81	40%	165	0
Dozer	1	82	40%	165	0
Loader	1	79	40%	165	0
Excavator	1	81	40%	165	0
Dozer	1	82	40%	430	0
	9				

Receptor: ***R2***

Results:

1-hour Leq: 74.6

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: New Museum
Structure

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Crane (Mobile)	1	81	16%	165	0
Excavator	1	81	40%	165	0
Crane (Tower)	1	81	16%	165	0
Welder	1	74	40%	165	0
Air Compressor	1	78	40%	165	0
Drill Rig	1	84	20%	165	0
Forklift	1	75	20%	165	0
Man Lift	1	83	40%	165	0
Backhoe	3	78	40%	165	0
Forklift	4	75	20%	430	0
Concrete Pump	3	81	20%	430	0
Crane (Tower)	5	81	16%	430	0
Air Compressor	5	78	40%	430	0
Welder	5	74	40%	430	0
Man Lift	3	83	40%	430	0
	36				

Receptor: ***R2***

Results:

1-hour Leq: 76.0

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: New Museum
Paving/Concrete/Landscape

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Paver	1	77	50%	165	0
Tractor/Loader/Backhoe	1	79	40%	165	0
Skid Steer Loaders	1	79	40%	165	0

3

Receptor: ***R2***

Results:

1-hour Leq: 69.1

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: New Museum - Worst-Case Day Scenarios
Demolition & Grading/Shoring/Excavation

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Crane	1	81	16%	165	0
Breaker	1	85	50%	165	0
Backhoe	1	78	40%	165	0
Loader	1	79	40%	165	0
Breaker	1	85	50%	165	0
Backhoe	1	78	40%	165	0
Loader	1	79	40%	165	0
Breaker	1	85	50%	190	0
Backhoe	1	78	40%	190	0
Loader	1	79	40%	430	0
Breaker	2	85	50%	430	0
Backhoe	2	78	40%	430	0
Loader	9	79	40%	430	0
Crane	2	81	16%	455	0
Excavator	1	81	40%	455	0
Drill Rig	1	84	20%	480	0
Dewatering system	1	82	10%	480	0
Concrete Pump	1	81	20%	480	0
Dozer	1	82	40%	480	0
Loader	1	79	40%	505	0
Excavator	1	81	40%	505	0
Dozer	1	82	40%	530	0
	33				

Receptor: ***R2***

Results:

1-hour Leq: 78.3

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: **New Museum - Worst-Case Day Scenarios**
Demolition & Grading/Shoring/Excavation & Piles/Foundation/Superstructure

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Crane	1	81	16%	165	0
Breaker	1	85	50%	165	0
Backhoe	1	78	40%	165	0
Loader	1	79	40%	165	0
Breaker	1	85	50%	165	0
Backhoe	1	78	40%	165	0
Drill Rig	1	84	20%	165	0
Dewatering system	1	82	10%	190	0
Concrete Pump	1	81	20%	190	0
Air Compressors	4	78	40%	430	0
Forklift	5	75	20%	430	0
Man Lift	4	83	40%	430	0
Welder	6	74	40%	430	0
Loader	5	79	40%	455	0
Concrete Pump	3	81	20%	455	0
Backhoe	7	78	40%	480	0
Crane	9	81	16%	480	0
Dozer	2	82	40%	480	0
Excavator	3	81	40%	480	0
Breaker	4	85	50%	505	0
Loader	7	79	40%	505	0
Air Compressors	2	78	40%	530	0
Drill Rig	1	84	20%	530	0
	71				

Receptor: ***R2***

Results:

1-hour Leq: **78.6**

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: **New Museum - Worst-Case Day Scenarios**
Piles/Foundation/Superstructure &
Building Envelope/Interior Construction

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Crane (tower)	1	81	16%	165	0
Concrete Pump	2	81	20%	165	0
Drill Rig	1	84	20%	165	0
Backhoe	1	78	40%	165	0
Forklift	2	75	20%	165	0
Man Lift	1	83	40%	165	0
Excavator	1	81	40%	165	0
Welder	1	74	40%	165	0
Air Compressors	1	78	40%	165	0
Crane (tower)	4	81	16%	165	0
Concrete Pump	1	81	20%	430	0
Backhoe	2	78	40%	430	0
Forklift	8	75	20%	430	0
Man Lift	3	83	40%	430	0
Air Compressors	9	78	40%	430	0
Welder	8	74	40%	430	0
Air Compressors	2	78	40%	430	0
Crane (tower)	1	81	16%	430	0
Concrete Pump	1	81	20%	430	0
	50				

Receptor: ***R2***

Results:

1-hour Leq: **76.8**

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: **New Museum - Worst-Case Day Scenarios**
Piles/Foundation/Superstructure & Building Envelope/ Interior Construction & Paving/Concrete/Landscape

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Crane (tower)	1	81	16%	165	0
Concrete Pump	2	81	20%	165	0
Backhoe	1	78	40%	165	0
Drill Rig	1	84	20%	165	0
Forklift	2	75	20%	165	0
Man Lift	1	83	40%	165	0
Excavator	1	81	40%	165	0
Welder	1	74	40%	165	0
Air Compressors	1	78	40%	165	0
Crane (tower)	5	81	16%	165	0
Concrete Pump	2	81	20%	430	0
Backhoe	2	78	40%	430	0
Forklift	8	75	20%	430	0
Man Lift	3	83	40%	430	0
Air Compressors	11	78	40%	430	0
Welder	8	74	40%	430	0
Paver	1	77	50%	430	0
Tractor/Loader/Backhoe	1	79	40%	430	0
Skid Steer Loaders	1	79	40%	430	0
	53				

Receptor: ***R2***

Results:

1-hour Leq: **77.0**

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: **New Museum - Worst-Case Day Scenarios**
Building Envelope/Interior Construction & Paving/Concrete/Landscape/Cleanup

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Crane	1	81	16%	165	0
Concrete Pump	1	81	20%	165	0
Backhoe	1	78	40%	165	0
Forklift	1	75	20%	165	0
Man Lift	1	83	40%	165	0
Welder	1	74	40%	165	0
Air Compressors	1	78	40%	165	0
Paver	1	77	50%	165	0
Skid Steer Loaders	1	79	40%	430	0
Crane	4	81	16%	430	0
Forklift	4	75	20%	430	0
Man Lift	2	83	40%	430	0
Air Compressors	5	78	40%	430	0
Welder	2	74	40%	430	0

26

Receptor: ***R2***

Results:

1-hour Leq: **74.1**

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: Falsework

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Crane	3	81	16%	320	0
Man Lift	2	83	40%	320	0
Backhoe	2	78	40%	320	0
Forklift	2	75	20%	320	0
Welder	2	74	40%	320	0

11

Receptor: ***R2***

Results:

1-hour Leq: 68.7

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: Ogden Parking Structure
Demolition

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Backhoe/breaker	1	85	50%	1755	5
Backhoe/breaker	1	85	50%	1755	5
Loader	1	79	40%	1755	5

3

Receptor: ***R3***

Results:

1-hour Leq: 49.5

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: Ogden Parking Structure
Grading

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Drill Rig	1	84	20%	1755	5
Crane	1	81	16%	1755	5
Excavator	1	81	40%	1755	5
Dozer	1	82	40%	1755	5
Backhoe	1	78	40%	1755	5
Forklift	1	75	20%	1755	5
	6				

Receptor: ***R3***

Results:

1-hour Leq: 47.4

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: Ogden Parking Structure
Structure

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Crane	1	81	16%	1755	5
Backhoe	1	78	40%	1755	5
Backhoe	1	78	40%	1755	5
Forklift	1	75	20%	1755	5
Forklift	1	75	20%	1755	5
Concrete Pump	1	81	20%	1755	5
	6				

Receptor: ***R3***

Results:

1-hour Leq: 44.4

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: Ogden Parking Structure
Paving/Concrete/Landscape

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Crane	1	81	16%	1755	5
Forklift	1	75	20%	1755	5
Forklift	1	75	20%	1755	5

3

Receptor: ***R3***

Results:

1-hour Leq: 39.3

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: New Museum
Demolition

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Crane	1	81	16%	875	6
Breaker	1	85	50%	875	6
Backhoe	1	78	40%	875	6
Loader	1	79	40%	875	6
Breaker	1	85	50%	875	6
Backhoe	1	78	40%	875	6
Loader	1	79	40%	875	6
Breaker	1	85	50%	875	6
Backhoe	1	78	40%	875	6
Loader	1	79	40%	875	6
Breaker	2	85	50%	875	6
Backhoe	2	78	40%	875	6
Loader	9	79	40%	875	6
Crane	1	81	16%	875	6
	24				

Receptor: ***R3***

Results:

1-hour Leq: 60.2

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: New Museum
Excavation and Shoring

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Crane	1	81	16%	875	6
Drill Rig	1	84	20%	875	6
Dewatering system	1	82	10%	875	6
Concrete Pump	1	81	20%	875	6
Excavator	1	81	40%	875	6
Dozer	1	82	40%	875	6
Loader	1	79	40%	875	6
Excavator	1	81	40%	875	6
Dozer	1	82	40%	875	6
	9				

Receptor: ***R3***

Results:

1-hour Leq: 54.6

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: New Museum
Structure

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Crane (Mobile)	1	81	16%	875	6
Excavator	1	81	40%	875	6
Crane (Tower)	1	81	16%	875	6
Welder	1	74	40%	875	6
Air Compressor	1	78	40%	875	6
Drill Rig	1	84	20%	875	6
Forklift	1	75	20%	875	6
Man Lift	1	83	40%	875	6
Backhoe	3	78	40%	875	6
Forklift	4	75	20%	875	6
Concrete Pump	3	81	20%	875	6
Crane (Tower)	5	81	16%	875	6
Air Compressor	5	78	40%	875	6
Welder	5	74	40%	875	6
Man Lift	3	83	40%	875	6
	36				

Receptor: ***R3***

Results:

1-hour Leq: 58.7

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: New Museum
Paving/Concrete/Landscape

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Paver	1	77	50%	875	6
Tractor/Loader/Backhoe	1	79	40%	875	6
Skid Steer Loaders	1	79	40%	875	6

3

Receptor: ***R3***

Results:

1-hour Leq: 48.4

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: New Museum - Worst-Case Day Scenarios
Demolition & Grading/Shoring/Excavation

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Crane	1	81	16%	875	6
Breaker	1	85	50%	875	6
Backhoe	1	78	40%	875	6
Loader	1	79	40%	875	6
Breaker	1	85	50%	875	6
Backhoe	1	78	40%	900	6
Loader	1	79	40%	900	6
Breaker	1	85	50%	925	6
Backhoe	1	78	40%	925	6
Loader	1	79	40%	950	6
Breaker	2	85	50%	950	6
Backhoe	2	78	40%	975	6
Loader	9	79	40%	975	6
Crane	2	81	16%	1000	6
Excavator	1	81	40%	1000	6
Drill Rig	1	84	20%	1050	6
Dewatering system	1	82	10%	1050	6
Concrete Pump	1	81	20%	1100	6
Dozer	1	82	40%	1100	6
Loader	1	79	40%	1150	6
Excavator	1	81	40%	1150	6
Dozer	1	82	40%	1200	6
	33				

Receptor: ***R3***

Results:

1-hour Leq: 60.5

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: **New Museum - Worst-Case Day Scenarios**
Demolition & Grading/Shoring/Excavation & Piles/Foundation/Superstructure

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Crane	1	81	16%	875	6
Breaker	1	85	50%	875	6
Backhoe	1	78	40%	875	6
Loader	1	79	40%	875	6
Breaker	1	85	50%	875	6
Backhoe	1	78	40%	900	6
Drill Rig	1	84	20%	900	6
Dewatering system	1	82	10%	950	6
Concrete Pump	1	81	20%	950	6
Air Compressors	4	78	40%	1000	6
Forklift	5	75	20%	1000	6
Man Lift	4	83	40%	1050	6
Welder	6	74	40%	1050	6
Loader	5	79	40%	1100	6
Concrete Pump	3	81	20%	1100	6
Backhoe	7	78	40%	1150	6
Crane	9	81	16%	1150	6
Dozer	2	82	40%	1200	6
Excavator	3	81	40%	1200	6
Breaker	4	85	50%	1200	6
Loader	7	79	40%	1200	6
Air Compressors	2	78	40%	1200	6
Drill Rig	1	84	20%	1200	6
	71				

Receptor: ***R3***

Results:

1-hour Leq: **61.7**

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: **New Museum - Worst-Case Day Scenarios**
Piles/Foundation/Superstructure &
Building Envelope/Interior Construction

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Crane (tower)	1	81	16%	875	6
Concrete Pump	2	81	20%	875	6
Drill Rig	1	84	20%	875	6
Backhoe	1	78	40%	875	6
Forklift	2	75	20%	875	6
Man Lift	1	83	40%	875	6
Excavator	1	81	40%	875	6
Welder	1	74	40%	875	6
Air Compressors	1	78	40%	875	6
Crane (tower)	4	81	16%	875	6
Concrete Pump	1	81	20%	875	6
Backhoe	2	78	40%	900	6
Forklift	8	75	20%	900	6
Man Lift	3	83	40%	925	6
Air Compressors	9	78	40%	925	6
Welder	8	74	40%	950	6
Air Compressors	2	78	40%	950	6
Crane (tower)	1	81	16%	975	6
Concrete Pump	1	81	20%	975	6
	50				

Receptor: ***R3***

Results:

1-hour Leq: **59.3**

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: **New Museum - Worst-Case Day Scenarios**
Piles/Foundation/Superstructure & Building Envelope/ Interior Construction & Paving/Concrete/Landscape

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Crane (tower)	1	81	16%	875	6
Concrete Pump	2	81	20%	875	6
Backhoe	1	78	40%	875	6
Drill Rig	1	84	20%	875	6
Forklift	2	75	20%	875	6
Man Lift	1	83	40%	875	6
Excavator	1	81	40%	875	6
Welder	1	74	40%	875	6
Air Compressors	1	78	40%	875	6
Crane (tower)	5	81	16%	900	6
Concrete Pump	2	81	20%	900	6
Backhoe	2	78	40%	925	6
Forklift	8	75	20%	925	6
Man Lift	3	83	40%	950	6
Air Compressors	11	78	40%	950	6
Welder	8	74	40%	975	6
Paver	1	77	50%	975	6
Tractor/Loader/Backhoe	1	79	40%	1000	6
Skid Steer Loaders	1	79	40%	1000	6
	53				

Receptor: ***R3***

Results:

1-hour Leq: **59.5**

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: **New Museum - Worst-Case Day Scenarios**
Building Envelope/Interior Construction & Paving/Concrete/Landscape/Cleanup

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Crane	1	81	16%	875	6
Concrete Pump	1	81	20%	875	6
Backhoe	1	78	40%	875	6
Forklift	1	75	20%	875	6
Man Lift	1	83	40%	875	6
Welder	1	74	40%	875	6
Air Compressors	1	78	40%	875	6
Paver	1	77	50%	875	6
Skid Steer Loaders	1	79	40%	875	6
Crane	4	81	16%	900	6
Forklift	4	75	20%	900	6
Man Lift	2	83	40%	925	6
Air Compressors	5	78	40%	925	6
Welder	2	74	40%	950	6

26

Receptor: ***R3***

Results:

1-hour Leq: **56.9**

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: Falsework

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Crane	3	81	16%	945	6
Man Lift	2	83	40%	945	6
Backhoe	2	78	40%	945	6
Forklift	2	75	20%	945	6
Welder	2	74	40%	945	6

11

Receptor: ***R3***

Results:

1-hour Leq: 53.1

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: Ogden Parking Structure
Demolition

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Backhoe/breaker	1	85	50%	1180	5
Backhoe/breaker	1	85	50%	1180	5
Loader	1	79	40%	1180	5

3

Receptor: ***R4***

Results:

1-hour Leq: 53.0

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: Ogden Parking Structure
Grading

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Drill Rig	1	84	20%	1180	5
Crane	1	81	16%	1180	5
Excavator	1	81	40%	1180	5
Dozer	1	82	40%	1180	5
Backhoe	1	78	40%	1180	5
Forklift	1	75	20%	1180	5
	6				

Receptor: ***R4***

Results:

1-hour Leq: 50.9

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: Ogden Parking Structure
Structure

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Crane	1	81	16%	1180	5
Backhoe	1	78	40%	1180	5
Backhoe	1	78	40%	1180	5
Forklift	1	75	20%	1180	5
Forklift	1	75	20%	1180	5
Concrete Pump	1	81	20%	1180	5
	6				

Receptor: ***R4***

Results:

1-hour Leq: 47.9

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: Ogden Parking Structure
Paving/Concrete/Landscape

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Crane	1	81	16%	1180	5
Forklift	1	75	20%	1180	5
Forklift	1	75	20%	1180	5

3

Receptor: ***R4***

Results:

1-hour Leq: 42.7

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: New Museum
Demolition

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Crane	1	81	16%	365	4
Breaker	1	85	50%	365	4
Backhoe	1	78	40%	365	4
Loader	1	79	40%	365	4
Breaker	1	85	50%	365	4
Backhoe	1	78	40%	365	4
Loader	1	79	40%	365	4
Breaker	1	85	50%	365	4
Backhoe	1	78	40%	365	4
Loader	1	79	40%	365	4
Breaker	2	85	50%	500	4
Backhoe	2	78	40%	500	4
Loader	9	79	40%	500	4
Crane	1	81	16%	500	4
	24				

Receptor: ***R4***

Results:

1-hour Leq: 68.5

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: New Museum
Excavation and Shoring

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Crane	1	81	16%	365	4
Drill Rig	1	84	20%	365	4
Dewatering system	1	82	10%	365	4
Concrete Pump	1	81	20%	365	4
Excavator	1	81	40%	365	4
Dozer	1	82	40%	365	4
Loader	1	79	40%	365	4
Excavator	1	81	40%	365	4
Dozer	1	82	40%	365	4

9

Receptor: ***R4***

Results:

1-hour Leq: 64.1

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: New Museum
Structure

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Crane (Mobile)	1	81	16%	365	4
Excavator	1	81	40%	365	4
Crane (Tower)	1	81	16%	365	4
Welder	1	74	40%	365	4
Air Compressor	1	78	40%	365	4
Drill Rig	1	84	20%	365	4
Forklift	1	75	20%	365	4
Man Lift	1	83	40%	365	4
Backhoe	3	78	40%	365	4
Forklift	4	75	20%	365	4
Concrete Pump	3	81	20%	500	4
Crane (Tower)	5	81	16%	500	4
Air Compressor	5	78	40%	500	4
Welder	5	74	40%	500	4
Man Lift	3	83	40%	500	4
	36				

Receptor: ***R4***

Results:

1-hour Leq: 66.7

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: New Museum
Paving/Concrete/Landscape

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Paver	1	77	50%	365	4
Tractor/Loader/Backhoe	1	79	40%	365	4
Skid Steer Loaders	1	79	40%	365	4

3

Receptor: ***R4***

Results:

1-hour Leq: 57.9

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: New Museum - Worst-Case Day Scenarios
Demolition & Grading/Shoring/Excavation

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Crane	1	81	16%	365	4
Breaker	1	85	50%	365	4
Backhoe	1	78	40%	365	4
Loader	1	79	40%	365	4
Breaker	1	85	50%	365	4
Backhoe	1	78	40%	390	4
Loader	1	79	40%	390	4
Breaker	1	85	50%	415	4
Backhoe	1	78	40%	415	4
Loader	1	79	40%	500	4
Breaker	2	85	50%	500	4
Backhoe	2	78	40%	525	4
Loader	9	79	40%	525	4
Crane	2	81	16%	550	4
Excavator	1	81	40%	550	4
Drill Rig	1	84	20%	600	4
Dewatering system	1	82	10%	600	4
Concrete Pump	1	81	20%	625	4
Dozer	1	82	40%	625	4
Loader	1	79	40%	650	4
Excavator	1	81	40%	650	4
Dozer	1	82	40%	675	4
	33				

Receptor: ***R4***

Results:

1-hour Leq: 68.7

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: **New Museum - Worst-Case Day Scenarios**
Demolition & Grading/Shoring/Excavation & Piles/Foundation/Superstructure

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Crane	1	81	16%	365	4
Breaker	1	85	50%	365	4
Backhoe	1	78	40%	365	4
Loader	1	79	40%	365	4
Breaker	1	85	50%	365	4
Backhoe	1	78	40%	365	4
Drill Rig	1	84	20%	365	4
Dewatering system	1	82	10%	390	4
Concrete Pump	1	81	20%	390	4
Air Compressors	4	78	40%	500	4
Forklift	5	75	20%	500	4
Man Lift	4	83	40%	525	4
Welder	6	74	40%	525	4
Loader	5	79	40%	575	4
Concrete Pump	3	81	20%	575	4
Backhoe	7	78	40%	600	4
Crane	9	81	16%	600	4
Dozer	2	82	40%	650	4
Excavator	3	81	40%	650	4
Breaker	4	85	50%	675	4
Loader	7	79	40%	675	4
Air Compressors	2	78	40%	700	4
Drill Rig	1	84	20%	700	4
	71				

Receptor: ***R4***

Results:

1-hour Leq: **69.7**

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: **New Museum - Worst-Case Day Scenarios**
Piles/Foundation/Superstructure &
Building Envelope/Interior Construction

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Crane (tower)	1	81	16%	365	4
Concrete Pump	2	81	20%	365	4
Drill Rig	1	84	20%	365	4
Backhoe	1	78	40%	365	4
Forklift	2	75	20%	365	4
Man Lift	1	83	40%	365	4
Excavator	1	81	40%	365	4
Welder	1	74	40%	365	4
Air Compressors	1	78	40%	365	4
Crane (tower)	4	81	16%	365	4
Concrete Pump	1	81	20%	500	4
Backhoe	2	78	40%	525	4
Forklift	8	75	20%	525	4
Man Lift	3	83	40%	550	4
Air Compressors	9	78	40%	550	4
Welder	8	74	40%	600	4
Air Compressors	2	78	40%	600	4
Crane (tower)	1	81	16%	625	4
Concrete Pump	1	81	20%	625	4
	50				

Receptor: ***R4***

Results:

1-hour Leq: **67.1**

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: **New Museum - Worst-Case Day Scenarios**
Piles/Foundation/Superstructure & Building Envelope/ Interior Construction & Paving/Concrete/Landscape

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Crane (tower)	1	81	16%	365	4
Concrete Pump	2	81	20%	365	4
Backhoe	1	78	40%	365	4
Drill Rig	1	84	20%	365	4
Forklift	2	75	20%	365	4
Man Lift	1	83	40%	365	4
Excavator	1	81	40%	365	4
Welder	1	74	40%	365	4
Air Compressors	1	78	40%	365	4
Crane (tower)	5	81	16%	365	4
Concrete Pump	2	81	20%	500	4
Backhoe	2	78	40%	525	4
Forklift	8	75	20%	525	4
Man Lift	3	83	40%	550	4
Air Compressors	11	78	40%	550	4
Welder	8	74	40%	600	4
Paver	1	77	50%	600	4
Tractor/Loader/Backhoe	1	79	40%	625	4
Skid Steer Loaders	1	79	40%	625	4
	53				

Receptor: ***R4***

Results:

1-hour Leq: **67.4**

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: **New Museum - Worst-Case Day Scenarios**
Building Envelope/Interior Construction & Paving/Concrete/Landscape/Cleanup

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Crane	1	81	16%	365	4
Concrete Pump	1	81	20%	365	4
Backhoe	1	78	40%	365	4
Forklift	1	75	20%	365	4
Man Lift	1	83	40%	365	4
Welder	1	74	40%	365	4
Air Compressors	1	78	40%	365	4
Paver	1	77	50%	365	4
Skid Steer Loaders	1	79	40%	365	4
Crane	4	81	16%	365	4
Forklift	4	75	20%	365	4
Man Lift	2	83	40%	500	4
Air Compressors	5	78	40%	500	4
Welder	2	74	40%	500	4

26

Receptor: ***R4***

Results:

1-hour Leq: **65.6**

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: Falsework

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Crane	3	81	16%	835	4
Man Lift	2	83	40%	835	4
Backhoe	2	78	40%	835	4
Forklift	2	75	20%	835	4
Welder	2	74	40%	835	4

11

Receptor: ***R4***

Results:

1-hour Leq: 56.0

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: Ogden Parking Structure
Demolition

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Backhoe/breaker	1	85	50%	10	15
Backhoe/breaker	1	85	50%	35	15
Loader	1	79	40%	60	15

3

Receptor: ***R5***

Results:

1-hour Leq: 81.3

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: Ogden Parking Structure
Grading

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Drill Rig	1	84	20%	10	15
Crane	1	81	16%	35	15
Excavator	1	81	40%	60	15
Dozer	1	82	40%	60	15
Backhoe	1	78	40%	85	15
Forklift	1	75	20%	85	15
	6				

Receptor: ***R5***

Results:

1-hour Leq: 76.4

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: Ogden Parking Structure
Structure

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Crane	1	81	16%	10	15
Backhoe	1	78	40%	35	15
Backhoe	1	78	40%	60	15
Forklift	1	75	20%	60	15
Forklift	1	75	20%	85	15
Concrete Pump	1	81	20%	85	15
	6				

Receptor: ***R5***

Results:

1-hour Leq: 72.7

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: Ogden Parking Structure
Paving/Concrete/Landscape

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Crane	1	81	16%	10	15
Forklift	1	75	20%	35	15
Forklift	1	75	20%	60	15

3

Receptor: ***R5***

Results:

1-hour Leq: 72.2

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: New Museum
Demolition

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Crane	1	81	16%	565	0
Breaker	1	85	50%	565	0
Backhoe	1	78	40%	565	0
Loader	1	79	40%	565	0
Breaker	1	85	50%	565	0
Backhoe	1	78	40%	565	0
Loader	1	79	40%	565	0
Breaker	1	85	50%	565	0
Backhoe	1	78	40%	565	0
Loader	1	79	40%	565	0
Breaker	2	85	50%	565	0
Backhoe	2	78	40%	565	0
Loader	9	79	40%	565	0
Crane	1	81	16%	565	0
	24				

Receptor: ***R5***

Results:

1-hour Leq: 70.2

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: New Museum
Excavation and Shoring

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Crane	1	81	16%	565	0
Drill Rig	1	84	20%	565	0
Dewatering system	1	82	10%	565	0
Concrete Pump	1	81	20%	565	0
Excavator	1	81	40%	565	0
Dozer	1	82	40%	565	0
Loader	1	79	40%	565	0
Excavator	1	81	40%	565	0
Dozer	1	82	40%	565	0
	9				

Receptor: ***R5***

Results:

1-hour Leq: 64.6

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: New Museum
Structure

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Crane (Mobile)	1	81	16%	565	0
Excavator	1	81	40%	565	0
Crane (Tower)	1	81	16%	565	0
Welder	1	74	40%	565	0
Air Compressor	1	78	40%	565	0
Drill Rig	1	84	20%	565	0
Forklift	1	75	20%	565	0
Man Lift	1	83	40%	565	0
Backhoe	3	78	40%	565	0
Forklift	4	75	20%	565	0
Concrete Pump	3	81	20%	565	0
Crane (Tower)	5	81	16%	565	0
Air Compressor	5	78	40%	565	0
Welder	5	74	40%	565	0
Man Lift	3	83	40%	565	0
	36				

Receptor: ***R5***

Results:

1-hour Leq: 68.7

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: New Museum
Paving/Concrete/Landscape

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Paver	1	77	50%	565	0
Tractor/Loader/Backhoe	1	79	40%	565	0
Skid Steer Loaders	1	79	40%	565	0

3

Receptor: ***R5***

Results:

1-hour Leq: 58.4

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: New Museum - Worst-Case Day Scenarios
Demolition & Grading/Shoring/Excavation

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Crane	1	81	16%	565	0
Breaker	1	85	50%	565	0
Backhoe	1	78	40%	565	0
Loader	1	79	40%	565	0
Breaker	1	85	50%	565	0
Backhoe	1	78	40%	565	0
Loader	1	79	40%	565	0
Breaker	1	85	50%	590	0
Backhoe	1	78	40%	590	0
Loader	1	79	40%	615	0
Breaker	2	85	50%	615	0
Backhoe	2	78	40%	640	0
Loader	9	79	40%	640	0
Crane	2	81	16%	665	0
Excavator	1	81	40%	665	0
Drill Rig	1	84	20%	690	0
Dewatering system	1	82	10%	690	0
Concrete Pump	1	81	20%	715	0
Dozer	1	82	40%	715	0
Loader	1	79	40%	740	5
Excavator	1	81	40%	740	5
Dozer	1	82	40%	765	5
	33				

Receptor: ***R5***

Results:

1-hour Leq: 70.3

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: **New Museum - Worst-Case Day Scenarios**
Demolition & Grading/Shoring/Excavation & Piles/Foundation/Superstructure

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Crane	1	81	16%	565	0
Breaker	1	85	50%	565	0
Backhoe	1	78	40%	565	0
Loader	1	79	40%	565	0
Breaker	1	85	50%	565	0
Backhoe	1	78	40%	590	0
Drill Rig	1	84	20%	590	0
Dewatering system	1	82	10%	615	0
Concrete Pump	1	81	20%	615	0
Air Compressors	4	78	40%	640	0
Forklift	5	75	20%	640	0
Man Lift	4	83	40%	665	0
Welder	6	74	40%	665	0
Loader	5	79	40%	715	0
Concrete Pump	3	81	20%	715	0
Backhoe	7	78	40%	765	0
Crane	9	81	16%	765	0
Dozer	2	82	40%	815	0
Excavator	3	81	40%	815	0
Breaker	4	85	50%	865	5
Loader	7	79	40%	865	5
Air Compressors	2	78	40%	915	5
Drill Rig	1	84	20%	915	5
	71				

Receptor: ***R5***

Results:

1-hour Leq: **70.6**

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: **New Museum - Worst-Case Day Scenarios**
Piles/Foundation/Superstructure &
Building Envelope/Interior Construction

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Crane (tower)	1	81	16%	565	0
Concrete Pump	2	81	20%	565	0
Drill Rig	1	84	20%	565	0
Backhoe	1	78	40%	565	0
Forklift	2	75	20%	565	0
Man Lift	1	83	40%	565	0
Excavator	1	81	40%	565	0
Welder	1	74	40%	565	0
Air Compressors	1	78	40%	565	0
Crane (tower)	4	81	16%	565	0
Concrete Pump	1	81	20%	565	0
Backhoe	2	78	40%	590	0
Forklift	8	75	20%	590	0
Man Lift	3	83	40%	615	0
Air Compressors	9	78	40%	615	0
Welder	8	74	40%	640	0
Air Compressors	2	78	40%	640	0
Crane (tower)	1	81	16%	665	0
Concrete Pump	1	81	20%	665	0

50

Receptor: ***R5***

Results:

1-hour Leq: **69.2**

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: **New Museum - Worst-Case Day Scenarios**
Piles/Foundation/Superstructure & Building Envelope/ Interior Construction & Paving/Concrete/Landscape

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Crane (tower)	1	81	16%	565	0
Concrete Pump	2	81	20%	565	0
Backhoe	1	78	40%	565	0
Drill Rig	1	84	20%	565	0
Forklift	2	75	20%	565	0
Man Lift	1	83	40%	565	0
Excavator	1	81	40%	565	0
Welder	1	74	40%	565	0
Air Compressors	1	78	40%	565	0
Crane (tower)	5	81	16%	565	0
Concrete Pump	2	81	20%	565	0
Backhoe	2	78	40%	590	0
Forklift	8	75	20%	590	0
Man Lift	3	83	40%	615	0
Air Compressors	11	78	40%	615	0
Welder	8	74	40%	640	0
Paver	1	77	50%	640	0
Tractor/Loader/Backhoe	1	79	40%	665	0
Skid Steer Loaders	1	79	40%	665	0
	53				

Receptor: ***R5***

Results:

1-hour Leq: **69.5**

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: **New Museum - Worst-Case Day Scenarios**
Building Envelope/Interior Construction & Paving/Concrete/Landscape/Cleanup

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Crane	1	81	16%	565	0
Concrete Pump	1	81	20%	565	0
Backhoe	1	78	40%	565	0
Forklift	1	75	20%	565	0
Man Lift	1	83	40%	565	0
Welder	1	74	40%	565	0
Air Compressors	1	78	40%	565	0
Paver	1	77	50%	565	0
Skid Steer Loaders	1	79	40%	565	0
Crane	4	81	16%	590	0
Forklift	4	75	20%	590	0
Man Lift	2	83	40%	615	0
Air Compressors	5	78	40%	615	0
Welder	2	74	40%	640	0

26

Receptor: ***R5***

Results:

1-hour Leq: **66.7**

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: Falsework

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Crane	3	81	16%	720	0
Man Lift	2	83	40%	745	0
Backhoe	2	78	40%	770	0
Forklift	2	75	20%	770	0
Welder	2	74	40%	795	0

11

Receptor: ***R5***

Results:

1-hour Leq: 61.3

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: Ogden Parking Structure
Demolition

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Backhoe/breaker	1	85	50%	905	5
Backhoe/breaker	1	85	50%	905	5
Loader	1	79	40%	905	5

3

Receptor: ***R6***

Results:

1-hour Leq: 55.3

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: Ogden Parking Structure
Grading

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Drill Rig	1	84	20%	905	5
Crane	1	81	16%	905	5
Excavator	1	81	40%	905	5
Dozer	1	82	40%	905	5
Backhoe	1	78	40%	905	5
Forklift	1	75	20%	905	5
	6				

Receptor: ***R6***

Results:

1-hour Leq: 53.2

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: Ogden Parking Structure
Structure

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Crane	1	81	16%	905	5
Backhoe	1	78	40%	905	5
Backhoe	1	78	40%	905	5
Forklift	1	75	20%	905	5
Forklift	1	75	20%	905	5
Concrete Pump	1	81	20%	905	5

6

Receptor: ***R6***

Results:

1-hour Leq: 50.2

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: Ogden Parking Structure
Paving/Concrete/Landscape

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Crane	1	81	16%	905	5
Forklift	1	75	20%	905	5
Forklift	1	75	20%	905	5

3

Receptor: ***R6***

Results:

1-hour Leq: 45.0

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: New Museum
Demolition

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Crane	1	81	16%	25	5
Breaker	1	85	50%	50	5
Backhoe	1	78	40%	100	5
Loader	1	79	40%	125	5
Breaker	1	85	50%	150	5
Backhoe	1	78	40%	150	5
Loader	1	79	40%	370	5
Breaker	1	85	50%	370	5
Backhoe	1	78	40%	370	5
Loader	1	79	40%	370	5
Breaker	2	85	50%	370	5
Backhoe	2	78	40%	370	5
Loader	9	79	40%	370	5
Crane	1	81	16%	370	5
	24				

Receptor: ***R6***

Results:

1-hour Leq: 79.6

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: New Museum
Excavation and Shoring

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Crane	1	81	16%	25	5
Drill Rig	1	84	20%	50	5
Dewatering system	1	82	10%	75	5
Concrete Pump	1	81	20%	150	5
Excavator	1	81	40%	370	5
Dozer	1	82	40%	370	5
Loader	1	79	40%	370	5
Excavator	1	81	40%	370	5
Dozer	1	82	40%	370	5

9

Receptor: ***R6***

Results:

1-hour Leq: 76.5

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: New Museum
Structure

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Crane (Mobile)	1	81	16%	25	5
Excavator	1	81	40%	50	5
Crane (Tower)	1	81	16%	75	5
Welder	1	74	40%	100	5
Air Compressor	1	78	40%	100	5
Drill Rig	1	84	20%	125	5
Forklift	1	75	20%	125	5
Man Lift	1	83	40%	150	5
Backhoe	3	78	40%	370	5
Forklift	4	75	20%	370	5
Concrete Pump	3	81	20%	370	5
Crane (Tower)	5	81	16%	370	5
Air Compressor	5	78	40%	370	5
Welder	5	74	40%	370	5
Man Lift	3	83	40%	370	5
	36				

Receptor: ***R6***

Results:

1-hour Leq: 77.5

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: New Museum
Paving/Concrete/Landscape

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Paver	1	77	50%	25	5
Tractor/Loader/Backhoe	1	79	40%	50	5
Skid Steer Loaders	1	79	40%	75	5
	3				

Receptor: ***R6***

Results:

1-hour Leq: 76.6

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: New Museum - Worst-Case Day Scenarios
Demolition & Grading/Shoring/Excavation

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Crane	1	81	16%	25	5
Breaker	1	85	50%	50	5
Backhoe	1	78	40%	100	5
Loader	1	79	40%	125	5
Breaker	1	85	50%	150	5
Backhoe	1	78	40%	150	5
Loader	1	79	40%	370	5
Breaker	1	85	50%	370	5
Backhoe	1	78	40%	370	5
Loader	1	79	40%	370	5
Breaker	2	85	50%	370	5
Backhoe	2	78	40%	370	5
Loader	9	79	40%	370	5
Crane	2	81	16%	370	5
Excavator	1	81	40%	370	5
Drill Rig	1	84	20%	370	5
Dewatering system	1	82	10%	370	5
Concrete Pump	1	81	20%	370	5
Dozer	1	82	40%	370	5
Loader	1	79	40%	370	5
Excavator	1	81	40%	370	5
Dozer	1	82	40%	370	5
	33				

Receptor: ***R6***

Results:

1-hour Leq: 79.7

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: **New Museum - Worst-Case Day Scenarios**
Demolition & Grading/Shoring/Excavation & Piles/Foundation/Superstructure

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Crane	1	81	16%	25	5
Breaker	1	85	50%	50	5
Backhoe	1	78	40%	100	5
Loader	1	79	40%	125	5
Breaker	1	85	50%	150	5
Backhoe	1	78	40%	150	5
Drill Rig	1	84	20%	370	5
Dewatering system	1	82	10%	370	5
Concrete Pump	1	81	20%	370	5
Air Compressors	4	78	40%	370	5
Forklift	5	75	20%	370	5
Man Lift	4	83	40%	370	5
Welder	6	74	40%	370	5
Loader	5	79	40%	370	5
Concrete Pump	3	81	20%	370	5
Backhoe	7	78	40%	370	5
Crane	9	81	16%	370	5
Dozer	2	82	40%	370	5
Excavator	3	81	40%	370	5
Breaker	4	85	50%	370	5
Loader	7	79	40%	370	5
Air Compressors	2	78	40%	370	5
Drill Rig	1	84	20%	370	5
	71				

Receptor: ***R6***

Results:

1-hour Leq: **80.0**

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: **New Museum - Worst-Case Day Scenarios**
Piles/Foundation/Superstructure &
Building Envelope/Interior Construction

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Crane (tower)	1	81	16%	25	5
Concrete Pump	2	81	20%	50	5
Drill Rig	1	84	20%	75	5
Backhoe	1	78	40%	100	5
Forklift	2	75	20%	100	5
Man Lift	1	83	40%	125	5
Excavator	1	81	40%	125	5
Welder	1	74	40%	150	5
Air Compressors	1	78	40%	370	5
Crane (tower)	4	81	16%	370	5
Concrete Pump	1	81	20%	370	5
Backhoe	2	78	40%	370	5
Forklift	8	75	20%	370	5
Man Lift	3	83	40%	370	5
Air Compressors	9	78	40%	370	5
Welder	8	74	40%	370	5
Air Compressors	2	78	40%	370	5
Crane (tower)	1	81	16%	370	5
Concrete Pump	1	81	20%	370	5
	50				

Receptor: ***R6***

Results:

1-hour Leq: **78.0**

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: **New Museum - Worst-Case Day Scenarios**
Piles/Foundation/Superstructure & Building Envelope/ Interior Construction & Paving/Concrete/Landscape

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Crane (tower)	1	81	16%	25	5
Concrete Pump	2	81	20%	50	5
Backhoe	1	78	40%	75	5
Drill Rig	1	84	20%	100	5
Forklift	2	75	20%	100	5
Man Lift	1	83	40%	125	5
Excavator	1	81	40%	125	5
Welder	1	74	40%	150	5
Air Compressors	1	78	40%	150	5
Crane (tower)	5	81	16%	175	5
Concrete Pump	2	81	20%	175	5
Backhoe	2	78	40%	370	5
Forklift	8	75	20%	370	5
Man Lift	3	83	40%	370	5
Air Compressors	11	78	40%	370	5
Welder	8	74	40%	370	5
Paver	1	77	50%	370	5
Tractor/Loader/Backhoe	1	79	40%	370	5
Skid Steer Loaders	1	79	40%	370	5
	53				

Receptor: ***R6***

Results:

1-hour Leq: **78.2**

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: **New Museum - Worst-Case Day Scenarios**
Building Envelope/Interior Construction & Paving/Concrete/Landscape/Cleanup

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Crane	1	81	16%	25	5
Concrete Pump	1	81	20%	50	5
Backhoe	1	78	40%	50	5
Forklift	1	75	20%	100	5
Man Lift	1	83	40%	100	5
Welder	1	74	40%	125	5
Air Compressors	1	78	40%	125	5
Paver	1	77	50%	150	5
Skid Steer Loaders	1	79	40%	370	5
Crane	4	81	16%	370	5
Forklift	4	75	20%	370	5
Man Lift	2	83	40%	370	5
Air Compressors	5	78	40%	370	5
Welder	2	74	40%	370	5

26

Receptor: ***R6***

Results:

1-hour Leq: **77.3**

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: LACMA East

Construction Phase: Falsework

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Crane	3	81	16%	230	5
Man Lift	2	83	40%	230	5
Backhoe	2	78	40%	230	5
Forklift	2	75	20%	230	5
Welder	2	74	40%	230	5

11

Receptor: ***R6***

Results:

1-hour Leq: 66.6

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
Acoustical Engineering Services

Project: LACMA EAST EIR

Construction Vibration Impacts

Reference Levels at 25 feet are based on FTA, 2006 (Transit Noise and Vibration Impact Assessment)
Calculations using FTA procedure with n= **1.5**

ON-SITE CONSTRUCTION ACTIVITIES

Table 1: Construction Equipment Vibration Levels (PPV) - Building Damages

		Estimated Vibration Levels at nearest off-site building structures (distance in feet), PPV						
Equipment	Reference Vibration Levels at 25 ft., PPV	Multi-Residential building to the North	Multi-Residential building to the south (Spaulding)	Commercial building to the south (Ogden)	Commercial building to the west (5900 Wilshire)	Commercial building to the east	5905 Wilshire	5801 Wilshire
		335	25	10	60	40	25	315
Large Bulldozer	0.089	0.002	0.089	0.352	0.024	0.044	0.089	0.002
Caisson Drilling	0.089	0.002	0.089	0.352	0.024	0.044	0.089	0.002
Loaded Trucks	0.076	0.002	0.076	0.300	0.020	0.038	0.076	0.002
Jackhammer	0.035	0.001	0.035	0.138	0.009	0.017	0.035	0.001
Small bulldozer	0.003	0.000	0.003	0.012	0.001	0.002	0.003	0.000
Significance Threshold, PPV		0.2	0.3	0.3	0.3	0.3	0.3	0.3

Table 1: Construction Equipment Vibration Levels (PPV) - Building Damages - HISTORIC STRUCTURE

		Estimated Vibration Levels at nearest off-site building structures (distance in feet), PPV						
Equipment	Reference Vibration Levels at 25 ft., PPV	H1 6067 Wilshire	H2 5950 Wilshire	H3 724 S Genesee	H4 5850 Wilshire	H5 5828 Wilshire	H6 5820 Wilshire	H7 5814 Wilshire
		310	165	170	25	165	290	250
Large Bulldozer	0.089	0.002	0.005	0.005	0.089	0.005	0.002	0.003
Caisson Drilling	0.089	0.002	0.005	0.005	0.089	0.005	0.002	0.003
Loaded Trucks	0.076	0.002	0.005	0.004	0.076	0.005	0.002	0.002
Jackhammer	0.035	0.001	0.002	0.002	0.035	0.002	0.001	0.001
Small bulldozer	0.003	0.000	0.000	0.000	0.003	0.000	0.000	0.000
Significance Threshold, PPV		0.3	0.3	0.2	0.3	0.3	0.3	0.2

Table 2: Construction Equipment Vibration Levels (VdB) - Human Annoyance

		Estimated Vibration Levels at Off-Site Receptors (at note distance in feet), VdB						
Equipment	Reference Vibration Levels at 25 ft., VdB	R1	R2	R3	R4	R5	R6	
		25	165	875	365	10	25	
Large Bulldozer	87	87	62	41	52	99	87	
Caisson Drilling	87	87	62	41	52	99	87	
Loaded Trucks	86	86	61	40	51	98	86	
Jackhammer	79	79	54	33	44	91	79	
Small bulldozer	58	58	33	12	23	70	58	
Significance Threshold, VdB		80	80	80	80	80	80	

OFF-SITE CONSTRUCTION HAUL TRUCKS

Table 3: Off-Site Haul Trucks - Building Damage

		Estimated Vibration Levels at noted distance in feet, PPV						
Equipment	Reference Vibration Levels at 50 ft., PPV	25						
Typical road surface	0.00565	0.016						
Significance Threshold, PPV		0.12						

Ref. Levels based on FTA Figure 7-3 (converted from VdB to PPV)

Table 4: Off-Site Haul Trucks - Human Annoyance

		Estimated Vibration Levels at noted distance in feet, VdB						
Equipment	Reference Vibration Levels at 50 ft., VdB	25						
Typical road surface	63	72						
Significance Threshold, VdB		72						

Ref. Levels based on FTA Figure 7-3

Eyestone Environmental 7 September 2018
SKB TNM 2.5

INPUT: ROADWAYS
PROJECT/CONTRACT: LACMA East
RUN: Museum - Demo

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA

Roadway		Points									
Name	Width	Name	No.	Coordinates (pavement)			Flow Control			Segment	
				X	Y	Z	Control Device	Speed Constraint	Percent Vehicles Affected	Pvmt Type	On Struct?
	ft			ft	ft	ft		mph	%		
Haul Route	12.0	point1	1	0.0	0.0	0.00	Signal	0.00	100	Average	
		point2	2	1,000.0	0.0	0.00					

Eyestone Environmental **7 September 2018**
SKB **TNM 2.5**

INPUT: TRAFFIC FOR LAeq1h Volumes
PROJECT/CONTRACT: **LACMA East**
RUN: **Museum - Demo**

Roadway	Points											
Name	Name	No.	Segment									
			Autos		MTrucks		HTrucks		Buses		Motorcycles	
			V	S	V	S	V	S	V	S	V	S
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
Haul Route	point1	1	70	35	0	0	13	35	0	0	0	0
	point2	2										

Eyestone Environmental **7 September 2018**
SKB **TNM 2.5**

INPUT: RECEIVERS
PROJECT/CONTRACT: **LACMA East**
RUN: **Museum - Demo**

Receiver Name	No.	#DUs	Coordinates (ground) X	Y	Z	Height above Ground	Input Sound Levels and Criteria: Existing LAeq1h	Impact Criteria LAeq1h	Impact Criteria Sub'l	NR Goal	Active in Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
Receptor at 45 feet	1	1	250.0	45.0	0.00	4.92	0.00	71	5.0	0.0	Y
Receptor at 40 feet	10	1	250.0	40.0	0.00	4.92	0.00	66	10.0	8.0	Y

Eyestone Environmental
SKB
7 September 2018
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: LACMA East
RUN: Museum - Demo
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receptor at 45 feet	1	1	0.0	63.3	71	63.3	5	----	63.3	0.0	0	0.0
Receptor at 40 feet	10	1	0.0	63.9	66	63.9	10	----	63.9	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	2	0.0	0.0	0.0
All Impacted	0	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

Eyestone Environmental 7 September 2018
SKB TNM 2.5

INPUT: ROADWAYS
PROJECT/CONTRACT: LACMA East
RUN: Museum - Grading

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA

Roadway Name	Width	Points Name	No.	Coordinates (pavement) X	Y	Z	Flow Control Control Device	Speed Constraint	Percent Vehicles Affected	Segment Pvmt Type	On Struct?
	ft			ft	ft	ft		mph	%		
Haul Route	12.0	point1	1	0.0	0.0	0.00	Signal	0.00	100	Average	
		point2	2	1,000.0	0.0	0.00					

Eyestone Environmental **7 September 2018**
SKB **TNM 2.5**

INPUT: TRAFFIC FOR LAeq1h Volumes
PROJECT/CONTRACT: **LACMA East**
RUN: **Museum - Grading**

Roadway	Points		Segment									
Name	Name	No.	Autos		MTrucks		HTrucks		Buses		Motorcycles	
			V	S	V	S	V	S	V	S	V	S
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
Haul Route	point1	1	60	35	0	0	27	35	0	0	0	0
	point2	2										

Eyestone Environmental **7 September 2018**
SKB **TNM 2.5**

INPUT: RECEIVERS
PROJECT/CONTRACT: **LACMA East**
RUN: **Museum - Grading**

Receiver Name	No.	#DUs	Coordinates (ground) X	Y	Z	Height above Ground	Input Sound Levels and Criteria: Existing LAeq1h	Impact Criteria LAeq1h	Impact Criteria Sub'l	NR Goal	Active in Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
Receptor at 45 feet	1	1	250.0	45.0	0.00	4.92	0.00	71	5.0	0.0	Y
Receptor at 40 feet	10	1	250.0	40.0	0.00	4.92	0.00	66	10.0	8.0	Y

Eyestone Environmental
SKB
7 September 2018
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: LACMA East
RUN: Museum - Grading
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receptor at 45 feet	1	1	0.0	65.9	71	65.9	5	----	65.9	0.0	0	0.0
Receptor at 40 feet	10	1	0.0	66.6	66	66.6	10	Snd Lvl	66.6	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	2	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

Eyestone Environmental 7 September 2018
SKB TNM 2.5

INPUT: ROADWAYS
PROJECT/CONTRACT: LACMA East
RUN: Museum - Foundation

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA

Roadway		Points					Flow Control			Segment	
Name	Width	Name	No.	Coordinates (pavement) X	Y	Z	Control Device	Speed Constraint	Percent Vehicles Affected	Pvmt Type	On Struct?
	ft			ft	ft	ft		mph	%		
Haul Route	12.0	point1	1	0.0	0.0	0.00	Signal	0.00	100	Average	
		point2	2	1,000.0	0.0	0.00					

Eyestone Environmental **7 September 2018**
SKB **TNM 2.5**

INPUT: TRAFFIC FOR LAeq1h Volumes
PROJECT/CONTRACT: **LACMA East**
RUN: **Museum - Foundation**

Roadway	Points											
Name	Name	No.	Segment									
			Autos		MTrucks		HTrucks		Buses		Motorcycles	
			V	S	V	S	V	S	V	S	V	S
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
Haul Route	point1	1	100	35	0	0	24	35	0	0	0	0
	point2	2										

Eyestone Environmental **7 September 2018**
SKB **TNM 2.5**

INPUT: RECEIVERS
PROJECT/CONTRACT: **LACMA East**
RUN: **Museum - Foundation**

Receiver Name	No.	#DUs	Coordinates (ground) X	Y	Z	Height above Ground	Input Sound Levels and Criteria: Existing LAeq1h	Impact Criteria LAeq1h	Impact Criteria Sub'l	NR Goal	Active in Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
Receptor at 45 feet	1	1	250.0	45.0	0.00	4.92	0.00	71	5.0	0.0	Y
Receptor at 40 feet	10	1	250.0	40.0	0.00	4.92	0.00	66	10.0	8.0	Y

Eyestone Environmental
SKB
7 September 2018
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: LACMA East
RUN: Museum - Foundation
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receptor at 45 feet	1	1	0.0	65.8	71	65.8	5	----	65.8	0.0	0	0.0
Receptor at 40 feet	10	1	0.0	66.4	66	66.4	10	Snd Lvl	66.4	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	2	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

Eyestone Environmental 7 September 2018
SKB TNM 2.5

INPUT: ROADWAYS
PROJECT/CONTRACT: LACMA East
RUN: Museum - Building Construction

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA

Roadway Name	Width	Points Name	No.	Coordinates (pavement) X	Y	Z	Flow Control Control Device	Speed Constraint	Percent Vehicles Affected	Segment Pvmt Type	On Struct?
	ft			ft	ft	ft		mph	%		
Haul Route	12.0	point1	1	0.0	0.0	0.00	Signal	0.00	100	Average	
		point2	2	1,000.0	0.0	0.00					

Eyestone Environmental **7 September 2018**
SKB **TNM 2.5**

INPUT: TRAFFIC FOR LAeq1h Volumes
PROJECT/CONTRACT: **LACMA East**
RUN: **Museum - Building Construction**

Roadway	Points		Segment									
Name	Name	No.	Autos		MTrucks		HTrucks		Buses		Motorcycles	
			V	S	V	S	V	S	V	S	V	S
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
Haul Route	point1	1	100	35	0	0	13	35	0	0	0	0
	point2	2										

Eyestone Environmental **7 September 2018**
SKB **TNM 2.5**

INPUT: RECEIVERS
PROJECT/CONTRACT: **LACMA East**
RUN: **Museum - Building Construction**

Receiver Name	No.	#DUs	Coordinates (ground) X	Y	Z	Height above Ground	Input Sound Levels and Criteria: Existing LAeq1h	Impact Criteria LAeq1h	Impact Criteria Sub'l	NR Goal	Active in Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
Receptor at 45 feet	1	1	250.0	45.0	0.00	4.92	0.00	71	5.0	0.0	Y
Receptor at 40 feet	10	1	250.0	40.0	0.00	4.92	0.00	66	10.0	8.0	Y

Eyestone Environmental
SKB
7 September 2018
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: LACMA East
RUN: Museum - Building Construction
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receptor at 45 feet	1	1	0.0	63.7	71	63.7	5	----	63.7	0.0	0	0.0
Receptor at 40 feet	10	1	0.0	64.3	66	64.3	10	----	64.3	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	2	0.0	0.0	0.0
All Impacted	0	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

Eyestone Environmental 7 September 2018
SKB TNM 2.5

INPUT: ROADWAYS
PROJECT/CONTRACT: LACMA East
RUN: Museum - Paving

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA

Roadway		Points									
Name	Width	Name	No.	Coordinates (pavement)			Flow Control			Segment	
				X	Y	Z	Control Device	Speed Constraint	Percent Vehicles Affected	Pvmt Type	On Struct?
	ft			ft	ft	ft		mph	%		
Haul Route	12.0	point1	1	0.0	0.0	0.00	Signal	0.00	100	Average	
		point2	2	1,000.0	0.0	0.00					

Eyestone Environmental **7 September 2018**
SKB **TNM 2.5**

INPUT: TRAFFIC FOR LAeq1h Volumes
PROJECT/CONTRACT: **LACMA East**
RUN: **Museum - Paving**

Roadway	Points											
Name	Name	No.	Segment									
			Autos		MTrucks		HTrucks		Buses		Motorcycles	
			V	S	V	S	V	S	V	S	V	S
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
Haul Route	point1	1	50	35	0	0	5	35	0	0	0	0
	point2	2										

Eyestone Environmental **7 September 2018**
SKB **TNM 2.5**

INPUT: RECEIVERS
PROJECT/CONTRACT: **LACMA East**
RUN: **Museum - Paving**

Receiver Name	No.	#DUs	Coordinates (ground) X	Y	Z	Height above Ground	Input Sound Levels and Criteria: Existing LAeq1h	Impact Criteria LAeq1h	Impact Criteria Sub'l	NR Goal	Active in Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
Receptor at 45 feet	1	1	250.0	45.0	0.00	4.92	0.00	71	5.0	0.0	Y
Receptor at 40 feet	10	1	250.0	40.0	0.00	4.92	0.00	66	10.0	8.0	Y

Eyestone Environmental
SKB
7 September 2018
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: LACMA East
RUN: Museum - Paving
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receptor at 45 feet	1	1	0.0	59.8	71	59.8	5	----	59.8	0.0	0	0.0
Receptor at 40 feet	10	1	0.0	60.4	66	60.4	10	----	60.4	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	2	0.0	0.0	0.0
All Impacted	0	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

Eyestone Environmental 7 September 2018
SKB TNM 2.5

INPUT: ROADWAYS
PROJECT/CONTRACT: LACMA East
RUN: Ogden Parking - Demo

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA

Roadway		Points									
Name	Width	Name	No.	Coordinates (pavement)			Flow Control			Segment	
				X	Y	Z	Control Device	Speed Constraint	Percent Vehicles Affected	Pvmt Type	On Struct?
	ft			ft	ft	ft		mph	%		
Haul Route	12.0	point1	1	0.0	0.0	0.00	Signal	0.00	100	Average	
		point2	2	1,000.0	0.0	0.00					

Eyestone Environmental **7 September 2018**
SKB **TNM 2.5**

INPUT: TRAFFIC FOR LAeq1h Volumes
PROJECT/CONTRACT: **LACMA East**
RUN: **Ogden Parking - Demo**

Roadway	Points		Segment									
Name	Name	No.	Autos		MTrucks		HTrucks		Buses		Motorcycles	
			V	S	V	S	V	S	V	S	V	S
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
Haul Route	point1	1	15	35	0	0	2	35	0	0	0	0
	point2	2										

Eyestone Environmental 7 September 2018
SKB TNM 2.5

INPUT: RECEIVERS
PROJECT/CONTRACT: LACMA East
RUN: Ogden Parking - Demo

Receiver Name	No.	#DUs	Coordinates (ground) X	Y	Z	Height above Ground	Input Sound Levels and Criteria: Existing LAeq1h	Impact Criteria LAeq1h	Impact Criteria Sub'l	NR Goal	Active in Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
Receptor at 45 feet	1	1	250.0	45.0	0.00	4.92	0.00	71	5.0	0.0	Y
Receptor at 40 feet	10	1	250.0	40.0	0.00	4.92	0.00	66	10.0	8.0	Y

Eyestone Environmental
SKB
7 September 2018
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: LACMA East
RUN: Ogden Parking - Demo
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receptor at 45 feet	1	1	0.0	55.5	71	55.5	5	----	55.5	0.0	0	0.0
Receptor at 40 feet	10	1	0.0	56.1	66	56.1	10	----	56.1	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	2	0.0	0.0	0.0
All Impacted	0	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

Eyestone Environmental 7 September 2018
SKB TNM 2.5

INPUT: ROADWAYS
PROJECT/CONTRACT: LACMA East
RUN: Ogden Parking - Grading

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA

Roadway		Points									
Name	Width	Name	No.	Coordinates (pavement)			Flow Control			Segment	
				X	Y	Z	Control Device	Speed Constraint	Percent Vehicles Affected	Pvmt Type	On Struct?
	ft			ft	ft	ft		mph	%		
Haul Route	12.0	point1	1	0.0	0.0	0.00	Signal	0.00	100	Average	
		point2	2	1,000.0	0.0	0.00					

Eyestone Environmental **7 September 2018**
SKB **TNM 2.5**

INPUT: TRAFFIC FOR LAeq1h Volumes
PROJECT/CONTRACT: **LACMA East**
RUN: **Ogden Parking - Grading**

Roadway Name	Points Name	No.	Segment Autos V	Autos S	MTrucks V	MTrucks S	HTrucks V	HTrucks S	Buses V	Buses S	Motorcycles V	Motorcycles S
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
Haul Route	point1	1	25	35	0	0	27	35	0	0	0	0
	point2	2										

Eyestone Environmental **7 September 2018**
SKB **TNM 2.5**

INPUT: RECEIVERS
PROJECT/CONTRACT: **LACMA East**
RUN: **Ogden Parking - Grading**

Receiver Name	No.	#DUs	Coordinates (ground) X	Y	Z	Height above Ground	Input Sound Levels and Criteria: Existing LAeq1h	Impact Criteria LAeq1h	Impact Criteria Sub'l	NR Goal	Active in Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
Receptor at 45 feet	1	1	250.0	45.0	0.00	4.92	0.00	71	5.0	0.0	Y
Receptor on Ogden	10	1	-65.0	25.0	0.00	4.92	0.00	66	10.0	8.0	Y
Receptor at 40 feet	13	1	250.0	40.0	0.00	4.92	0.00	66	10.0	8.0	Y

Eyestone Environmental
SKB
7 September 2018
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: LACMA East
RUN: Ogden Parking - Grading
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receptor at 45 feet	1	1	0.0	65.7	71	65.7	5	----	65.7	0.0	0	0.0
Receptor on Ogden	10	1	0.0	62.3	66	62.3	10	----	62.3	0.0	8	-8.0
Receptor at 40 feet	13	1	0.0	66.4	66	66.4	10	Snd Lvl	66.4	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	3	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

Eyestone Environmental 7 September 2018
SKB TNM 2.5

INPUT: ROADWAYS
PROJECT/CONTRACT: LACMA East
RUN: Ogden Parking - Foundation

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA

Roadway		Points									
Name	Width	Name	No.	Coordinates (pavement)			Flow Control			Segment	
				X	Y	Z	Control Device	Speed Constraint	Percent Vehicles Affected	Pvmt Type	On Struct?
	ft			ft	ft	ft		mph	%		
Haul Route	12.0	point1	1	0.0	0.0	0.00	Signal	0.00	100	Average	
		point2	2	1,000.0	0.0	0.00					

Eyestone Environmental **7 September 2018**
SKB **TNM 2.5**

INPUT: TRAFFIC FOR LAeq1h Volumes
PROJECT/CONTRACT: **LACMA East**
RUN: **Ogden Parking - Foundation**

Roadway Name	Points Name	No.	Segment Autos V	Autos S	MTrucks V	MTrucks S	HTrucks V	HTrucks S	Buses V	Buses S	Motorcycles V	Motorcycles S
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
Haul Route	point1	1	45	35	0	0	11	35	0	0	0	0
	point2	2										

Eyestone Environmental **7 September 2018**
SKB **TNM 2.5**

INPUT: RECEIVERS
PROJECT/CONTRACT: **LACMA East**
RUN: **Ogden Parking - Foundation**

Receiver Name	No.	#DUs	Coordinates (ground) X	Y	Z	Height above Ground	Input Sound Levels and Criteria: Existing LAeq1h	Impact Criteria LAeq1h	Impact Criteria Sub'l	NR Goal	Active in Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
Receptor at 45 feet	1	1	250.0	45.0	0.00	4.92	0.00	71	5.0	0.0	Y
Receptor at 40 feet	10	1	250.0	40.0	0.00	4.92	0.00	66	10.0	8.0	Y

Eyestone Environmental
SKB
7 September 2018
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: LACMA East
RUN: Ogden Parking - Foundation
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receptor at 45 feet	1	1	0.0	62.4	71	62.4	5	----	62.4	0.0	0	0.0
Receptor at 40 feet	10	1	0.0	63.0	66	63.0	10	----	63.0	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	2	0.0	0.0	0.0
All Impacted	0	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

Eyestone Environmental 7 September 2018
SKB TNM 2.5

INPUT: ROADWAYS
PROJECT/CONTRACT: LACMA East
RUN: Ogden Parking - Paving/Landscape

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA

Roadway Name	Width	Points Name	No.	Coordinates (pavement) X	Y	Z	Flow Control Control Device	Speed Constraint	Percent Vehicles Affected	Segment Pvmt Type	On Struct?
	ft			ft	ft	ft		mph	%		
Haul Route	12.0	point1	1	0.0	0.0	0.00	Signal	0.00	100	Average	
		point2	2	1,000.0	0.0	0.00					

Eyestone Environmental **7 September 2018**
SKB **TNM 2.5**

INPUT: TRAFFIC FOR LAeq1h Volumes
PROJECT/CONTRACT: **LACMA East**
RUN: **Ogden Parking - Paving/Landscape**

Roadway	Points		Segment									
Name	Name	No.	Autos		MTrucks		HTrucks		Buses		Motorcycles	
			V	S	V	S	V	S	V	S	V	S
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
Haul Route	point1	1	50	35	0	0	4	35	0	0	0	0
	point2	2										

Eyestone Environmental **7 September 2018**
SKB **TNM 2.5**

INPUT: RECEIVERS
PROJECT/CONTRACT: **LACMA East**
RUN: **Ogden Parking - Paving/Landscape**

Receiver Name	No.	#DUs	Coordinates (ground) X	Y	Z	Height above Ground	Input Sound Levels and Criteria: Existing LAeq1h	Impact Criteria LAeq1h	Impact Criteria Sub'l	NR Goal	Active in Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
Receptor at 45 feet	1	1	250.0	45.0	0.00	4.92	0.00	71	5.0	0.0	Y
Receptor at 40 feet	10	1	250.0	40.0	0.00	4.92	0.00	66	10.0	8.0	Y

Eyestone Environmental
SKB
7 September 2018
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: LACMA East
RUN: Ogden Parking - Paving/Landscape
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receptor at 45 feet	1	1	0.0	59.2	71	59.2	5	----	59.2	0.0	0	0.0
Receptor at 40 feet	10	1	0.0	59.8	66	59.8	10	----	59.8	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	2	0.0	0.0	0.0
All Impacted	0	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

Eyestone Environmental 7 September 2018
SKB TNM 2.5

INPUT: ROADWAYS
PROJECT/CONTRACT: LACMA East
RUN: Worst-case day 1

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA

Roadway		Points									
Name	Width	Name	No.	Coordinates (pavement)			Flow Control			Segment	
				X	Y	Z	Control Device	Speed Constraint	Percent Vehicles Affected	Pvmt Type	On Struct?
	ft			ft	ft	ft		mph	%		
Haul Route	12.0	point1	1	0.0	0.0	0.00	Signal	0.00	100	Average	
		point2	2	1,000.0	0.0	0.00					

Eyestone Environmental **7 September 2018**
SKB **TNM 2.5**

INPUT: TRAFFIC FOR LAeq1h Volumes
PROJECT/CONTRACT: **LACMA East**
RUN: **Worst-case day 1**

Roadway	Points											
Name	Name	No.	Segment									
			Autos		MTrucks		HTrucks		Buses		Motorcycles	
			V	S	V	S	V	S	V	S	V	S
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
Haul Route	point1	1	100	35	0	0	35	35	0	0	0	0
	point2	2										

Eyestone Environmental **7 September 2018**
SKB **TNM 2.5**

INPUT: RECEIVERS
PROJECT/CONTRACT: **LACMA East**
RUN: **Worst-case day 1**

Receiver Name	No.	#DUs	Coordinates (ground) X	Y	Z	Height above Ground	Input Sound Levels and Criteria: Existing LAeq1h	Impact Criteria LAeq1h	Impact Criteria Sub'l	NR Goal	Active in Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
Receptor at 45 feet	1	1	250.0	45.0	0.00	4.92	0.00	71	5.0	0.0	Y
Receptor at 40 feet	10	1	250.0	40.0	0.00	4.92	0.00	66	10.0	8.0	Y

Eyestone Environmental
SKB
7 September 2018
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: LACMA East
RUN: Worst-case day 1
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receptor at 45 feet	1	1	0.0	67.2	71	67.2	5	----	67.2	0.0	0	0.0
Receptor at 40 feet	10	1	0.0	67.8	66	67.8	10	Snd Lvl	67.8	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	2	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

Eyestone Environmental 7 September 2018
SKB TNM 2.5

INPUT: ROADWAYS
PROJECT/CONTRACT: LACMA East
RUN: Worst-case day 2

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA

Roadway		Points									
Name	Width	Name	No.	Coordinates (pavement)			Flow Control			Segment	
				X	Y	Z	Control Device	Speed Constraint	Percent Vehicles Affected	Pvmt Type	On Struct?
	ft			ft	ft	ft		mph	%		
Haul Route	12.0	point1	1	0.0	0.0	0.00	Signal	0.00	100	Average	
		point2	2	1,000.0	0.0	0.00					

Eyestone Environmental **7 September 2018**
SKB **TNM 2.5**

INPUT: TRAFFIC FOR LAeq1h Volumes
PROJECT/CONTRACT: **LACMA East**
RUN: **Worst-case day 2**

Roadway Name	Points Name	No.	Segment Autos V	Autos S	MTrucks V	MTrucks S	HTrucks V	HTrucks S	Buses V	Buses S	Motorcycles V	Motorcycles S
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
Haul Route	point1	1	100	35	0	0	50	35	0	0	0	0
	point2	2										

Eyestone Environmental 7 September 2018
SKB TNM 2.5

INPUT: RECEIVERS
PROJECT/CONTRACT: LACMA East
RUN: Worst-case day 2

Receiver Name	No.	#DUs	Coordinates (ground) X	Y	Z	Height above Ground	Input Sound Levels and Criteria: Existing LAeq1h	Impact Criteria LAeq1h	Impact Criteria Sub'l	NR Goal	Active in Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
Receptor at 45 feet	1	1	250.0	45.0	0.00	4.92	0.00	71	5.0	0.0	Y
Receptor at 40 feet	10	1	250.0	40.0	0.00	4.92	0.00	66	10.0	8.0	Y

Eyestone Environmental
SKB
7 September 2018
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: LACMA East
RUN: Worst-case day 2
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receptor at 45 feet	1	1	0.0	68.6	71	68.6	5	----	68.6	0.0	0	0.0
Receptor at 40 feet	10	1	0.0	69.2	66	69.2	10	Snd Lvl	69.2	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	2	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

Eyestone Environmental 7 September 2018
SKB TNM 2.5

INPUT: ROADWAYS
PROJECT/CONTRACT: LACMA East
RUN: Worst-case day 3

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA

Roadway		Points									
Name	Width	Name	No.	Coordinates (pavement)			Flow Control			Segment	
				X	Y	Z	Control Device	Speed Constraint	Percent Vehicles Affected	Pvmt Type	On Struct?
	ft			ft	ft	ft		mph	%		
Haul Route	12.0	point1	1	0.0	0.0	0.00	Signal	0.00	100	Average	
		point2	2	1,000.0	0.0	0.00					

Eyestone Environmental **7 September 2018**
SKB **TNM 2.5**

INPUT: TRAFFIC FOR LAeq1h Volumes
PROJECT/CONTRACT: **LACMA East**
RUN: **Worst-case day 3**

Roadway	Points											
Name	Name	No.	Segment									
			Autos		MTrucks		HTrucks		Buses		Motorcycles	
			V	S	V	S	V	S	V	S	V	S
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
Haul Route	point1	1	100	35	0	0	37	35	0	0	0	0
	point2	2										

Eyestone Environmental 7 September 2018
SKB TNM 2.5

INPUT: RECEIVERS
PROJECT/CONTRACT: LACMA East
RUN: Worst-case day 3

Receiver Name	No.	#DUs	Coordinates (ground) X	Y	Z	Height above Ground	Input Sound Levels and Criteria: Existing LAeq1h	Impact Criteria LAeq1h	Impact Criteria Sub'l	NR Goal	Active in Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
Receptor at 45 feet	1	1	250.0	45.0	0.00	4.92	0.00	71	5.0	0.0	Y
Receptor at 40 feet	10	1	250.0	40.0	0.00	4.92	0.00	66	10.0	8.0	Y

Eyestone Environmental
SKB
7 September 2018
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: LACMA East
RUN: Worst-case day 3
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receptor at 45 feet	1	1	0.0	67.4	71	67.4	5	----	67.4	0.0	0	0.0
Receptor at 40 feet	10	1	0.0	68.0	66	68.0	10	Snd Lvl	68.0	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	2	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

Eyestone Environmental 7 September 2018
SKB TNM 2.5

INPUT: ROADWAYS
PROJECT/CONTRACT: LACMA East
RUN: Worst-case day 4

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA

Roadway		Points									
Name	Width	Name	No.	Coordinates (pavement)			Flow Control			Segment	
				X	Y	Z	Control Device	Speed Constraint	Percent Vehicles Affected	Pvmt Type	On Struct?
	ft			ft	ft	ft		mph	%		
Haul Route	12.0	point1	1	0.0	0.0	0.00	Signal	0.00	100	Average	
		point2	2	1,000.0	0.0	0.00					

Eyestone Environmental **7 September 2018**
SKB **TNM 2.5**

INPUT: TRAFFIC FOR LAeq1h Volumes
PROJECT/CONTRACT: **LACMA East**
RUN: **Worst-case day 4**

Roadway	Points											
Name	Name	No.	Segment									
			Autos		MTrucks		HTrucks		Buses		Motorcycles	
			V	S	V	S	V	S	V	S	V	S
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
Haul Route	point1	1	100	35	0	0	37	35	0	0	0	0
	point2	2										

Eyestone Environmental 7 September 2018
SKB TNM 2.5

INPUT: RECEIVERS
PROJECT/CONTRACT: LACMA East
RUN: Worst-case day 4

Receiver Name	No.	#DUs	Coordinates (ground) X	Y	Z	Height above Ground	Input Sound Levels and Criteria: Existing LAeq1h	Impact Criteria LAeq1h	Impact Criteria Sub'l	NR Goal	Active in Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
Receptor at 45 feet	1	1	250.0	45.0	0.00	4.92	0.00	71	5.0	0.0	Y
Receptor at 40 feet	10	1	250.0	40.0	0.00	4.92	0.00	66	10.0	8.0	Y

Eyestone Environmental
SKB
7 September 2018
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: LACMA East
RUN: Worst-case day 4
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receptor at 45 feet	1	1	0.0	67.4	71	67.4	5	----	67.4	0.0	0	0.0
Receptor at 40 feet	10	1	0.0	68.0	66	68.0	10	Snd Lvl	68.0	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	2	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

Eyestone Environmental 7 September 2018
SKB TNM 2.5

INPUT: ROADWAYS
PROJECT/CONTRACT: LACMA East
RUN: Worst-case day 5

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA

Roadway		Points									
Name	Width	Name	No.	Coordinates (pavement)			Flow Control			Segment	
				X	Y	Z	Control Device	Speed Constraint	Percent Vehicles Affected	Pvmt Type	On Struct?
	ft			ft	ft	ft		mph	%		
Haul Route	12.0	point1	1	0.0	0.0	0.00	Signal	0.00	100	Average	
		point2	2	1,000.0	0.0	0.00					

Eyestone Environmental **7 September 2018**
SKB **TNM 2.5**

INPUT: TRAFFIC FOR LAeq1h Volumes
PROJECT/CONTRACT: **LACMA East**
RUN: **Worst-case day 5**

Roadway Name	Points Name	No.	Segment Autos		MTrucks		HTrucks		Buses		Motorcycles	
			V	S	V	S	V	S	V	S	V	S
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
Haul Route	point1	1	100	35	0	0	13	35	0	0	0	0
	point2	2										

Eyestone Environmental 7 September 2018
SKB TNM 2.5

INPUT: RECEIVERS
PROJECT/CONTRACT: LACMA East
RUN: Worst-case day 5

Receiver Name	No.	#DUs	Coordinates (ground) X	Y	Z	Height above Ground	Input Sound Levels and Criteria: Existing LAeq1h	Impact Criteria LAeq1h	Impact Criteria Sub'l	NR Goal	Active in Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
Receptor at 45 feet	1	1	250.0	45.0	0.00	4.92	0.00	71	5.0	0.0	Y
Receptor at 40 feet	10	1	250.0	40.0	0.00	4.92	0.00	66	10.0	8.0	Y

Eyestone Environmental
SKB
7 September 2018
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: LACMA East
RUN: Worst-case day 5
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receptor at 45 feet	1	1	0.0	63.7	71	63.7	5	----	63.7	0.0	0	0.0
Receptor at 40 feet	10	1	0.0	64.3	66	64.3	10	----	64.3	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction Min	Avg	Max
		dB	dB	dB
All Selected	2	0.0	0.0	0.0
All Impacted	0	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

Operation Noise Calculations

AES
ACOUSTICAL ENGINEERING SERVICES

Project Composite Noise Calculations (CNEL)

Project: LACMA EAST PROJECT EIR

Receptor	Ambient	Traffic[a]	Mechanical	Parking	Trash Compactor	Outdoor	Special Events	Project Composite	Ambient + Project	Increase
R1	60.5	41.8	42.0	40.6	51.4	49.0	51.1	55.9	61.8	1.3
R2	59.4	43.7	38.5	32.4	40.3	51.5	45.7	53.4	60.4	1.0
R3	66.6	36.0	37.5	27.5	29.3	38.9	60.0	60.1	67.5	0.9
R4	71.4	43.6	40.8	33.5	41.1	42.7	69.6	69.6	73.6	2.2
R5	62.3	58.0	40.8	55.7	37.8	35.9	61.3	63.8	66.1	3.8
R6	61.4	41.8	33.9	36.1	43.9	51.7	44.1	53.4	62.0	0.6

[a] - traffic noise levels at each receptor is based on the traffic noise analysis for the roadway segment in front of the receptor.

Receptor	Roadway Segment	Traffic Noise Levels, CNEL			distance to roadway, ft	Existing	Existing + Project	barrier	distance to Center Line	adj. for distance
		Existing	Existing + Project	Project Only						
R1	Wilshire Blvd.	64.2	64.2	41.8	250	72.2	72.2	0	45	-8.0
R2	Wilshire Blvd.	66.0	66.1	43.7	150	72.2	72.2	0	45	-6.1
R3	Curson Ave.	64.1	64.1	36.0	200	71.7	71.7	0	40	-7.6
R4	Curson Ave.	71.7	71.7	43.6	10	71.7	71.7	0	40	0.0
R5	Ogden Dr.	62.8	64.0	58.0	10	62.8	64.0	0	30	0.0
R6	Wilshire Blvd.	64.2	64.2	41.8	250	72.2	72.2	0	45	-8.0

AES
Acoustical Engineering Services

Outdoor Mechanical Equipment Noise Calculations

Project: LACMA EAST PROJECT EIR

	Estimated Noise Levels, Leq from SOUNDPLAN		Hours of Operations Ld (7am to 7pm)	Le (7pm to 10pm)	Ln (10pm to 7am)
Receptor	Leq	CNEL	12	3	2
R1	39.6	42.0	39.6	39.6	33.1
R2	36.1	38.5	36.1	36.1	29.6
R3	35.1	37.5	35.1	35.1	28.6
R4	38.4	40.8	38.4	38.4	31.9
R5	38.4	40.8	38.4	38.4	31.9
R6	31.5	33.9	31.5	31.5	25.0

Receptor	Ambient CNEL	Ambient + Project (CNEL)	Increase (CNEL)	Daytime ambient (Leq)	Ambient + Project (Leq)
R1	60.5	60.6	0.1	58.6	58.7
R2	59.4	59.4	0.0	57.8	57.8
R3	66.6	66.6	0.0	64.0	64.0
R4	71.4	71.4	0.0	69.9	69.9
R5	62.3	62.3	0.0	63.0	63.0
R6	61.4	61.4	0.0	53.1	53.1

AES
Acoustical Engineering Services

Parking Structure Noise Calculations

Project: LACMA EAST PROJECT EIR

			Hours of Operations		
	Estimated Noise Levels, Leq from SOUNDPLAN		Ld (7am to 7pm)	Le (7pm to 10pm)	Ln (10pm to 7am)
Receptor	Leq	CNEL	12	3	2
R1	38.2	40.6	38.2	38.2	31.7
R2	30.0	32.4	30.0	30.0	23.5
R3	25.1	27.5	25.1	25.1	18.6
R4	31.1	33.5	31.1	31.1	24.6
R5	53.3	55.7	53.3	53.3	46.8
R6	33.7	36.1	33.7	33.7	27.2

Receptor	Ambient CNEL	Ambient + Project (CNEL)	Increase (CNEL)	nighttime ambient (Leq)	Ambient + Project (Leq)	Increase (Leq)
R1	60.5	60.5	0.0	54.8	54.9	0.1
R2	59.4	59.4	0.0	53.5	53.5	0.0
R3	66.6	66.6	0.0	61.3	61.3	0.0
R4	71.4	71.4	0.0	65.5	65.5	0.0
R5	62.3	63.2	0.9	53.8	56.6	2.8
R6	61.4	61.4	0.0	48.9	49.0	0.1

AES
Acoustical Engineering Services

Outdoor Noise Calculations

Project: LACMA EAST PROJECT EIR

OUTDOOR DINING

Estimated noise levels, Leq (FROM SOUNDPLAN)					Hours of Operations: Ld (7am to 7pm)	Le (7pm to 10pm)	Ln (10pm to 7am)
Receptor	Sound System	Occupants	Total, Leq	CNEL	9	**3**	**0**
R1			39.5	38.4	38.3	39.5	0.0
R2			51.3	50.2	50.1	51.3	0.0
R3			36.9	35.8	35.7	36.9	0.0
R4			39.1	38.0	37.9	39.1	0.0
R5			34.0	32.9	32.8	34.0	0.0
R6			46.3	45.2	45.1	46.3	0.0

PARKS

Estimated noise levels, Leq (FROM SOUNDPLAN)					Hours of Operations: Ld (7am to 7pm)	Le (7pm to 10pm)	Ln (10pm to 7am)
Receptor	Sound System	Occupants	Total, Leq	CNEL	9	**3**	**0**
R1			49.7	48.6	48.5	49.7	0.0
R2			46.7	45.6	45.5	46.7	0.0
R3			37.1	36.0	35.9	37.1	0.0
R4			42.0	40.9	40.8	42.0	0.0
R5			34.0	32.9	32.8	34.0	0.0
R6			51.8	50.7	50.6	51.8	0.0

TOTAL COMBINED

Receptor	Project (CNEL)	Ambient (CNEL)	Ambient + Project (CNEL)	Increase (CNEL)	Project Noise, (Leq)	daytime ambient (Leq)	Ambient + Project (Leq)
R1	49.0	60.5	60.8	0.3	50.1	58.6	59.2
R2	51.5	59.4	60.0	0.6	52.6	57.8	58.9
R3	38.9	66.6	66.6	0.0	40.0	64.0	64.0
R4	42.7	71.4	71.4	0.0	43.8	69.9	69.9
R5	35.9	62.3	62.3	0.0	37.0	63.0	63.0
R6	51.7	61.4	61.8	0.4	52.9	53.1	56.0

AES
ACOUSTICAL ENGINEERING SERVICES

Loading and Trash Compactor Noise Calculations

Project: LACMA EAST PROJECT EIR

LOADING

	Estimated Noise Levels, Leq from SOUNDPLAN		Ld (7am to 7pm)	Le (7pm to 10pm)	Ln (10pm to 7am)
Receptor	Leq	CNEL	3	3	0
R1	54.2	51.4	48.2	54.2	0.0
R2	43.1	40.3	37.1	43.1	0.0
R3	30.8	28.0	24.8	30.8	0.0
R4	42.8	40.0	36.8	42.8	0.0
R5	40.3	37.5	34.3	40.3	0.0
R6	46.7	43.9	40.7	46.7	0.0

TRASH COMPACTOR

	Estimated Noise Levels, Leq from SOUNDPLAN		Ld (7am to 7pm)	Le (7pm to 10pm)	Ln (10pm to 7am)
Receptor	Leq	CNEL	3	3	0
R1	11.9	10.7	5.9	11.9	0.0
R2	6.8	8.0	0.8	6.8	0.0
R3	26.4	23.6	20.4	26.4	0.0
R4	37.4	34.6	31.4	37.4	0.0
R5	29.5	26.7	23.5	29.5	0.0
R6	8.1	8.5	2.1	8.1	0.0

TOTAL COMBINED

Receptor	Project CNEL	Ambient CNEL	Ambient + Project (CNEL)	Increase (CNEL)	Project Noise, (Leq)	daytime ambient (Leq)	Ambient + Project (Leq)
R1	51.4	60.5	61.0	0.5	54.2	58.6	59.9
R2	40.3	59.4	59.5	0.1	43.1	57.8	57.9
R3	29.3	66.6	66.6	0.0	32.1	64.0	64.0
R4	41.1	71.4	71.4	0.0	43.9	69.9	69.9
R5	37.8	62.3	62.3	0.0	40.6	63.0	63.0
R6	43.9	61.4	61.5	0.1	46.7	53.1	54.0

AES
Acoustical Engineering Services

Outdoor Noise Calculations

Project: LACMA EAST PROJECT EIR

SPECIAL EVENT 1

			Estimated noise levels, Leq (FROM SOUNDPLAN)		Hours of Operations Ld (7am to 7pm)	Le (7pm to 10pm)	Ln (10pm to 7am)
Receptor	Sound System	Occupants	Total, Leq	CNEL	3	**3**	**2**
R1			37.6	38.9	31.6	37.6	31.1
R2			39.3	40.6	33.3	39.3	32.8
R3			45.4	46.7	39.4	45.4	38.9
R4			60.8	62.1	54.8	60.8	54.3
R5			56.9	58.2	50.9	56.9	50.4
R6			35.2	36.5	29.2	35.2	28.7

SPECIAL EVENT 2

			Estimated noise levels, Leq (FROM SOUNDPLAN)		Hours of Operations Ld (7am to 7pm)	Le (7pm to 10pm)	Ln (10pm to 7am)
Receptor	Sound System	Occupants	Total, Leq	CNEL	3	**3**	**2**
R1			40.5	41.8	34.5	40.5	34.0
R2			39.1	40.4	33.1	39.1	32.6
R3			46.1	47.4	40.1	46.1	39.6
R4			62.6	63.9	56.6	62.6	56.1
R5			57.1	58.4	51.1	57.1	50.6
R6			36.8	38.1	30.8	36.8	30.3

INFORMAL SPECIAL EVENT

			Estimated noise levels, Leq (FROM SOUNDPLAN)		Hours of Operations Ld (7am to 7pm)	Le (7pm to 10pm)	Ln (10pm to 7am)
Receptor	Sound System	Occupants	Total, Leq	CNEL	3	**3**	**0**
R1			48.9	50.2	42.9	48.9	42.4
R2			40.4	41.7	34.4	40.4	33.9
R3			58.2	59.5	52.2	58.2	51.7
R4			65.7	67.0	59.7	65.7	59.2
R5			34.2	35.5	28.2	34.2	27.7
R6			40.3	41.6	34.3	40.3	33.8

TOTAL COMBINED

Receptor	Project (CNEL)	Ambient (CNEL)	Ambient + Project (CNEL)	Increase (CNEL)	Project Noise, (Leq)	Daytime ambient (Leq)	Ambient + Project (Leq)
R1	51.1	60.5	61.0	0.5	49.8	58.6	59.1
R2	45.7	59.4	59.6	0.2	44.4	57.8	58.0
R3	60.0	66.6	67.5	0.9	58.7	64.0	65.1
R4	69.6	71.4	73.6	2.2	68.3	69.9	72.2
R5	61.3	62.3	64.9	2.6	60.0	63.0	64.8
R6	44.1	61.4	61.5	0.1	42.7	53.1	53.5

LACMA East
Assessed contribution level - Special Event 1 (5000)

Source	Leq,d dB(A)	
Receiver R1	**Leq,d 37.6**	**dB(A)**
Special Event 1 (Crowd	36.4	
Special Event 1 - Speaker 1	29.5	
Special Event 1 - Speaker 2	22.7	
Special Event 1 - Speaker 3	23.2	
Special Event 1 - Speaker 4	22.7	
Receiver R2	**Leq,d 39.3**	**dB(A)**
Special Event 1 (Crowd	39.2	
Special Event 1 - Speaker 1	22.2	
Special Event 1 - Speaker 2	17.5	
Special Event 1 - Speaker 3	18.0	
Special Event 1 - Speaker 4	18.5	
Receiver R3	**Leq,d 45.4**	**dB(A)**
Special Event 1 (Crowd	44.4	
Special Event 1 - Speaker 1	20.9	
Special Event 1 - Speaker 2	15.8	
Special Event 1 - Speaker 3	35.8	
Special Event 1 - Speaker 4	35.0	
Receiver R4	**Leq,d 60.8**	**dB(A)**
Special Event 1 (Crowd	56.8	
Special Event 1 - Speaker 1	56.3	
Special Event 1 - Speaker 2	53.1	
Special Event 1 - Speaker 3	46.5	
Special Event 1 - Speaker 4	46.2	
Receiver R5	**Leq,d 56.9**	**dB(A)**
Special Event 1 (Crowd	53.4	
Special Event 1 - Speaker 1	44.5	
Special Event 1 - Speaker 2	47.5	
Special Event 1 - Speaker 3	51.7	
Special Event 1 - Speaker 4	46.3	
Receiver R6	**Leq,d 35.2**	**dB(A)**
Special Event 1 (Crowd	34.3	
Special Event 1 - Speaker 1	25.2	
Special Event 1 - Speaker 2	19.5	
Special Event 1 - Speaker 3	19.1	
Special Event 1 - Speaker 4	18.3	

LACMA East
Assessed contribution level - Informal Special Event (2000)

Source	Leq,d dB(A)
Receiver R1 Leq,d 48.9 dB(A)	
Informal Special Event (2000)	48.6
Informal Special Event - Speaker 1	20.1
Informal Special Event - Speaker 2	35.4
Informal Special Event - Speaker 3	25.2
Informal Special Event - Speaker 4	26.8
Receiver R2 Leq,d 40.4 dB(A)	
Informal Special Event (2000)	38.3
Informal Special Event - Speaker 1	9.7
Informal Special Event - Speaker 2	17.4
Informal Special Event - Speaker 3	23.9
Informal Special Event - Speaker 4	36.0
Receiver R3 Leq,d 58.2 dB(A)	
Informal Special Event (2000)	47.7
Informal Special Event - Speaker 1	48.6
Informal Special Event - Speaker 2	48.8
Informal Special Event - Speaker 3	49.9
Informal Special Event - Speaker 4	55.5
Receiver R4 Leq,d 65.7 dB(A)	
Informal Special Event (2000)	52.1
Informal Special Event - Speaker 1	61.4
Informal Special Event - Speaker 2	60.3
Informal Special Event - Speaker 3	59.4
Informal Special Event - Speaker 4	53.6
Receiver R5 Leq,d 34.2 dB(A)	
Informal Special Event (2000)	31.8
Informal Special Event - Speaker 1	20.4
Informal Special Event - Speaker 2	29.2
Informal Special Event - Speaker 3	19.7
Informal Special Event - Speaker 4	18.4
Receiver R6 Leq,d 40.3 dB(A)	
Informal Special Event (2000)	39.9
Informal Special Event - Speaker 1	18.8
Informal Special Event - Speaker 2	22.7
Informal Special Event - Speaker 3	24.5
Informal Special Event - Speaker 4	25.3

LACMA East
Assessed contribution level - Special Event 2 (1500)

Source	Leq,d dB(A)	
Receiver R1	Leq,d 40.5	dB(A)
Special Event (Crowd 1500)	31.8	
Special Event 2 - Speaker 1	34.4	
Special Event 2 - Speaker 2	38.3	
Receiver R2	Leq,d 39.1	dB(A)
Special Event (Crowd 1500)	35.5	
Special Event 2 - Speaker 1	34.0	
Special Event 2 - Speaker 2	33.3	
Receiver R3	Leq,d 46.1	dB(A)
Special Event (Crowd 1500)	44.1	
Special Event 2 - Speaker 1	38.5	
Special Event 2 - Speaker 2	39.0	
Receiver R4	Leq,d 62.6	dB(A)
Special Event (Crowd 1500)	60.6	
Special Event 2 - Speaker 1	55.7	
Special Event 2 - Speaker 2	54.6	
Receiver R5	Leq,d 57.1	dB(A)
Special Event (Crowd 1500)	43.6	
Special Event 2 - Speaker 1	53.6	
Special Event 2 - Speaker 2	54.1	
Receiver R6	Leq,d 36.8	dB(A)
Special Event (Crowd 1500)	28.5	
Special Event 2 - Speaker 1	30.7	
Special Event 2 - Speaker 2	34.6	

LACMA East
Assessed contribution level - Parks

Source	Leq,d dB(A)	
Receiver R1	Leq,d 49.7	dB(A)
Park Area (North Campus)	36.6	
Park (South Campus)	49.5	
Receiver R2	Leq,d 46.7	dB(A)
Park Area (North Campus)	29.7	
Park (South Campus)	46.6	
Receiver R3	Leq,d 37.1	dB(A)
Park Area (North Campus)	36.1	
Park (South Campus)	30.2	
Receiver R4	Leq,d 42.0	dB(A)
Park Area (North Campus)	41.7	
Park (South Campus)	30.4	
Receiver R5	Leq,d 34.0	dB(A)
Park Area (North Campus)	29.7	
Park (South Campus)	32.0	
Receiver R6	Leq,d 51.8	dB(A)
Park Area (North Campus)	35.2	
Park (South Campus)	51.7	

LACMA East
Assessed contribution level - Parking

Source	Leq,d dB(A)	
Receiver R1	Leq,d 38.2	dB(A)
Ogden Parking P5	30.4	
Ogden Parking - Ground	30.3	
Ogden Parking P2	30.4	
Ogden Parking P3	30.4	
Ogden Parking P4	30.4	
Ogden Parking P5	30.4	
Receiver R2	Leq,d 30.0	dB(A)
Ogden Parking P5	22.1	
Ogden Parking - Ground	22.0	
Ogden Parking P2	22.4	
Ogden Parking P3	22.3	
Ogden Parking P4	22.4	
Ogden Parking P5	22.1	
Receiver R3	Leq,d 25.1	dB(A)
Ogden Parking P5	18.9	
Ogden Parking - Ground	13.0	
Ogden Parking P2	15.1	
Ogden Parking P3	17.2	
Ogden Parking P4	18.2	
Ogden Parking P5	18.9	
Receiver R4	Leq,d 31.1	dB(A)
Ogden Parking P5	23.2	
Ogden Parking - Ground	23.3	
Ogden Parking P2	23.3	
Ogden Parking P3	23.3	
Ogden Parking P4	23.3	
Ogden Parking P5	23.2	
Receiver R5	Leq,d 53.3	dB(A)
Ogden Parking P5	36.6	
Ogden Parking - Ground	52.4	
Ogden Parking P2	42.7	
Ogden Parking P3	39.1	
Ogden Parking P4	37.6	
Ogden Parking P5	36.6	
Receiver R6	Leq,d 33.7	dB(A)
Ogden Parking P5	25.9	
Ogden Parking - Ground	25.8	
Ogden Parking P2	25.9	

LACMA East
Assessed contribution level - Parking

Source	Leq,d dB(A)	
Ogden Parking P3	25.9	
Ogden Parking P4	25.9	
Ogden Parking P5	25.9	

LACMA East
Assessed contribution level - Outdoor Dining

Source	Leq,d dB(A)	
Receiver R1	**Leq,d 39.5**	**dB(A)**
Theater Cafe	26.3	
Garden Cafe	28.7	
Main Restaurant	6.5	
Speaker-Theater Cafe 1	10.7	
Speaker-Theater Cafe 2	14.8	
Speaker-Garden Cafe 1	30.7	
Speaker-Garden Cafe 2	38.1	
Speaker-Main Restaurant 1	1.9	
Speaker-Main Restaurant 2	3.4	
Receiver R2	**Leq,d 51.3**	**dB(A)**
Theater Cafe	33.0	
Garden Cafe	12.5	
Main Restaurant	-0.5	
Speaker-Theater Cafe 1	46.9	
Speaker-Theater Cafe 2	49.2	
Speaker-Garden Cafe 1	22.4	
Speaker-Garden Cafe 2	12.7	
Speaker-Main Restaurant 1	-2.3	
Speaker-Main Restaurant 2	-1.3	
Receiver R3	**Leq,d 36.9**	**dB(A)**
Theater Cafe	19.6	
Garden Cafe	20.7	
Main Restaurant	-1.3	
Speaker-Theater Cafe 1	30.1	
Speaker-Theater Cafe 2	29.7	
Speaker-Garden Cafe 1	33.6	
Speaker-Garden Cafe 2	26.7	
Speaker-Main Restaurant 1	-4.2	
Speaker-Main Restaurant 2	-4.3	
Receiver R4	**Leq,d 39.1**	**dB(A)**
Theater Cafe	17.1	
Garden Cafe	23.7	
Main Restaurant	26.4	
Speaker-Theater Cafe 1	1.2	
Speaker-Theater Cafe 2	0.6	
Speaker-Garden Cafe 1	27.9	
Speaker-Garden Cafe 2	37.9	
Speaker-Main Restaurant 1	22.5	
Speaker-Main Restaurant 2	26.8	

LACMA East
Assessed contribution level - Outdoor Dining

Source	Leq,d dB(A)	
Receiver R5	**Leq,d 34.0**	**dB(A)**
Theater Cafe	12.8	
Garden Cafe	-0.1	
Main Restaurant	25.0	
Speaker-Theater Cafe 1	-1.5	
Speaker-Theater Cafe 2	-0.5	
Speaker-Garden Cafe 1	-2.0	
Speaker-Garden Cafe 2	0.4	
Speaker-Main Restaurant 1	24.6	
Speaker-Main Restaurant 2	32.8	
Receiver R6	**Leq,d 46.3**	**dB(A)**
Theater Cafe	35.9	
Garden Cafe	15.4	
Main Restaurant	1.4	
Speaker-Theater Cafe 1	40.4	
Speaker-Theater Cafe 2	44.4	
Speaker-Garden Cafe 1	13.9	
Speaker-Garden Cafe 2	23.7	
Speaker-Main Restaurant 1	-0.9	
Speaker-Main Restaurant 2	0.4	

LACMA East
Assessed contribution level - Mechanical

Source	Leq,d dB(A)	
Receiver R1	**Leq,d 39.6**	**dB(A)**
Mechanical 1	29.3	
Mechanical 1	28.4	
Mechanical 1	28.8	
Mechanical 1	30.0	
Mechanical 1	27.5	
Mechanical 1	22.8	
Mechanical 1	19.6	
Mechanical - Lower Roof 1	25.6	
Mechanical - Lower Roof 1	25.4	
Mechanical - Lower Roof 1	29.3	
Mechanical - Lower Roof 1	17.9	
Mechanical - Lower Roof 1	20.5	
Mechanical 1	21.8	
Mechanical 1	28.7	
Mechanical 1	30.1	
Mechanical 1	28.9	
Mechanical 1	24.1	
Mechanical 1	19.1	
Mechanical - Lower Roof 1	22.9	
CT-1	10.6	
CT-2	10.7	
CT-3	11.4	
CT-4	11.5	
Receiver R2	**Leq,d 36.1**	**dB(A)**
Mechanical 1	27.8	
Mechanical 1	28.1	
Mechanical 1	23.5	
Mechanical 1	23.4	
Mechanical 1	20.0	
Mechanical 1	14.9	
Mechanical 1	17.6	
Mechanical - Lower Roof 1	26.6	
Mechanical - Lower Roof 1	26.4	
Mechanical - Lower Roof 1	13.8	
Mechanical - Lower Roof 1	12.6	
Mechanical - Lower Roof 1	13.3	
Mechanical 1	28.1	
Mechanical 1	22.2	
Mechanical 1	22.0	

LACMA East
Assessed contribution level - Mechanical

Source	Leq,d dB(A)	
Mechanical 1	20.2	
Mechanical 1	17.7	
Mechanical 1	11.4	
Mechanical - Lower Roof 1	13.1	
CT-1	7.9	
CT-2	7.9	
CT-3	8.0	
CT-4	8.0	
Receiver R3	Leq,d 35.1	dB(A)
Mechanical 1	20.3	
Mechanical 1	22.6	
Mechanical 1	21.9	
Mechanical 1	21.0	
Mechanical 1	20.4	
Mechanical 1	19.9	
Mechanical 1	20.8	
Mechanical - Lower Roof 1	23.5	
Mechanical - Lower Roof 1	21.6	
Mechanical - Lower Roof 1	21.8	
Mechanical - Lower Roof 1	20.2	
Mechanical - Lower Roof 1	23.0	
Mechanical 1	20.6	
Mechanical 1	21.4	
Mechanical 1	20.4	
Mechanical 1	20.6	
Mechanical 1	20.5	
Mechanical 1	21.1	
Mechanical - Lower Roof 1	24.1	
CT-1	21.3	
CT-2	21.2	
CT-3	21.2	
CT-4	21.2	
Receiver R4	Leq,d 38.4	dB(A)
Mechanical 1	19.3	
Mechanical 1	23.7	
Mechanical 1	26.8	
Mechanical 1	25.3	
Mechanical 1	18.9	
Mechanical 1	22.4	
Mechanical 1	28.2	

LACMA East
Assessed contribution level - Mechanical

Source	Leq,d dB(A)	
Mechanical - Lower Roof 1	20.0	
Mechanical - Lower Roof 1	19.7	
Mechanical - Lower Roof 1	26.5	
Mechanical - Lower Roof 1	16.1	
Mechanical - Lower Roof 1	19.6	
Mechanical 1	19.8	
Mechanical 1	25.1	
Mechanical 1	25.2	
Mechanical 1	19.8	
Mechanical 1	22.3	
Mechanical 1	28.2	
Mechanical - Lower Roof 1	18.8	
CT-1	27.9	
CT-2	27.7	
CT-3	27.6	
CT-4	27.5	
Receiver R5	Leq,d 38.4	dB(A)
Mechanical 1	23.5	
Mechanical 1	5.9	
Mechanical 1	6.9	
Mechanical 1	24.1	
Mechanical 1	25.4	
Mechanical 1	24.1	
Mechanical 1	22.5	
Mechanical - Lower Roof 1	3.4	
Mechanical - Lower Roof 1	2.9	
Mechanical - Lower Roof 1	3.0	
Mechanical - Lower Roof 1	24.5	
Mechanical - Lower Roof 1	20.1	
Mechanical 1	23.4	
Mechanical 1	8.1	
Mechanical 1	24.3	
Mechanical 1	24.7	
Mechanical 1	23.8	
Mechanical 1	21.8	
Mechanical - Lower Roof 1	24.0	
CT-1	29.8	
CT-2	29.8	
CT-3	29.9	
CT-4	30.0	

LACMA East
Assessed contribution level - Mechanical

Source	Leq,d dB(A)	

Receiver R6	Leq,d 31.5	dB(A)
Mechanical 1	25.9	
Mechanical 1	20.0	
Mechanical 1	13.5	
Mechanical 1	8.2	
Mechanical 1	6.4	
Mechanical 1	5.0	
Mechanical 1	5.4	
Mechanical - Lower Roof 1	25.8	
Mechanical - Lower Roof 1	20.9	
Mechanical - Lower Roof 1	17.7	
Mechanical - Lower Roof 1	6.6	
Mechanical - Lower Roof 1	4.4	
Mechanical 1	24.2	
Mechanical 1	10.0	
Mechanical 1	8.5	
Mechanical 1	6.4	
Mechanical 1	5.8	
Mechanical 1	5.3	
Mechanical - Lower Roof 1	7.4	
CT-1	8.1	
CT-2	8.1	
CT-3	8.2	
CT-4	8.2	

LACMA East
Assessed contribution level - Loading

Source	Leq,d dB(A)	
Receiver R1	Leq,d 54.2	dB(A)
Loading	15.4	
Loading (South)	54.2	
Receiver R2	Leq,d 43.1	dB(A)
Loading	10.6	
Loading (South)	43.1	
Receiver R3	Leq,d 30.8	dB(A)
Loading	30.7	
Loading (South)	11.9	
Receiver R4	Leq,d 42.8	dB(A)
Loading	42.8	
Loading (South)	18.6	
Receiver R5	Leq,d 40.3	dB(A)
Loading	34.5	
Loading (South)	39.0	
Receiver R6	Leq,d 46.7	dB(A)
Loading	12.1	
Loading (South)	46.7	

LACMA East
Assessed contibution level - Trash Compactor

Source	Leq,d dB(A)	
Receiver R1	Leq,d 11.9	dB(A)
Trash Compactor	11.9	
Receiver R2	Leq,d 6.8	dB(A)
Trash Compactor	6.8	
Receiver R3	Leq,d 26.4	dB(A)
Trash Compactor	26.4	
Receiver R4	Leq,d 37.4	dB(A)
Trash Compactor	37.4	
Receiver R5	Leq,d 29.5	dB(A)
Trash Compactor	29.5	
Receiver R6	Leq,d 8.1	dB(A)
Trash Compactor	8.1	

AES
ACOUSTICAL ENGINEERING SERVICES

Off-Site Traffic Noise Calculations
Project: LACMA East Project

Traffic Distribution as % of ADT				
Vehicle Type	**Day**	**Eve**	**Night**	**Sub total**
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

PHV to ADT factor 10%

EXISTING CONDITIONS

Roadway Segment	Roadway Width*, ft	Distance to Edge of Roadway, ft	Distance to Centerline, feet	Speed mph	Traffic Volume PHV	Traffic Volume ADT	PHV to ADT factor	Barrier Atten.	Site Adjust., dBA	24-Hour CNEL
Fairfax Avenue										
- North of 6th St.	50	10	35	35	2,857	28,570	10%	0	0	74.0
- Between 6th and Wilshire Blvd.	60	10	40	35	2,532	25,320	10%	0	0	72.9
- South of Wilshire Blvd.	60	10	40	35	2,302	23,020	10%	0	0	72.5
Ogden Drive										
- South of Wilshire Blvd.	40	10	30	30	187	1,870	10%	0	0	62.8
Spaulding Avenue										
- South of Wilshire Blvd.	40	10	30	30	171	1,710	10%	0	0	62.4
Curson Avenue										
- Between 6th and Wilshire Blvd.	40	10	30	30	1,060	10,600	10%	0	0	70.3
- South of Wilshire Blvd.	40	10	30	30	1,562	15,620	10%	0	0	72.0
Hauser Boulevard										
- North of Wilshire Blvd.	40	10	30	30	1,143	11,430	10%	0	0	70.6
- South of Wilshire Blvd.	40	10	30	30	1,395	13,950	10%	0	0	71.5
Cochran Avenue										
- North of Wilshire Blvd.	30	10	25	25	827	8,270	10%	0	0	70.2
- South of Wilshire Blvd.	30	10	25	25	680	6,800	10%	0	0	69.4
6th Street										
- West of Fairfax Ave.	40	10	30	35	934	9,340	10%	0	0	70.0
- Between Fairfax Ave. and Ogden Dr.	60	10	40	35	1,885	18,850	10%	0	0	71.6
- Between Ogden Dr. and Curson Ave.	60	10	40	35	1,904	19,040	10%	0	0	71.7
- East of Curson Ave.	50	10	35	35	1,905	19,050	10%	0	0	72.3
Wilshire Boulevard										
- West of Fairfax Ave.	70	10	45	35	3,183	31,830	10%	0	0	73.4
- Between Fairfax Ave. and Ogden Dr.	70	10	45	35	2,414	24,140	10%	0	0	72.2
- Between Ogden Dr. and Curson Ave.	70	10	45	35	2,259	22,590	10%	0	0	71.9
- East of Curson Ave.	70	10	45	35	2,496	24,960	10%	0	0	72.3

AES
ACOUSTICAL ENGINEERING SERVICES

EXISTING CONDITIONS

Roadway Segment	Roadway Width*, ft	Distance to Edge of Roadway, ft	Distance to Centerline, feet	Speed mph	Traffic Volume PHV	Traffic Volume ADT	PHV to ADT factor	Barrier Atten.	Site Adjust., dBA	24-Hour CNEL
8th Street										
- West of Fairfax Ave.	30	10	25	25	118	1,180	10%	0	0	61.8
- Between Fairfax Ave. and Curson Ave.	40	10	30	35	847	8,470	10%	0	0	69.5
- East of Curson Ave.	40	10	30	35	1,062	10,620	10%	0	0	70.5

* Estimated based on Google Earth map.

** Calculated using FHWA's TNM Version 2.5 Computer Noise Model.

Date Printed: 5/1/2017

AES
ACOUSTICAL ENGINEERING SERVICES

Off-Site Traffic Noise Calculations
Project: LMNA Project

Traffic Distribution as % of ADT				
Vehicle Type	**Day**	**Eve**	**Night**	**Sub total**
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

PHV to ADT factor 10%

EXISTING + PROJECT CONDITIONS

Roadway Segment	Roadway Width*, ft	Distance to Edge of Roadway, ft	Distance to Centerline, feet	Speed mph	Traffic Volume PHV	Traffic Volume ADT	PHV to ADT factor	Barrier Atten.	Site Adjust., dBA	24-Hour CNEL
Fairfax Avenue										
- North of 6th St.	50	10	35	35	2,864	28,640	10%	0	0	74.0
- Between 6th and Wilshire Blvd.	60	10	40	35	2,565	25,650	10%	0	0	72.9
- South of Wilshire Blvd.	60	10	40	35	2,311	23,110	10%	0	0	72.5
Ogden Drive										
- South of Wilshire Blvd.	40	10	30	30	249	2,490	10%	0	0	64.0
Spaulding Avenue										
- South of Wilshire Blvd.	40	10	30	30	121	1,210	10%	0	0	60.9
Curson Avenue										
- Between 6th and Wilshire Blvd.	40	10	30	30	1,060	10,600	10%	0	0	70.3
- South of Wilshire Blvd.	40	10	30	30	1,562	15,620	10%	0	0	72.0
Hauser Boulevard										
- North of Wilshire Blvd.	40	10	30	30	1,143	11,430	10%	0	0	70.6
- South of Wilshire Blvd.	40	10	30	30	1,395	13,950	10%	0	0	71.5
Cochran Avenue										
- North of Wilshire Blvd.	30	10	25	25	827	8,270	10%	0	0	70.2
- South of Wilshire Blvd.	30	10	25	25	680	6,800	10%	0	0	69.4
6th Street										
- West of Fairfax Ave.	40	10	30	35	936	9,360	10%	0	0	70.0
- Between Fairfax Ave. and Ogden Dr.	60	10	40	35	1,909	19,090	10%	0	0	71.7
- Between Ogden Dr. and Curson Ave.	60	10	40	35	1,907	19,070	10%	0	0	71.7
- East of Curson Ave.	50	10	35	35	1,908	19,080	10%	0	0	72.3
Wilshire Boulevard										
- West of Fairfax Ave.	70	10	45	35	3,192	31,920	10%	0	0	73.4
- Between Fairfax Ave. and Ogden Dr.	70	10	45	35	2,428	24,280	10%	0	0	72.2
- Between Ogden Dr. and Curson Ave.	70	10	45	35	2,258	22,580	10%	0	0	71.9
- East of Curson Ave.	70	10	45	35	2,506	25,060	10%	0	0	72.3

AES
ACOUSTICAL ENGINEERING SERVICES

EXISTING + PROJECT CONDITIONS

Roadway Segment	Roadway Width*, ft	Distance to Edge of Roadway, ft	Distance to Centerline, feet	Speed mph	Traffic Volume PHV	Traffic Volume ADT	PHV to ADT factor	Barrier Atten.	Site Adjust., dBA	24-Hour CNEL
8th Street										
- West of Fairfax Ave.	30	10	25	25	118	1,180	10%	0	0	61.8
- Between Fairfax Ave. and Curson Ave.	40	10	30	35	852	8,520	10%	0	0	69.6
- East of Curson Ave.	40	10	30	35	1,064	10,640	10%	0	0	70.5

* Estimated based on Google Earth map.

** Calculated using FHWA's TNM Version 2.5 Computer Noise Model.

Date Printed: 5/1/2017

AES
ACOUSTICAL ENGINEERING SERVICES

Off-Site Traffic Noise Calculations
Project: LMNA Project

Traffic Distribution as % of ADT				
Vehicle Type	**Day**	**Eve**	**Night**	**Sub total**
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

PHV to ADT factor 10%

FUTURE NO PROJECT CONDITIONS

Roadway Segment	Roadway Width*, ft	Distance to Edge of Roadway, ft	Distance to Centerline, feet	Speed mph	Traffic Volume PHV	Traffic Volume ADT	PHV to ADT factor	Barrier Atten.	Site Adjust., dBA	24-Hour CNEL
Fairfax Avenue										
- North of 6th St.	50	10	35	35	3,204	32,040	10%	0	0	74.5
- Between 6th and Wilshire Blvd.	60	10	40	35	2,904	29,040	10%	0	0	73.5
- South of Wilshire Blvd.	60	10	40	35	2,549	25,490	10%	0	0	72.9
Ogden Drive										
- South of Wilshire Blvd.	40	10	30	30	204	2,040	10%	0	0	63.2
Spaulding Avenue										
- South of Wilshire Blvd.	40	10	30	30	184	1,840	10%	0	0	62.7
Curson Avenue										
- Between 6th and Wilshire Blvd.	40	10	30	30	1,168	11,680	10%	0	0	70.7
- South of Wilshire Blvd.	40	10	30	30	1,730	17,300	10%	0	0	72.4
Hauser Boulevard										
- North of Wilshire Blvd.	40	10	30	30	1,238	12,380	10%	0	0	71.0
- South of Wilshire Blvd.	40	10	30	30	1,550	15,500	10%	0	0	72.0
Cochran Avenue										
- North of Wilshire Blvd.	30	10	25	25	887	8,870	10%	0	0	70.5
- South of Wilshire Blvd.	30	10	25	25	731	7,310	10%	0	0	69.7
6th Street										
- West of Fairfax Ave.	40	10	30	35	1,024	10,240	10%	0	0	70.4
- Between Fairfax Ave. and Ogden Dr.	60	10	40	35	2,041	20,410	10%	0	0	72.0
- Between Ogden Dr. and Curson Ave.	60	10	40	35	2,061	20,610	10%	0	0	72.0
- East of Curson Ave.	50	10	35	35	2,059	20,590	10%	0	0	72.6
Wilshire Boulevard										
- West of Fairfax Ave.	70	10	45	35	3,675	36,750	10%	0	0	74.0
- Between Fairfax Ave. and Ogden Dr.	70	10	45	35	3,025	30,250	10%	0	0	73.2
- Between Ogden Dr. and Curson Ave.	70	10	45	35	2,894	28,940	10%	0	0	73.0
- East of Curson Ave.	70	10	45	35	3,123	31,230	10%	0	0	73.3

AES
ACOUSTICAL ENGINEERING SERVICES

FUTURE NO PROJECT CONDITIONS

Roadway Segment	Roadway Width*, ft	Distance to Edge of Roadway, ft	Distance to Centerline, feet	Speed mph	Traffic Volume PHV	Traffic Volume ADT	PHV to ADT factor	Barrier Atten.	Site Adjust., dBA	24-Hour CNEL
8th Street										
- West of Fairfax Ave.	30	10	25	25	129	1,290	10%	0	0	62.2
- Between Fairfax Ave. and Curson Ave.	40	10	30	35	917	9,170	10%	0	0	69.9
- East of Curson Ave.	40	10	30	35	1,140	11,400	10%	0	0	70.8

* Estimated based on Google Earth map.

** Calculated using FHWA's TNM Version 2.5 Computer Noise Model.

Date Printed: 5/1/2017

AES
ACOUSTICAL ENGINEERING SERVICES

Off-Site Traffic Noise Calculations
Project: LMNA Project

Traffic Distribution as % of ADT				
Vehicle Type	**Day**	**Eve**	**Night**	**Sub total**
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

PHV to ADT factor 10%

FUTURE + PROJECT CONDITIONS

Roadway Segment	Roadway Width*, ft	Distance to Edge of Roadway, ft	Distance to Centerline, feet	Speed mph	Traffic Volume PHV	Traffic Volume ADT	PHV to ADT factor	Barrier Atten.	Site Adjust., dBA	24-Hour CNEL
Fairfax Avenue										
- North of 6th St.	50	10	35	35	3,211	32,110	10%	0	0	74.5
- Between 6th and Wilshire Blvd.	60	10	40	35	2,936	29,360	10%	0	0	73.5
- South of Wilshire Blvd.	60	10	40	35	2,558	25,580	10%	0	0	72.9
Ogden Drive										
- South of Wilshire Blvd.	40	10	30	30	272	2,720	10%	0	0	64.4
Spaulding Avenue										
- South of Wilshire Blvd.	40	10	30	30	134	1,340	10%	0	0	61.3
Curson Avenue										
- Between 6th and Wilshire Blvd.	40	10	30	30	1,168	11,680	10%	0	0	70.7
- South of Wilshire Blvd.	40	10	30	30	1,730	17,300	10%	0	0	72.4
Hauser Boulevard										
- North of Wilshire Blvd.	40	10	30	30	1,238	12,380	10%	0	0	71.0
- South of Wilshire Blvd.	40	10	30	30	1,550	15,500	10%	0	0	72.0
Cochran Avenue										
- North of Wilshire Blvd.	30	10	25	25	887	8,870	10%	0	0	70.5
- South of Wilshire Blvd.	30	10	25	25	731	7,310	10%	0	0	69.7
6th Street										
- West of Fairfax Ave.	40	10	30	35	1,026	10,260	10%	0	0	70.4
- Between Fairfax Ave. and Ogden Dr.	60	10	40	35	2,065	20,650	10%	0	0	72.0
- Between Ogden Dr. and Curson Ave.	60	10	40	35	2,064	20,640	10%	0	0	72.0
- East of Curson Ave.	50	10	35	35	2,062	20,620	10%	0	0	72.6
Wilshire Boulevard										
- West of Fairfax Ave.	70	10	45	35	3,684	36,840	10%	0	0	74.0
- Between Fairfax Ave. and Ogden Dr.	70	10	45	35	3,043	30,430	10%	0	0	73.2
- Between Ogden Dr. and Curson Ave.	70	10	45	35	2,892	28,920	10%	0	0	73.0
- East of Curson Ave.	70	10	45	35	3,133	31,330	10%	0	0	73.3

AES
ACOUSTICAL ENGINEERING SERVICES

FUTURE + PROJECT CONDITIONS

Roadway Segment	Roadway Width*, ft	Distance to Edge of Roadway, ft	Distance to Centerline, feet	Speed mph	Traffic Volume PHV	Traffic Volume ADT	PHV to ADT factor	Barrier Atten.	Site Adjust., dBA	24-Hour CNEL
8th Street										
- West of Fairfax Ave.	30	10	25	25	129	1,290	10%	0	0	62.2
- Between Fairfax Ave. and Curson Ave.	40	10	30	35	922	9,220	10%	0	0	69.9
- East of Curson Ave.	40	10	30	35	1,142	11,420	10%	0	0	70.8

* Estimated based on Google Earth map.

** Calculated using FHWA's TNM Version 2.5 Computer Noise Model.

Date Printed: 5/1/2017

AES
ACOUSTICAL ENGINEERING SERVICES

Off-Site Traffic Noise Calculations
Project: LACMA East Project

Traffic Distribution as % of ADT				
Vehicle Type	**Day**	**Eve**	**Night**	**Sub total**
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

PHV to ADT factor 10%

EXISTING CONDITIONS - WEEKEND

Roadway Segment	Roadway Width*, ft	Distance to Edge of Roadway, ft	Distance to Centerline, feet	Speed mph	Traffic Volume PHV	Traffic Volume ADT	PHV to ADT factor	Barrier Atten.	Site Adjust., dBA	24-Hour CNEL
Fairfax Avenue										
- North of 6th St.	50	10	35	35	2,422	24,220	10%	0	0	73.3
- Between 6th and Wilshire Blvd.	60	10	40	35	2,348	23,480	10%	0	0	72.6
- South of Wilshire Blvd.	60	10	40	35	1,956	19,560	10%	0	0	71.8
Ogden Drive										
- South of Wilshire Blvd.	40	10	30	30	125	1,250	10%	0	0	61.0
Spaulding Avenue										
- South of Wilshire Blvd.	40	10	30	30	213	2,130	10%	0	0	63.3
Curson Avenue										
- Between 6th and Wilshire Blvd.	40	10	30	30	425	4,250	10%	0	0	66.3
- South of Wilshire Blvd.	40	10	30	30	290	2,900	10%	0	0	64.7
Hauser Boulevard										
- North of Wilshire Blvd.	40	10	30	30	1,138	11,380	10%	0	0	70.6
- South of Wilshire Blvd.	40	10	30	30	971	9,710	10%	0	0	69.9
Cochran Avenue										
- North of Wilshire Blvd.	30	10	25	25	413	4,130	10%	0	0	67.2
- South of Wilshire Blvd.	30	10	25	25	383	3,830	10%	0	0	66.9
6th Street										
- West of Fairfax Ave.	40	10	30	35	620	6,200	10%	0	0	68.2
- Between Fairfax Ave. and Ogden Dr.	60	10	40	35	1,270	12,700	10%	0	0	69.9
- Between Ogden Dr. and Curson Ave.	60	10	40	35	1,256	12,560	10%	0	0	69.8
- East of Curson Ave.	50	10	35	35	1,172	11,720	10%	0	0	70.1
Wilshire Boulevard										
- West of Fairfax Ave.	70	10	45	35	2,070	20,700	10%	0	0	71.5
- Between Fairfax Ave. and Ogden Dr.	70	10	45	35	1,851	18,510	10%	0	0	71.0
- Between Ogden Dr. and Curson Ave.	70	10	45	35	1,859	18,590	10%	0	0	71.0
- East of Curson Ave.	70	10	45	35	2,047	20,470	10%	0	0	71.5

AES
ACOUSTICAL ENGINEERING SERVICES

EXISTING CONDITIONS - WEEKEND

Roadway Segment	Roadway Width*, ft	Distance to Edge of Roadway, ft	Distance to Centerline, feet	Speed mph	Traffic Volume PHV	Traffic Volume ADT	PHV to ADT factor	Barrier Atten.	Site Adjust., dBA	24-Hour CNEL
8th Street										
- West of Fairfax Ave.	30	10	25	25	17	170	10%	0	0	53.4
- Between Fairfax Ave. and Curson Ave.	40	10	30	35	365	3,650	10%	0	0	65.9
- East of Curson Ave.	40	10	30	35	405	4,050	10%	0	0	66.3

* Estimated based on Google Earth map.

** Calculated using FHWA's TNM Version 2.5 Computer Noise Model.

Date Printed: 5/1/2017

AES
ACOUSTICAL ENGINEERING SERVICES

Off-Site Traffic Noise Calculations
Project: LMNA Project

Traffic Distribution as % of ADT				
Vehicle Type	**Day**	**Eve**	**Night**	**Sub total**
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

PHV to ADT factor 10%

EXISTING + PROJECT CONDITIONS - WEEKEND

Roadway Segment	Roadway Width*, ft	Distance to Edge of Roadway, ft	Distance to Centerline, feet	Speed mph	Traffic Volume PHV	Traffic Volume ADT	PHV to ADT factor	Barrier Atten.	Site Adjust., dBA	24-Hour CNEL
Fairfax Avenue										
- North of 6th St.	50	10	35	35	2,433	24,330	10%	0	0	73.3
- Between 6th and Wilshire Blvd.	60	10	40	35	2,384	23,840	10%	0	0	72.6
- South of Wilshire Blvd.	60	10	40	35	1,972	19,720	10%	0	0	71.8
Ogden Drive										
- South of Wilshire Blvd.	40	10	30	30	194	1,940	10%	0	0	62.9
Spaulding Avenue										
- South of Wilshire Blvd.	40	10	30	30	161	1,610	10%	0	0	62.1
Curson Avenue										
- Between 6th and Wilshire Blvd.	40	10	30	30	425	4,250	10%	0	0	66.3
- South of Wilshire Blvd.	40	10	30	30	290	2,900	10%	0	0	64.7
Hauser Boulevard										
- North of Wilshire Blvd.	40	10	30	30	1,138	11,380	10%	0	0	70.6
- South of Wilshire Blvd.	40	10	30	30	971	9,710	10%	0	0	69.9
Cochran Avenue										
- North of Wilshire Blvd.	30	10	25	25	413	4,130	10%	0	0	67.2
- South of Wilshire Blvd.	30	10	25	25	383	3,830	10%	0	0	66.9
6th Street										
- West of Fairfax Ave.	40	10	30	35	622	6,220	10%	0	0	68.2
- Between Fairfax Ave. and Ogden Dr.	60	10	40	35	1,311	13,110	10%	0	0	70.0
- Between Ogden Dr. and Curson Ave.	60	10	40	35	1,261	12,610	10%	0	0	69.9
- East of Curson Ave.	50	10	35	35	1,177	11,770	10%	0	0	70.2
Wilshire Boulevard										
- West of Fairfax Ave.	70	10	45	35	2,087	20,870	10%	0	0	71.6
- Between Fairfax Ave. and Ogden Dr.	70	10	45	35	1,870	18,700	10%	0	0	71.1
- Between Ogden Dr. and Curson Ave.	70	10	45	35	1,859	18,590	10%	0	0	71.0
- East of Curson Ave.	70	10	45	35	2,058	20,580	10%	0	0	71.5

AES
ACOUSTICAL ENGINEERING SERVICES

EXISTING + PROJECT CONDITIONS - WEEKEND

Roadway Segment	Roadway Width*, ft	Distance to Edge of Roadway, ft	Distance to Centerline, feet	Speed mph	Traffic Volume PHV	Traffic Volume ADT	PHV to ADT factor	Barrier Atten.	Site Adjust., dBA	24-Hour CNEL
8th Street										
- West of Fairfax Ave.	30	10	25	25	17	170	10%	0	0	53.4
- Between Fairfax Ave. and Curson Ave.	40	10	30	35	372	3,720	10%	0	0	66.0
- East of Curson Ave.	40	10	30	35	408	4,080	10%	0	0	66.4

* Estimated based on Google Earth map.

** Calculated using FHWA's TNM Version 2.5 Computer Noise Model.

AES
ACOUSTICAL ENGINEERING SERVICES

Off-Site Traffic Noise Calculations
Project: LMNA Project

Traffic Distribution as % of ADT				
Vehicle Type	**Day**	**Eve**	**Night**	**Sub total**
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

PHV to ADT factor 10%

FUTURE NO PROJECT CONDITIONS - WEEKEND

Roadway Segment	Roadway Width*, ft	Distance to Edge of Roadway, ft	Distance to Centerline, feet	Speed mph	Traffic Volume PHV	Traffic Volume ADT	PHV to ADT factor	Barrier Atten.	Site Adjust., dBA	24-Hour CNEL
Fairfax Avenue										
- North of 6th St.	50	10	35	35	2,740	27,400	10%	0	0	73.8
- Between 6th and Wilshire Blvd.	60	10	40	35	2,649	26,490	10%	0	0	73.1
- South of Wilshire Blvd.	60	10	40	35	2,199	21,990	10%	0	0	72.3
Ogden Drive										
- South of Wilshire Blvd.	40	10	30	30	148	1,480	10%	0	0	61.8
Spaulding Avenue										
- South of Wilshire Blvd.	40	10	30	30	230	2,300	10%	0	0	63.7
Curson Avenue										
- Between 6th and Wilshire Blvd.	40	10	30	30	490	4,900	10%	0	0	67.0
- South of Wilshire Blvd.	40	10	30	30	345	3,450	10%	0	0	65.4
Hauser Boulevard										
- North of Wilshire Blvd.	40	10	30	30	1,226	12,260	10%	0	0	70.9
- South of Wilshire Blvd.	40	10	30	30	1,080	10,800	10%	0	0	70.4
Cochran Avenue										
- North of Wilshire Blvd.	30	10	25	25	442	4,420	10%	0	0	67.5
- South of Wilshire Blvd.	30	10	25	25	412	4,120	10%	0	0	67.2
6th Street										
- West of Fairfax Ave.	40	10	30	35	681	6,810	10%	0	0	68.6
- Between Fairfax Ave. and Ogden Dr.	60	10	40	35	1,388	13,880	10%	0	0	70.3
- Between Ogden Dr. and Curson Ave.	60	10	40	35	1,372	13,720	10%	0	0	70.2
- East of Curson Ave.	50	10	35	35	1,280	12,800	10%	0	0	70.5
Wilshire Boulevard										
- West of Fairfax Ave.	70	10	45	35	2,467	24,670	10%	0	0	72.3
- Between Fairfax Ave. and Ogden Dr.	70	10	45	35	2,313	23,130	10%	0	0	72.0
- Between Ogden Dr. and Curson Ave.	70	10	45	35	2,341	23,410	10%	0	0	72.0
- East of Curson Ave.	70	10	45	35	2,532	25,320	10%	0	0	72.4

AES
ACOUSTICAL ENGINEERING SERVICES

FUTURE NO PROJECT CONDITIONS - WEEKEND

Roadway Segment	Roadway Width*, ft	Distance to Edge of Roadway, ft	Distance to Centerline, feet	Speed mph	Traffic Volume PHV	Traffic Volume ADT	PHV to ADT factor	Barrier Atten.	Site Adjust., dBA	24-Hour CNEL
8th Street										
- West of Fairfax Ave.	30	10	25	25	18	180	10%	0	0	53.6
- Between Fairfax Ave. and Curson Ave.	40	10	30	35	395	3,950	10%	0	0	66.2
- East of Curson Ave.	40	10	30	35	436	4,360	10%	0	0	66.7

* Estimated based on Google Earth map.

** Calculated using FHWA's TNM Version 2.5 Computer Noise Model.

AES
ACOUSTICAL ENGINEERING SERVICES

Off-Site Traffic Noise Calculations
Project: LMNA Project

Traffic Distribution as % of ADT				
Vehicle Type	**Day**	**Eve**	**Night**	**Sub total**
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

PHV to ADT factor 10%

FUTURE + PROJECT CONDITIONS - WEEKEND

Roadway Segment	Roadway Width*, ft	Distance to Edge of Roadway, ft	Distance to Centerline, feet	Speed mph	Traffic Volume PHV	Traffic Volume ADT	PHV to ADT factor	Barrier Atten.	Site Adjust., dBA	24-Hour CNEL
Fairfax Avenue										
- North of 6th St.	50	10	35	35	2,751	27,510	10%	0	0	73.9
- Between 6th and Wilshire Blvd.	60	10	40	35	2,685	26,850	10%	0	0	73.1
- South of Wilshire Blvd.	60	10	40	35	2,215	22,150	10%	0	0	72.3
Ogden Drive										
- South of Wilshire Blvd.	40	10	30	30	217	2,170	10%	0	0	63.4
Spaulding Avenue										
- South of Wilshire Blvd.	40	10	30	30	178	1,780	10%	0	0	62.6
Curson Avenue										
- Between 6th and Wilshire Blvd.	40	10	30	30	490	4,900	10%	0	0	67.0
- South of Wilshire Blvd.	40	10	30	30	345	3,450	10%	0	0	65.4
Hauser Boulevard										
- North of Wilshire Blvd.	40	10	30	30	1,226	12,260	10%	0	0	70.9
- South of Wilshire Blvd.	40	10	30	30	1,080	10,800	10%	0	0	70.4
Cochran Avenue										
- North of Wilshire Blvd.	30	10	25	25	442	4,420	10%	0	0	67.5
- South of Wilshire Blvd.	30	10	25	25	412	4,120	10%	0	0	67.2
6th Street										
- West of Fairfax Ave.	40	10	30	35	683	6,830	10%	0	0	68.6
- Between Fairfax Ave. and Ogden Dr.	60	10	40	35	1,429	14,290	10%	0	0	70.4
- Between Ogden Dr. and Curson Ave.	60	10	40	35	1,377	13,770	10%	0	0	70.2
- East of Curson Ave.	50	10	35	35	1,285	12,850	10%	0	0	70.5
Wilshire Boulevard										
- West of Fairfax Ave.	70	10	45	35	2,484	24,840	10%	0	0	72.3
- Between Fairfax Ave. and Ogden Dr.	70	10	45	35	2,332	23,320	10%	0	0	72.0
- Between Ogden Dr. and Curson Ave.	70	10	45	35	2,341	23,410	10%	0	0	72.0
- East of Curson Ave.	70	10	45	35	2,543	25,430	10%	0	0	72.4

AES
ACOUSTICAL ENGINEERING SERVICES

FUTURE + PROJECT CONDITIONS - WEEKEND

Roadway Segment	Roadway Width*, ft	Distance to Edge of Roadway, ft	Distance to Centerline, feet	Speed mph	Traffic Volume PHV	Traffic Volume ADT	PHV to ADT factor	Barrier Atten.	Site Adjust., dBA	24-Hour CNEL
8th Street										
- West of Fairfax Ave.	30	10	25	25	18	180	10%	0	0	53.6
- Between Fairfax Ave. and Curson Ave.	40	10	30	35	402	4,020	10%	0	0	66.3
- East of Curson Ave.	40	10	30	35	439	4,390	10%	0	0	66.7

* Estimated based on Google Earth map.

** Calculated using FHWA's TNM Version 2.5 Computer Noise Model.