
Appendix E

Noise Model Outputs

Noise Appendix

Field Noise Measurement Data Sheets

Field Noise Measurement Data

Record: 334

Project Name	Santa Monica
Project #	9127
Observer(s)	Connor Burke
Date	2017-03-15
autoemail	cburke@dudek.com

Meteorological Conditions

Temp (F)	68
Humidity % (R.H.)	56
Wind	Calm
Wind Speed (MPH)	2
Wind Direction	East
Sky	Sunny

Instrument and Calibrator Information

Instrument Name List	(ENC) Rion NL-52
Instrument Name	(ENC) Rion NL-52
Instrument Name Lookup Key	(ENC) Rion NL-52
Manufacturer	Rion
Model	NL-52
Serial Number	553896
Calibrator Name	(ENC) LD CAL150
Calibrator Name	(ENC) LD CAL150
Calibrator Name Lookup Key	(ENC) LD CAL150
Calibrator Manufacturer	Larson Davis
Calibrator Model	LD CAL150
Calibrator Serial #	5152
Pre-Test (dBA SPL)	94
Post-Test (dBA SPL)	94
Windscreen	Yes
Weighting?	A-WTD
Slow/Fast?	Slow
ANSI?	Yes

Recordings

Record #	1
Site ID	ST3
Site Location	Latitude:34.091466, Longitude:-118.360471, Altitude:86.092285, Speed:0.000000, Horizontal Accuracy:10.000000, Vertical Accuracy:6.000000, Time:8:22:14 AM PDT
Begin (Time)	08:21:00
End (Time)	08:31:00
Leq	60.4
Lmax	74.6
Lmin	53.8
Other Lx?	L90, L50, L10
L90	55
L50	57.9
L10	63.9
Other (Specify Metric)	

Primary Noise Source	Traffic
Other Noise Sources (Background)	Distant Conversations / Yelling, Distant Traffic
Is the same instrument and calibrator being used as previously notated?	Yes
Are the meteorological conditions the same as previously notated?	Yes

Source Info and Traffic Counts	
Distance to Roadway (feet)	10
Distance to Roadway - Centerline/Edge of Pavement	Edge of Pavement
Estimated Vehicle Speed (MPH)	25
Count Duration (Min)	10

Traffic Counts	
Counting Both Directions?	Yes
Autos	1
Number of Vehicles - Autos	15

Description / Photos

Site Photos

Photo	Comments / Description
	Facing west

Recordings	
Record #	2
Site ID	ST4
Site Location	Latitude:34.091789, Longitude:-118.360282, Altitude:98.270142, Speed:0.000000, Horizontal Accuracy:10.000000, Vertical Accuracy:6.000000, Time:8:33:22 AM PDT
Begin (Time)	08:33:00
End (Time)	08:43:00
Leq	60.1
Lmax	69.6
Lmin	54.3
Other Lx?	L90, L50, L10
L90	55.1
L50	56.2
L10	64.3
Other (Specify Metric)	
Primary Noise Source	Traffic
Other Noise Sources (Background)	Distant Conversations / Yelling
Other Noise Sources Additional Description	Fountain at school. Truck docking.
Is the same instrument and calibrator being used as previously notated?	Yes
Are the meteorological conditions the same as previously notated?	Yes

Source Info and Traffic Counts	
Distance to Roadway (feet)	10
Estimated Vehicle Speed (MPH)	25
Count Duration (Min)	10

Traffic Counts	
Counting Both Directions?	Yes
Autos	1
Number of Vehicles - Autos	18
Medium Trucks	1
Number of Vehicles - Medium Trucks	1

Description / Photos

Site Photos

Photo



Comments / Description

Facing west.

Recordings

Record #	3
Site ID	ST1
Site Location	Latitude:34.090904, Longitude:-118.359638, Altitude:81.887207, Speed:0.000000, Horizontal Accuracy:10.000000, Vertical Accuracy:3.000000, Time:8:47:02 AM PDT
Begin (Time)	08:47:00
End (Time)	08:57:00
Leq	67
Lmax	82.2
Lmin	55.1
Other Lx?	L90, L50, L10
L90	58.3
L50	64
L10	70.1
Primary Noise Source	Traffic
Other Noise Sources (Background)	Distant Conversations / Yelling, Distant Traffic
Is the same instrument and calibrator being used as previously notated?	Yes
Are the meteorological conditions the same as previously notated?	Yes

Source Info and Traffic Counts


Distance to Roadway (feet)	10
Estimated Vehicle Speed (MPH)	35
Count Duration (Min)	10

Traffic Counts

Counting Both Directions?	Yes
Autos	1
Number of Vehicles - Autos	281
Medium Trucks	1
Number of Vehicles - Medium Trucks	10
Heavy Trucks	1
Number of Vehicles - Heavy Trucks	4
Buses	1
Number of Vehicles - Buses	5

Description / Photos

Site Photos

Photo	Comments / Description
	<p>Facing south</p>

Recordings

Record #	4
Site ID	ST2
Site Location	Latitude:34.091443, Longitude:-118.359298, Altitude:93.200253, Speed:0.000000, Horizontal Accuracy:10.000000, Vertical Accuracy:4.000000, Time:9:00:42 AM PDT
Begin (Time)	09:00:00
End (Time)	09:10:00
Leq	57.9
Lmax	75.1
Lmin	48.3
Other Lx?	L90, L50, L10
L90	50.1
L50	53.9
L10	60.7
Other (Specify Metric)	
Primary Noise Source	Traffic
Other Noise Sources (Background)	Birds, Distant Traffic
Is the same instrument and calibrator being used as previously notated?	Yes
Are the meteorological conditions the same as previously notated?	Yes

Source Info and Traffic Counts

Distance to Roadway (feet)	10
Estimated Vehicle Speed (MPH)	25
Count Duration (Min)	10

Traffic Counts

Counting Both Directions?	Yes
Autos	1
Number of Vehicles - Autos	24
Medium Trucks	1
Number of Vehicles - Medium Trucks	1

Description / Photos

Site Photos

Photo



Comments / Description

Facing east.

Recordings


Record #	5
Site ID	ST5
Site Location	Latitude:34.091534, Longitude:-118.359256, Altitude:95.281673, Speed:0.000000, Horizontal Accuracy:10.000000, Vertical Accuracy:4.000000, Time:9:12:40 AM PDT
Begin (Time)	09:12:00
End (Time)	09:22:00
Leq	54.3
Lmax	68
Lmin	44.8
Other Lx?	L90, L50, L10
L90	47.9
L50	50.2
L10	57
Other (Specify Metric)	
Primary Noise Source	Traffic
Other Noise Sources (Background)	Birds, Distant Traffic
Other Noise Sources Additional Description	Back up alarm on truck.
Is the same instrument and calibrator being used as previously notated?	Yes
Are the meteorological conditions the same as previously notated?	Yes

Source Info and Traffic Counts	
Distance to Roadway (feet)	20
Distance to Roadway - Centerline/Edge of Pavement	Edge of Pavement
Estimated Vehicle Speed (MPH)	25
Count Duration (Min)	10

Traffic Counts	
Counting Both Directions?	Yes
Autos	1
Number of Vehicles - Autos	18
Medium Trucks	1
Number of Vehicles - Medium Trucks	2

Description / Photos

Site Photos

Photo	Comments / Description
	Facing east.

Recordings	
Record #	6
Site ID	ST6
Site Location	Latitude:34.091480, Longitude:-118.358962, Altitude:91.988827, Speed:0.000000, Horizontal Accuracy:10.000000, Vertical Accuracy:4.000000, Time:9:24:11 AM PDT
Begin (Time)	09:24:00
End (Time)	09:34:00
Leq	57
Lmax	73.8
Lmin	45.3
Other Lx?	L90, L50, L10
L90	46.7
L50	52.9
L10	60.4
Other (Specify Metric)	
Primary Noise Source	Traffic
Other Noise Sources (Background)	Birds, Rustling Leaves
Is the same instrument and calibrator being used as previously notated?	Yes
Are the meteorological conditions the same as previously notated?	Yes

Source Info and Traffic Counts	
Distance to Roadway (feet)	8
Estimated Vehicle Speed (MPH)	25
Count Duration (Min)	10

Traffic Counts	
Counting Both Directions?	Yes
Autos	1
Number of Vehicles - Autos	18
Buses	0
Motorcycles	1
Number of Vehicles - Motorcycles	1

Description / Photos

Site Photos

Photo



Comments / Description

Facing west.

Construction Noise Model Input / Output

Roadway Construction Noise Model (RCNM),Version 1.1

Report date 2/9/2018

Case Descr Santa Monica_Demolition

---- Receptor #1 ----

Baselines (dBA)

Description Land Use	Daytime	Evening	Night
Acoustical Residential	65	60	55

Equipment

Description	Impact Device	Usage(%)	Spec	Actual	Receptor	Estimated
			Lmax (dBA)	Lmax (dBA)	Distance (feet)	Shielding (dBA)
Excavator	No	40		80.7	50	0
Excavator	No	40		80.7	50	0
Front End Loader	No	40		79.1	50	0
Front End Loader	No	40		79.1	50	0
Front End Loader	No	40		79.1	50	0

Results

Equipment	Calculated (dBA)			Noise Limits (dBA)			
	*Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq	Night Lmax
Excavator	80.7	76.7	N/A	N/A	N/A	N/A	N/A
Excavator	80.7	76.7	N/A	N/A	N/A	N/A	N/A
Front End Loader	79.1	75.1	N/A	N/A	N/A	N/A	N/A
Front End Loader	79.1	75.1	N/A	N/A	N/A	N/A	N/A
Front End Loader	79.1	75.1	N/A	N/A	N/A	N/A	N/A
Total	80.7	82.8	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 2/9/2018
 Case Description: Santa Monica_Site Preparation

---- Receptor #1 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Acoustical Center 50'	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Front End Loader	No	40		79.1	50	0

Equipment	Total	Results						
		Calculated (dBA)			Noise Limits (dBA)			
		*Lmax	Leq	Day Lmax	Evening Lmax	Night Lmax	Leq	Leq
Front End Loader		79.1	75.1	N/A	N/A	N/A	N/A	N/A
	Total	79.1	75.1	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 2/9/2018
 Case Description: Santa Monica_Grading

---- Receptor #1 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Acoustical Center 50'	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Man Lift	No	20		74.7	50	0
Man Lift	No	20		74.7	50	0
Excavator	No	40		80.7	50	0
Dozer	No	40		81.7	50	0
Dozer	No	40		81.7	50	0
Drill Rig Truck	No	20		79.1	50	0

Equipment	Results							
	Calculated (dBA)				Noise Limits (dBA)			
	*Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	
Man Lift	74.7	67.7	N/A	N/A	N/A	N/A	N/A	
Man Lift	74.7	67.7	N/A	N/A	N/A	N/A	N/A	
Excavator	80.7	76.7	N/A	N/A	N/A	N/A	N/A	
Dozer	81.7	77.7	N/A	N/A	N/A	N/A	N/A	
Dozer	81.7	77.7	N/A	N/A	N/A	N/A	N/A	
Drill Rig Truck	79.1	72.2	N/A	N/A	N/A	N/A	N/A	
Total	81.7	82.9	N/A	N/A	N/A	N/A	N/A	

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 2/9/2018
 Case Description: Santa Monica_Building Construction

---- Receptor #1 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Acoustical Center 50'	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Pump Truck	No	20		81.4	50	0
Concrete Pump Truck	No	20		81.4	50	0
Concrete Pump Truck	No	20		81.4	50	0
Crane	No	16		80.6	50	0
Crane	No	16		80.6	50	0
Man Lift	No	20		74.7	50	0
Man Lift	No	20		74.7	50	0
Man Lift	No	20		74.7	50	0

Equipment	Calculated (dBA)		Results				
	*Lmax	Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax
Concrete Pump Truck	81.4	74.4	N/A	N/A	N/A	N/A	N/A
Concrete Pump Truck	81.4	74.4	N/A	N/A	N/A	N/A	N/A
Concrete Pump Truck	81.4	74.4	N/A	N/A	N/A	N/A	N/A
Crane	80.6	72.6	N/A	N/A	N/A	N/A	N/A
Crane	80.6	72.6	N/A	N/A	N/A	N/A	N/A
Man Lift	74.7	67.7	N/A	N/A	N/A	N/A	N/A
Man Lift	74.7	67.7	N/A	N/A	N/A	N/A	N/A
Man Lift	74.7	67.7	N/A	N/A	N/A	N/A	N/A
Total	81.4	81.4	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 2/9/2018
 Case Description: Santa Monica_Paving

---- Receptor #1 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Acoustical Center 50'	Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	50	0
All Other Equipment > 5 HP	No	50	85		50	0

Equipment	Results							
	Calculated (dBA)				Noise Limits (dBA)			
	*Lmax	Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq
Excavator	80.7	76.7	N/A	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5 HP	85	82	N/A	N/A	N/A	N/A	N/A	N/A
Total	85	83.1	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

SHIELDING ATTENUATION CALCULATIONS: RAY-TRACE PROGRAM (FOR A POINT-SOURCE)

Uses the Equation: $(A_{e4})_{point} = 20 \cdot \log[(2 \cdot \pi \cdot N)^{1/2} / \tanh(2 \cdot \pi \cdot N)^{1/2}] + 5 \text{dB}$

(Ref. Pg.174, Noise and Vibration Control, L.L. Beranek Editor, 1971 Ed.)

Project: Bond Project West Hollywood
Date: 27-Mar-19
By: MG

Please Enter: Using English (E) units

E

Ray Trace Number/D escription	Source- Receiver Distance (ft. or m)	Source Base Elev. (ft. or m)	Source Height above Ground (ft. or m)	Receiver Base Elev. (ft. or m)	Receiver Height above Ground (ft. or m)	Horizontal Barrier Dist. (in ref. to source) (ft. or m)	Barrier Base Elev. (ft. or m)	Barrier Height (ft. or m)	Dominant Freq.(Hz)	Source- Rcvr Straight- Line Dist. (ft. or m)	Source- Top-of- Barrier Dist. (ft. or m)	Receiver- Top-of- Barrier Dist. (ft. or m)	Lambda	N _{max}	AE _(barriers) (dB)
Constructio n Noise - Neares Revrs	50.0	295.0	8.0	295.0	5.0	40.0	295.0	15.0	500.0	50.1	40.6	14.1	2.3	4.1	19.1

Roadway Construction Noise Model (RCNM), Version 1.1

Report date 3/28/2019

Case Descr Santa Monica_Demolition with Mitigation

---- Receptor #1 ----

Description Land Use	Baselines (dBA)		
	Daytime	Evening	Night
Acoustical Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	50	18
Excavator	No	40		80.7	50	18
Front End Loader	No	40		79.1	50	18
Front End Loader	No	40		79.1	50	18

Equipment	Results						
	Calculated (dBA)			Noise Limits (dBA)			
	*Lmax	Leq	Day Lmax	Leq	Evening		Leq
Excavator	62.7	58.7	N/A	N/A	N/A	N/A	N/A
Excavator	62.7	58.7	N/A	N/A	N/A	N/A	N/A
Front End Loader	61.1	57.1	N/A	N/A	N/A	N/A	N/A
Front End Loader	61.1	57.1	N/A	N/A	N/A	N/A	N/A
Total	62.7	64	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM), Version 1.1

Report date 3/28/2019

Case Descr Santa Monica_Site Preparation with Mitigation

---- Receptor #1 ----

Description Land Use	Baselines (dBA)		
	Daytime	Evening	Night
Acoustical Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Front End Loader	No	40		79.1	50	19

Equipment	Calculated (dBA)			Noise Limits (dBA)		
	*Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq
Front End Loader	60.1	56.1	N/A	N/A	N/A	N/A
Total	60.1	56.1	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM), Version 1.1

Report date 3/27/2019

Case Descr Santa Monica_Grading with Mitigation

---- Receptor #1 ----

Description Land Use	Baselines (dBA)		
	Daytime	Evening	Night
Acoustical Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment			Estimated Shielding (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	
Man Lift	No	20		74.7	50	18
Man Lift	No	20		74.7	50	18
Excavator	No	40		80.7	50	18
Dozer	No	40		81.7	50	18
Drill Rig Truck	No	20		79.1	50	18

Results

Equipment	Calculated (dBA)			Noise Limits (dBA)		
	*Lmax	Leq	Day	Leq	Evening	
			Lmax		Lmax	Leq
Man Lift	56.7	49.7	N/A	N/A	N/A	N/A
Man Lift	56.7	49.7	N/A	N/A	N/A	N/A
Excavator	62.7	58.7	N/A	N/A	N/A	N/A
Dozer	63.7	59.7	N/A	N/A	N/A	N/A
Drill Rig Truck	61.1	54.2	N/A	N/A	N/A	N/A
Total	63.7	63.3	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date 3/28/2019

Case Descr Santa Monica_Building Construction with Mitigation

---- Receptor #1 ----

Descriptor Land Use	Baselines (dBA)		
	Daytime	Evening	Night
Acoustical Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment			Estimated Shielding (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	
Concrete Pump Truck	No	20		81.4	50	19
Concrete Pump Truck	No	20		81.4	50	19
Concrete Pump Truck	No	20		81.4	50	19
Crane	No	16		80.6	50	19
Crane	No	16		80.6	50	19
Man Lift	No	20		74.7	50	19
Man Lift	No	20		74.7	50	19
Man Lift	No	20		74.7	50	19

Results

Equipment	Calculated (dBA)			Noise Limits (dBA)		
	*Lmax	Leq	Day	Leq	Evening	
			Lmax		Lmax	Leq
Concrete Pump Truck	62.4	55.4	N/A	N/A	N/A	N/A
Concrete Pump Truck	62.4	55.4	N/A	N/A	N/A	N/A
Concrete Pump Truck	62.4	55.4	N/A	N/A	N/A	N/A
Crane	61.6	53.6	N/A	N/A	N/A	N/A
Crane	61.6	53.6	N/A	N/A	N/A	N/A
Man Lift	55.7	48.7	N/A	N/A	N/A	N/A
Man Lift	55.7	48.7	N/A	N/A	N/A	N/A
Man Lift	55.7	48.7	N/A	N/A	N/A	N/A
Total	62.4	62.4	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date 3/28/2019

Case Descr Santa Monica_Paving with Mitigation

---- Receptor #1 ----

Description Land Use	Baselines (dBA)		
	Daytime	Evening	Night
Acoustical Residential	65	60	55

Description	Impact Device	Usage(%)	Equipment		Receptor Distance (feet)	Estimated Shielding (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)		
Excavator	No	40		80.7	50	19
All Other Equipment > 5 HP	No	50	85		50	19

Results

Equipment	Calculated (dBA)			Noise Limits (dBA)		
	*Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq
Excavator	61.7	57.7	N/A	N/A	N/A	N/A
All Other Equipment > 5 HP	66	63	N/A	N/A	N/A	N/A
Total	66	64.1	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Exterior Noise Calculations

Salter Source
Truck Back up Alarm
distance dBA

30	79
60	73
90	70 ***used
120	67
160	65
200	63
240	61

Other Source, same as Rohnert Park
heavy duty truck approx level
distance dBA

50	75
100	69
200	63

Structural Shielding (5-Story Bldg)
-27

42

ground level

people talking
65 3 ft 1 person
assume 50% of 28 people talking
14 additional people

**Half hour
of loading
dock 39**
Existing
ambient 54
Total 54.1

65 3162278
65 3162278 76.5
65 3162278
65 3162278
65 3162278
65 3162278
65 3162278
65 3162278
65 3162278
65 3162278
65 3162278
65 3162278
65 3162278
65 3162278
65 3162278
65 3162278

44271887
actual SPL 76.46128 at 3ftt

level 4

pool deck

+ barrier
about 50 feet up
about 25 feet from property line
roof top equipment

76.4	3
70.4	6
64.4	12
58.4	24
52.4	48
46.4	96
40.4	192

74.0	3
68.0	6
62.0	12
56.0	24
50.0	48
45 barrier add	

75	3
69	6
63	12
57	24
51	48
48	72
43 barrier	

65	50
62 extra distance	
-5 barrier	
-5 structural	
52	

SHIELDING ATTENUATION CALCULATIONS: RAY-TRACE PROGRAM (FOR A POINT-SOURCE)

Uses the Equation: $(A_{s,d})_{\text{barrier}} = 20 \log(2^{\pi^2 N})^{1/2} / (\tanh(2^{\pi^2 N})^{1/2}) + 5 \text{dB}$

(Ref. Pg.174, Noise and Vibration Control, L.L. Beranek Editor, 1971 Ed.)

Project: **Bond Project West Hollywood**
 Date: **12-Mar-19**
 By: **MG**

Please Enter: Using English (E) units

E

Ray Trace Number/Description	Source-Receiver Distance (ft. or m)	Source Base Elev. (ft. or m)	Source Height above Ground (ft. or m)	Receiver Base Elev. (ft. or m)	Receiver Height above Ground (ft. or m)	Horizontal Barrier Dist. (in ref. to source) (ft. or m)	Barrier Base Elev. (ft. or m)	Barrier Height (ft. or m)	Dominant Freq.(Hz)	Source-Rev. Straight-Line Dist. (ft. or m)	Source-Top-of-Barrier Dist. (ft. or m)	Receiver-Top-of-Barrier Dist. (ft. or m)	Lambda	N _{max}	AE (barriers) (dB)
Loading Dock - Resi to N & NE	100.0	295.0	8.0	295.0	5.0	50.0	295.0	50.0	500.0	100.0	65.3	67.3	2.3	28.8	27.6



TRANE®

22-1799-17

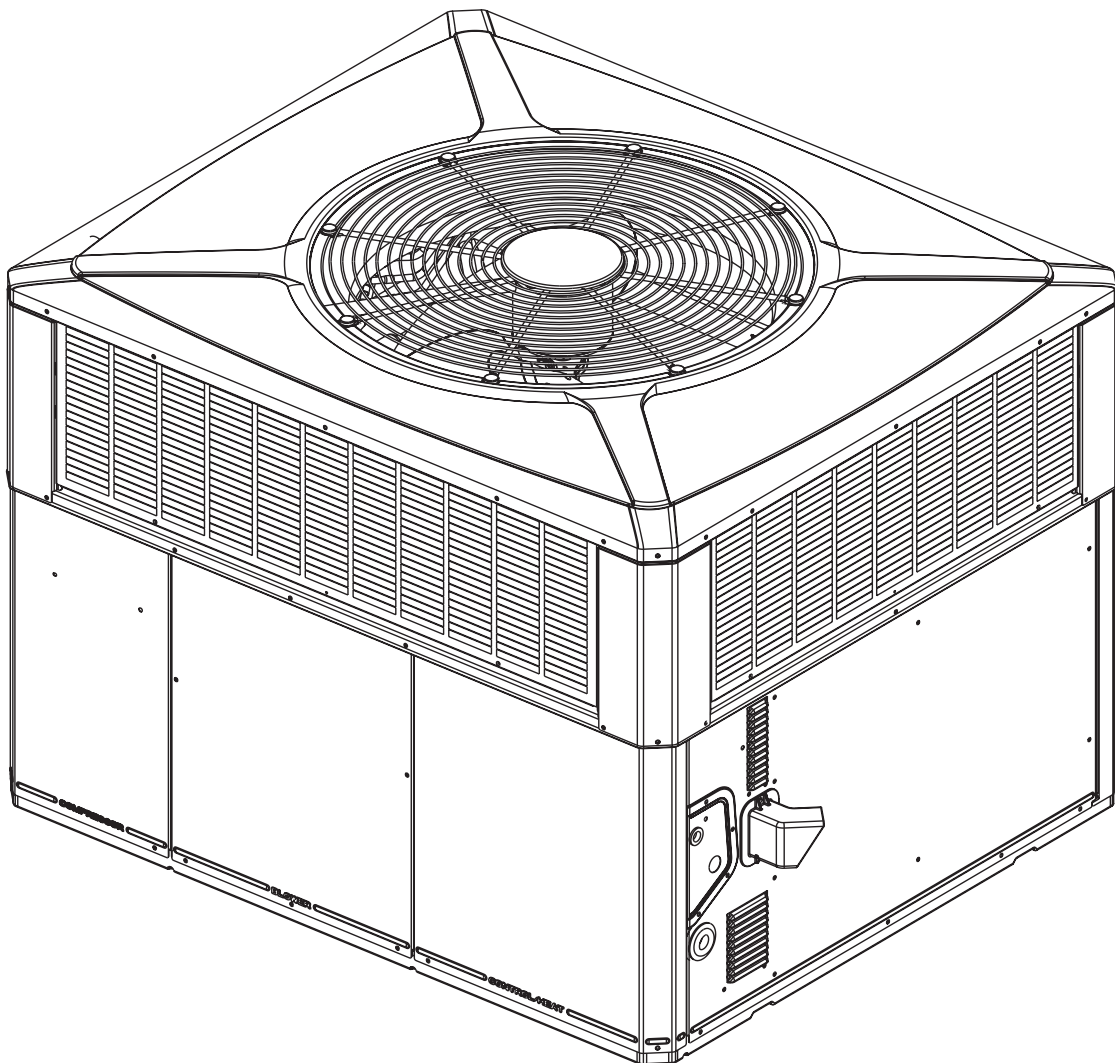
Product Data

4DCY4024 through 4DCY4060

**Single Packaged Convertible Dual Fuel
14 SEER**

2 - 5 Ton, 40 - 120 MBTU

R-410A



General Data

MODEL	4DCY4024A1064B	4DCY4030A1075B	4DCY4036C1075A
RATED Volts/PH/Hz	208-230/1/60	208-230/1/60	208-230/1/60
Performance Cooling BTUH^①	23600	30000	37000
Indoor Airflow (CFM)	760	880	1150
Power Input (KW)	2.162	2.15	3.11
EFER/SEFER(BTU/Watt-Hr.) ^⑥	12/14.0	12.0 / 14.25	12.0 / 14.0
Sound Power Rating [dB(A)]^⑦	68	71	69
HP Heating Performance			
(High Temp.)BTUH / COP	22400 / 3.7	28000 / 3.9	33200 / 3.6
Power Input (KW)	1.77	2.15	2.7
(Low Temp.) BTUH / COP	11600 / 2.38	15400 / 2.48	22400 / 2.4
Power Input (KW)	1.24	1.81	2.5
HSPF (BTU / Watt-Hr.)	8.0	8.0	8.0
Gas Heating Performance^②			
(High) Input BTUH	64000	75000	75000
Capacity BTUH	51500	60500	60500
Temp. Rise — Min/Max (°F)	35 / 65	30 / 60	30 / 60
(Low) Input BTUH	48000	56250	56250
Capacity BTUH	41200	48400	48400
AFUE	79	79.5	79.5
Type of Gas ^③	NATURAL	NATURAL/LP	NATURAL
Gas Pipe Size (in.)	1/2	1/2	1/2
POWER CONN.—V/PH/Hz	208-230/1/60	208-230/1/60	208-230/1/60
Min. Brch. Cir. Ampacity ^④	16.1	19.1	26.2
Fuse Size — Max. (amps)	25	30	40
Fuse Size — Recmd. (amps)	25	30	40
COMPRESSOR	RECIPROCATING	RECIPROCATING	SCROLL
Volts/Ph/Hz	208-230/1/60	200-230/1/60	208-230/1/60
R.L. Amps — L.R. Amps	8.3 / 57.8	11.1 / 63	16.7 / 79
OUTDOOR COIL — TYPE	SPINE-FIN	SPINE-FIN	SPINE-FIN
Rows/F.P.I.	2 / 24	2 / 24	2 / 24
Face Area (sq.ft.)	13.32	13.32	15.49
Tube Size (in.)	3/8	3/8	3/8
Refrigerant Control	EXPANSION VALVE	EXPANSION VALVE	EXPANSION VALVE
INDOOR COIL — TYPE	PLATE FIN	PLATE FIN	PLATE FIN
Rows/F.P.I.	3 / 15	4 / 15	4 / 15
Face Area (sq.ft.)	3.54	3.54	3.54
Tube Size (in.)	3/8	3/8	3/8
Refrigerant Control	EXPANSION VALVE	EXPANSION VALVE	EXPANSION VALVE
Drain Conn. Size (in.)	3/4 FEMALE NPT	3/4 FEMALE NPT	3/4 FEMALE NPT
OUTDOOR FAN — TYPE	PROPELLER	PROPELLER	PROPELLER
Dia. (in.)	23.4	23.4	23.4
Drive/No. Speeds	DIRECT / 1	DIRECT / 1	DIRECT / 1
CFM @ 0.0 in. w.g. ^⑦	2590	3250	3310
Motor — HP/R.P.M.	1/12 / 810	1/6 / 830	1/5 / 830
Volts/Ph/Hz	208-230/1/60	208-230/1/60	208-230/1/60
F.L. Amps/L.R. Amps	0.54 / 0.95	1.0 / 1.7	1.1 / 1.9
INDOOR FAN — TYPE	CENTRIFUGAL	CENTRIFUGAL	CENTRIFUGAL
Dia x Width (in.)	10 X 10	10 X 10	10 X 10
Drive/No. Speeds	DIRECT / VARIABLE	DIRECT / VARIABLE	DIRECT / VARIABLE
CFM @ 0.0 in. w.g. ^⑧	SEE FAN PERFORMANCE TABLE	SEE FAN PERFORMANCE TABLE	SEE FAN PERFORMANCE TABLE
Motor — HP/R.P.M.	1/2 / VARIABLE	1/2 / VARIABLE	1/2 / VARIABLE
Volts/Ph/Hz	200-230/1/60	208-230/1/60	200-230/1/60
F.L. Amps/L.R. Amps	4.3 / 4.3	4.3 / 4.3	4.3 / 4.3
COMBUSTION FAN — TYPE	CENTRIFUGAL	CENTRIFUGAL	CENTRIFUGAL
Drive/No. Speeds	DIRECT / 2	DIRECT / 2	DIRECT / 2
Motor — HP/R.P.M. (High/Low)	1/45 / 2800/1500	1/45 / 2800/1500	1/45 / 2800/1500
Volts/Ph/Hz	208-230/1/60	208-230/1/60	208-230/1/60
FLA	0.34	0.34	0.34
FILTER / FURNISHED	NO	NO	NO
Type Recommended	THROWAWAY	THROWAWAY	THROWAWAY
Recmd. Face Area (sq. ft.) ^⑥	4	4	4
REFRIGERANT / Charge (lbs.)	R410A / 6.5	R410A / 6.56	R410A / 7.5
DIMENSIONS	H X W X L	H X W X L	H X W X L
Crated (in.)	45.86 / 44.5 / 52.03	45.86 / 44.5 / 52.03	47.86 / 44.5 / 52.03
WEIGHT / Shipping / Net (lbs.)	481 / 385	481 / 385	488 / 392

① Certified in accordance with the Unitary Air-Conditioner Equipment certification program, which is based on AHRI Standard 210/240.

② All models are U L Listed. Ratings shown are for elevations up to 2000 ft. For higher elevations reduce ratings at a rate of 4% per 1000 ft. elevation.

③ Convertible to LPG.

④ This value is approximate. For more precise value, see Unit Nameplate.

⑤ Based on U.S. Government Standard Tests.

⑥ Filters must be installed in return air stream. Square footages listed are based on 300 f.p.m. face velocity. If permanent filters are used size per manufacturer's recommendation with a clean resistance of 0.05" W.C.

⑦ Sound Power values are not adjusted for AHRI 270-95 tonal corrections.

⑧ Standard Air — Dry Coil — Outdoor.

General Data

MODEL	4DCY4036B3075A	4DCY4042A1096B	4DCY4048B1096B
RATED Volts/PH/Hz	208-230/3/60	208-230/1/60	208-230/1/60
Performance Cooling BTUH^①	36000	42000	47500
Indoor Airflow (CFM)	1185	1370	1470
Power Input (KW)	3.28	3.27	3.96
EEER/SEER(BTU/Watt-Hr) ^⑤	11.4 / 14.0	12.0 / 14.25	12.0 / 14.0
Sound Power Rating [dB(A)] ^⑦	69	74	73
HP Heating Performance			
(High Temp.)BTUH / COP	32400 / 3.5	39500 / 3.6	45000 / 3.5
Power Input (KW)	2.7	3.27	3.77
(Low Temp.) BTUH / COP	20600 / 2.36	23600 / 2.26	26800 / 2.3
Power Input (KW)	2.6	3.06	3.44
HSPF (BTU / Watt-Hr.)	8.0	8.0	8.0
Gas Heating Performance^②			
(High) Input BTUH	75000	96000	96000
Capacity BTUH	60500	77500	77500
Temp. Rise — Min/Max (°F)	30 / 60	30 / 60	30 / 60
(Low) Input BTUH	56250	72000	72000
Capacity BTUH	48400	62000	62000
AFUE	80.0	80	80
Type of Gas ^③	NATURAL	NATURAL/LP	NATURAL
Gas Pipe Size (in.)	1/2	1/2	1/2
POWER CONN.—V/PH/Hz	208-230/3/60	208-230/1/60	208-230/1/60
Min. Brch. Cir. Ampacity ^④	18.5	31.5	33.9
Fuse Size — Max. (amps)	25	50	50
Fuse Size — Recmd. (amps)	25	50	50
COMPRESSOR	SCROLL	SCROLL	SCROLL
Volts/Ph/Hz	208-230/3/60	208-230/1/60	208-230/1/60
R.L. Amps — L.R. Amps	10.4 / 73	18.6 / 105	20.5 / 109
OUTDOOR COIL — TYPE	SPINE-FIN	SPINE-FIN	SPINE-FIN
Rows/F.P.I.	2 / 24	2 / 24	2 / 24
Face Area (sq.ft.)	15.49	18.01	18.01
Tube Size (in.)	3/8	3/8	3/8
Refrigerant Control	EXPANSION VALVE	EXPANSION VALVE	EXPANSION VALVE
INDOOR COIL — TYPE	PLATE FIN	PLATE FIN	PLATE FIN
Rows/F.P.I.	4 / 15	3 / 15	3 / 15
Face Area (sq.ft.)	3.54	5	5.0
Tube Size (in.)	3/8	3/8	3/8
Refrigerant Control	EXPANSION VALVE	EXPANSION VALVE	EXPANSION VALVE
Drain Conn. Size (in.)	3/4 FEMALE NPT	3/4 FEMALE NPT	3/4 FEMALE NPT
OUTDOOR FAN — TYPE	PROPELLER	PROPELLER	PROPELLER
Dia. (in.)	23.4	28.2	28.2
Drive/No. Speeds	DIRECT / 1	DIRECT / 1	DIRECT / 1
CFM @ 0.0 in. w.g. ^⑧	3270	4440	4450
Motor — HP/R.P.M.	1/5 / 830	1/4 / 825	1/4 / 825
Volts/Ph/Hz	208-230/1/60	208-230/1/60	208-230/1/60
F.L. Amps/L.R. Amps	1.1 / 1.9	1.5 / 3.4	1.4 / 3.5
INDOOR FAN — TYPE	CENTRIFUGAL	CENTRIFUGAL	CENTRIFUGAL
Dia x Width (in.)	10 X 10	11 X 10	11 X 10
Drive/No. Speeds	DIRECT / VARIABLE	DIRECT / VARIABLE	DIRECT / VARIABLE
CFM @ 0.0 in. w.g. ^⑤	SEE FAN PERFORMANCE TABLE	SEE FAN PERFORMANCE TABLE	SEE FAN PERFORMANCE TABLE
Motor — HP/R.P.M.	1/2 / VARIABLE	3/4 / VARIABLE	3/4 / VARIABLE
Volts/Ph/Hz	200-230/1/60	208-230/1/60	200-230/1/60
F.L. Amps/L.R. Amps	4.3 / 4.3	6.8 / 6.8	6.8 / 6.8
COMBUSTION FAN — TYPE	CENTRIFUGAL	CENTRIFUGAL	CENTRIFUGAL
Drive/No. Speeds	DIRECT / 2	DIRECT / 2	DIRECT / 2
Motor — HP/R.P.M. (High/Low)	1/45 / 2800/1500	1/45 / 2800/1500	1/45 / 2800/1500
Volts/Ph/Hz	208-230/1/60	208-230/1/60	208-230/1/60
FLA	0.34	0.34	0.34
FILTER / FURNISHED	NO	NO	NO
Type Recommended	THROWAWAY	THROWAWAY	THROWAWAY
Recmd. Face Area (sq. ft.) ^⑥	4	5.3	5.3
REFRIGERANT / Charge (lbs.)	R410A / 7.4	R410A / 7.25	R410A / 7.75
DIMENSIONS	H X W X L	H X W X L	H X W X L
Crated (in.)	47.86 / 44.5 / 52.03	47.86 / 47.4 / 61.75	47.86 / 47.4 / 61.75
WEIGHT / Shipping / Net (lbs.)	488 / 392	653 / 525	653 / 525

① Certified in accordance with the Unitary Air-Conditioner Equipment certification program, which is based on AHRI Standard 210/240.

② All models are U L Listed. Ratings shown are for elevations up to 2000 ft. For higher elevations reduce ratings at a rate of 4% per 1000 ft. elevation.

③ Convertible to LPG.

④ This value is approximate. For more precise value, see Unit Nameplate.

⑤ Based on U.S. Government Standard Tests.

⑥ Filters must be installed in return air stream. Square footages listed are based on 300 f.p.m. face velocity. If permanent filters are used size per manufacturer's recommendation with a clean resistance of 0.05" W.C.

⑦ Sound Power values are not adjusted for AHRI 270-95 tonal corrections.

⑧ Standard Air — Dry Coil — Outdoor.

General Data

MODEL	4DCY4048A3096C	4DCY4060B1120C	4DCY4060A3120C
RATED Volts/PH/Hz	208-230/3/60	208-230/1/60	208-230/3/60
Performance Cooling BTUH^①	47000	58000	57500
Indoor Airflow (CFM)	1470	1785	1745
Power Input (KW)	4.03	4.83	5.48
EER/SEER(BTU/Watt-Hr.)^②	10.85 / 14.0	12.0 / 14.0	11.3 / 14.0
Sound Power Rating [dB(A)]^⑦	73	76	76
HP Heating Performance			
(High Temp.)BTUH / COP	42500 / 3.5	55000 / 3.6	54500 / 3.5
Power Input (KW)	3.56	4.48	4.56
(Low Temp.) BTUH / COP	26800 / 2.3	35400 / 2.4	36400 / 2.48
Power Input (KW)	3.44	4.30	4.29
HSPF (BTU / Watt-Hr.)	8.0	8.0	8.0
Gas Heating Performance^②			
(High) Input BTUH	96000	120000	120000
Capacity BTUH	77500	96000	96000
Temp. Rise — Min/Max (°F)	30 / 60	30 / 60	30 / 60
(Low) Input BTUH	72000	90000	90000
Capacity BTUH	62000	77500	77500
AFUE	80	80.0	80.0
Type of Gas ^③	NATURAL	NATURAL	NATURAL
Gas Pipe Size (in.)	1/2	1/2	1/2
POWER CONN.—V/PH/HZ	208-230/3/60	208-230/1/60	208-230/3/60
Min. Brch. Cir. Ampacity ^④	25.3	39.9	28.6
Fuse Size — Max. (amps)	35	60	45
Fuse Size — Recmd. (amps)	35	60	45
COMPRESSOR	SCROLL	SCROLL	SCROLL
Volts/Ph/Hz	208-230/3/60	208-230/1/60	208-230/3/60
R.L. Amps — L.R. Amps	13.7 / 83.1	25 / 134	16.0 / 110
OUTDOOR COIL — TYPE	SPINE-FIN	SPINE-FIN	SPINE-FIN
Rows/F.P.I.	2 / 24	2 / 24	2 / 24
Face Area (sq.ft.)	18.01	23.07	23.57
Tube Size (in.)	3/8	3/8	3/8
Refrigerant Control	EXPANSION VALVE	EXPANSION VALVE	EXPANSION VALVE
INDOOR COIL — TYPE	PLATE FIN	PLATE FIN	PLATE FIN
Rows/F.P.I.	3 / 15	4 / 15	4 / 15
Face Area (sq.ft.)	5.0	5.0	5.0
Tube Size (in.)	3/8	3/8	3/8
Refrigerant Control	EXPANSION VALVE	EXPANSION VALVE	EXPANSION VALVE
Drain Conn. Size (in.)	3/4 FEMALE NPT	3/4 FEMALE NPT	3/4 FEMALE NPT
OUTDOOR FAN — TYPE	PROPELLER	PROPELLER	PROPELLER
Dia. (in.)	28.2	28.2	28.2
Drive/No. Speeds	DIRECT / 1	DIRECT / 1	DIRECT / 1
CFM @ 0.0 in. w.g. ^⑤	4450	5710	5710
Motor — HP/R.P.M.	1/4 / 825	1/3 / 830	1/3 / 830
Volts/Ph/Hz	208-230/1/60	208-230/1/60	208-230/1/60
E.L. Amps/L.R. Amps	1.4 / 3.5	1.7 / 3.5	1.7 / 3.5
INDOOR FAN — TYPE	CENTRIFUGAL	CENTRIFUGAL	CENTRIFUGAL
Dia x Width (in.)	11 X 10	11 X 10	11 X 10
Drive/No. Speeds	DIRECT / VARIABLE	DIRECT / VARIABLE	DIRECT / VARIABLE
CFM @ 0.0 in. w.g. ^⑤	SEE FAN PERFORMANCE TABLE	SEE FAN PERFORMANCE TABLE	SEE FAN PERFORMANCE TABLE
Motor — HP/R.P.M.	3/4 / VARIABLE	1 / VARIABLE	1 / VARIABLE
Volts/Ph/Hz	200-230/1/60	208-230/1/60	208-230/1/60
E.L. Amps/L.R. Amps	6.8 / 6.8	6.9 / 6.9	6.9 / 6.9
COMBUSTION FAN — TYPE	CENTRIFUGAL	CENTRIFUGAL	CENTRIFUGAL
Drive/No. Speeds	DIRECT / 2	DIRECT / 2	DIRECT / 2
Motor — HP/R.P.M. (High/Low)	1/45 / 2800/1500	1/45 / 2800/1500	1/45 / 2800/1500
Volts/Ph/Hz	208-230/1/60	208-230/1/60	208-230/1/60
ELA	0.34	0.34	0.34
FILTER / FURNISHED	NO	NO	NO
Type Recommended	THROWAWAY	THROWAWAY	THROWAWAY
Recmd. Face Area (sq. ft.) ^⑥	5.3	6.7	6.7
REFRIGERANT / Charge (lbs.)	R410A / 7.75	R410A / 11.94	R410A / 10.125
DIMENSIONS	H X W X L	H X W X L	H X W X L
Crated (in.)	47.86 / 47.4 / 61.75	51.86 / 47.4 / 61.75	51.86 / 47.4 / 61.75
WEIGHT / Shipping / Net (lbs.)	653 / 525	676 / 548	676 / 548

① Certified in accordance with the Unitary Air-Conditioner Equipment certification program, which is based on AHRI Standard 210/240.

② All models are U.L.L. Listed. Ratings shown are for elevations up to 2000 ft. For higher elevations reduce ratings at a rate of 4% per 1000 ft. elevation.

③ Convertible to LPG.

④ This value is approximate. For more precise value, see Unit Nameplate.

⑤ Based on U.S. Government Standard Tests.

⑥ Filters must be installed in return air stream. Square footages listed are based on 300 f.p.m. face velocity. If permanent filters are used size per manufacturer's recommendation with a clean resistance of 0.05" W.C.

⑦ Sound Power values are not adjusted for AHRI 270-95 tonal corrections.

⑧ Standard Air — Dry Coil — Outdoor.



TECHNICAL GUIDE

R-410A ZE/ZF/ZR/XN/XP SERIES 3 - 6 TON 60 Hertz



Description

YORK® ZE/ZF/ZR/XN/XP Series units are convertible single package high efficiency rooftops with a common roof curb for the 3, 4, 5 and 6 Ton sizes (ZE, ZR, XN, XP not available in 6 Ton). Although the units are primarily designed for curb mounting on a roof, they can also be slab-mounted at ground level or set on steel beams above a finished roof.

All ZE/ZF/ZR/XN/XP Series units are self-contained and assembled on rigid full perimeter base rails allowing for overhead rigging. Every unit is completely charged, wired, piped and tested at the factory to provide a quick and easy field installation.

All models (including those with an economizer) are convertible between bottom and horizontal duct connections.

ZE/ZF/ZR Series units are available in the following configurations: cooling only, cooling with electric heat, and cooling with one or two stage gas heat. Electric heaters are available as factory-installed option or field installed accessory.

XN/XP Series units are available in the following configurations: cooling and heating only and cooling and heating with electric heat.

Tested in accordance with:

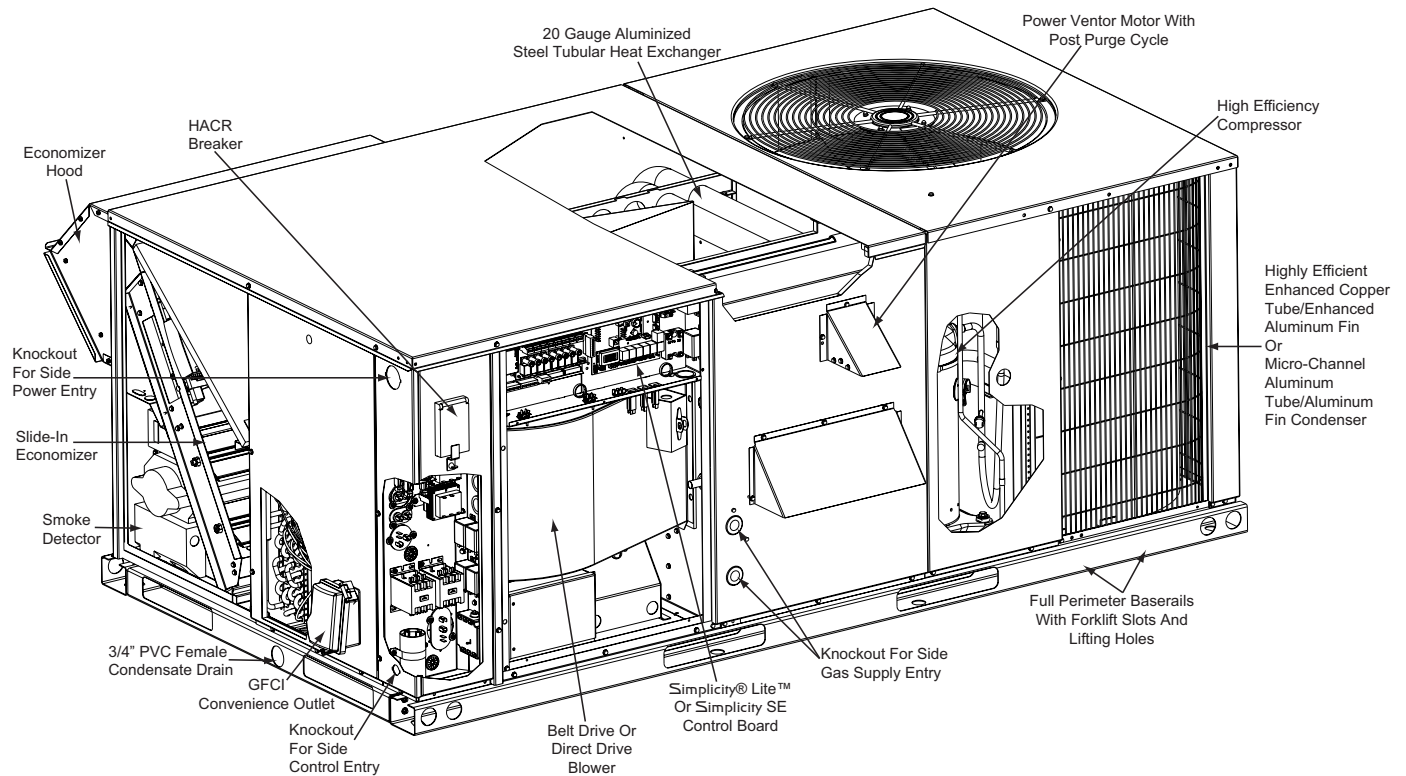


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Component Location

Gas/Electric



Sound Performance

ZF/ZR/XP Indoor Sound Power Levels

Size (Tons)	CFM	ESP (IWG)	Blower		Sound Power, dB (10 ⁻¹²) Watts								
					Sound Rating ¹ dB (A)	Octave Band Centerline Frequency (Hz)							
			RPM	BHP		63	125	250	500	1000	2000	4000	8000
036 (3.0)	1200	0.2	630	0.41	63	82	77	59	50	43	42	40	45
048 (4.0)	1600	0.2	791	0.54	72	95	84	58	54	46	44	45	44
060 (5.0)	2000	0.2	840	0.67	62	84	71	58	53	50	49	49	49
072 (6.0)	2200	0.3	920	1.45	76	61	71	68	67	72	66	61	54

1. These values have been accessed using a model of sound propagation from a point source into the hemispheric/free field. The dBA values provided are to be used for reference only. Calculation of dBA values cover matters of system design and the fan manufacture has no way of knowing the details of each system. This constitutes an exception to any specification or guarantee requiring a dBA value of sound data in any other form than sound power level ratings.

ZE/ZF/ZR Outdoor Sound Power Levels

Size (Tons)	Sound Rating ¹ dB (A)	Octave Band Centerline Frequency (Hz)							
		63	125	250	500	1000	2000	4000	8000
036 (3.0)	81	87.5	86.0	81.0	77.0	75.0	69.5	65.5	70.5
048 (4.0)	80	84.5	81.0	80.0	78.0	75.0	70.0	67.0	70.5
060 (5.0)	82	86.5	87.5	81.5	77.5	75.0	71.5	68.0	70.5
072 (6.0)	83	-	84.0	85.0	79.0	80.0	72.0	67.5	62.5

1. Rated in accordance with AHRI 270 standard.

XN/XP Outdoor Sound Power Levels

Size (Tons)	Sound Rating ¹ dB (A)	Octave Band Centerline Frequency (Hz)							
		63	125	250	500	1000	2000	4000	8000
036 (3.0)	76	83.5	84.5	76.5	72.0	68.0	66.0	60.0	56.0
048 (4.0)	80	85.0	83.0	81.0	77.5	75.5	71.5	67.5	61.5
060 (5.0)	80	86.0	84.0	81.0	77.0	75.5	71.0	66.5	60.5

1. Rated in accordance with AHRI 270 standard.



PREDATOR[®]

TECHNICAL GUIDE

R-410A

ZF SERIES

6.5 - 12.5 TON

60 Hertz



ZF 6.5 THROUGH 10 TON



ZF12.5 TON

Description

ASHRAE 90.1 COMPLIANT

YORK[®] Predator[®] units are convertible single packages with a common footprint cabinet and common roof curb for all 6.5 through 12.5 ton models. All units have two compressors with independent refrigeration circuits to provide 2 stages of cooling. The units were designed for light commercial applications and can be easily installed on a roof curb, slab, or frame.

All Predator[®] units are self-contained and assembled on rigid full perimeter base rails allowing for 3-way forklift access and overhead rigging. Every unit is completely charged, wired, piped, and tested at the factory to provide a quick and easy field installation.

Predator[®] units in all tonnage sizes are convertible between side airflow and down airflow, with corresponding economizer if economizer option is desired.

Predator[®] units are available in the following configurations: cooling only, cooling with electric heat, and cooling with gas heat. Electric heaters are available as factory-installed options or field-installed accessories.

All units provide constant supply air volume. A variable air volume (VAV) option, which features a variable frequency drive (VFD), is available on 6.5 through 12.5 ton models.



Tested in accordance with:

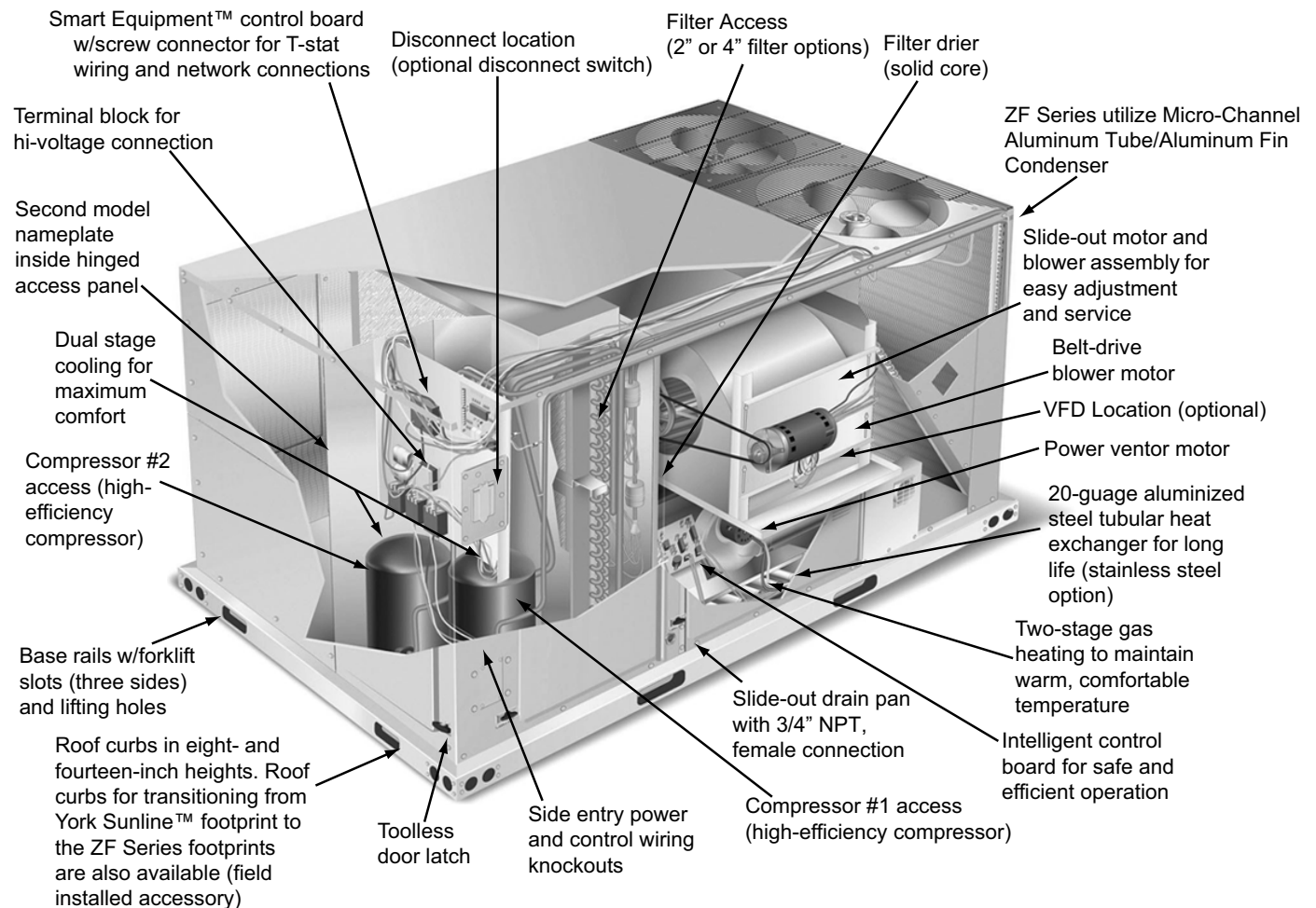


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Component Location

Cooling With Gas Heat



Electric Heat Multipliers

Voltage		kW Capacity Multipliers ¹
Nominal	Applied	
240	208	0.75
	230	0.92
480	460	0.92
600	575	0.92

1. Electric heaters are rated at nominal voltage. Use this table to determine the electric heat capacity for heaters applied at lower voltages.

Sound Performance

Indoor Sound Power Levels

Size (Tons)	Model	CFM	ESP (IWG)	Blower		Sound Rating ¹ dB (A)	Sound Power, dB (10 ⁻¹²) Watts							
				RPM	BHP		Octave Band Centerline Frequency (Hz)							
							63	125	250	500	1000	2000	4000	8000
078 (6.5)	ZF	2600	0.6	812	1.14	74	71	73	73	71	69	65	65	60
090 (7.5)	ZF	3000	0.6	854	1.47	77	74	76	76	74	72	68	68	63
102 (8.5)	ZF	3400	0.6	872	1.65	80	77	79	79	77	75	71	71	66
120 (10)	ZF	4000	0.6	959	2.29	83	80	82	82	80	78	74	74	69
150 (12.5)	ZF	5000	0.6	1132	3.74	87	84	86	86	84	82	78	78	73

1. These values have been accessed using a model of sound propagation from a point source into the hemispheric/free field. The dBA values provided are to be used for reference only. Calculation of dBA values cover matters of system design and the fan manufacture has no way of knowing the details of each system. This constitutes an exception to any specification or guarantee requiring a dBA value of sound data in any other form than sound power level ratings.

Outdoor Sound Power Levels

ZF078-150

Size (Tons)	Model	Sound Rating ¹ dB (A)	Octave Band Centerline Frequency (Hz)							
			63	125	250	500	1000	2000	4000	8000
078 (6.5)	ZF	84	86.0	87.5	86.0	82.5	79.0	73.5	68.5	62.0
090 (7.5)	ZF	89	89.5	92.0	89.0	87.5	84.0	78.5	73.5	66.5
102 (8.5)	ZF	91	91.5	93.5	92.5	89.0	85.5	80.5	76.0	71.0
120 (10)	ZF	92	99.5	94.5	92.0	90.0	87.0	81.0	76.0	70.0
150 (12.5)	ZF	88	91.0	92.5	90.0	85.0	81.5	77.0	73.0	66.5

1. Rated in accordance with AHRI 270 standard.

Sound Power Level, Sound Pressure Level

Per pg.1.12, Harris, Handbook of Acoustical Noise Measurements and Noise Control:

$L_p = L_w - 20 \cdot \log(R) - 10.9 + C$, in meters - true for spherical spreading

Per Diehl, pg. 80:

(Ref: Diehl, George M. Machinery Acoustics, 1974.)

$L_p = L_d = L_w - 20 \cdot \log(R) + 2.5$, in feet - true for a free field above a reflecting plane.

$L_p = L_w - 20 \cdot \log(R) - 0.5$, in feet - in a free field without a reflecting plane

Per Black and Veatch spreadsheet:

$L_p = L_w - 10 \cdot \log(2\pi R^2)$

Test Lw (dBA)	Test R (Ft)	Diehl (Reflecting Plane): Lp (dBA)
92.0	50.0	60.5

RAY-TRACE PROGRAM (FOR A POINT-SOURCE)

Uses the Equation: $(A_{e4})_{point} = 20 \cdot \log[(2 \cdot \pi \cdot N)^{1/2} / \tanh(2 \cdot \pi \cdot N)^{1/2}] + 5 \text{dB}$
 (Ref. Pg.174, Noise and Vibration Control, L.L. Beranek Editor, 1971 Ed.

Project: Bond Project West Hollywood
 Date: 02/08/21
 By: MG

Please Enter: Using English (E) units or Metric (M) units ? E

Ray Trace Number/Description	Source-Receiver Distance (ft. or m)	Source Base Elev. (ft. or m)	Source Height above Ground (ft. or m)	Receiver Base Elev. (ft. or m)	Receiver Height above Ground (ft. or m)	Horizontal Barrier Dist. (in ref. to source) (ft. or m)	Barrier Base Elev. (ft. or m)	Barrier Height (ft. or m)	Dominant Freq.(Hz)	Source-Rcvr Straight-Line Dist. (ft. or m)	Source-Top-of-Barrier Dist. (ft. or m)	Receiver-Top-of-Barrier Dist. (ft. or m)	Lambda	N _{max}	AE _(barriers) (dB)
1. Source -HVAC Noise 5th Flr Roof to Nearby Resi's	20.0	149.5	4.0	100.0	5.0	10.0	100.0	49.5	500.0	52.5	10.8	45.6	2.3	3.5	18.4
1. Source -HVAC Noise 7th Flr Roof to Nearby Resi's	45.0	171.5	4.0	100.0	5.0	35.0	100.0	71.5	500.0	83.6	35.2	67.2	2.3	16.7	25.2

Traffic Noise Model Input / Output

Dudek						11 October 2022					
MG						TNM 2.5					
INPUT: ROADWAYS						Average pavement type shall be used unless					
PROJECT/CONTRACT:		9127				a State highway agency substantiates the use					
RUN:		SM Blvd/O.Grove We Ho Exist 101122				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	%		
N Fairfax Ave s of Santa Monica Blvd	60.0	point1	1	1,196.5	55.6	100.00				Average	
		point2	2	1,196.5	547.7	100.00					
N Fairfax Ave n of Santa Monica Blvd	60.0	point3	3	1,195.7	613.6	100.00				Average	
		point4	4	1,162.7	1,852.9	100.00				Average	
		point5	5	1,160.1	1,979.6	100.00					
Santa Monica Blvd w. of N. Fairfax	55.0	point6	6	2.1	561.0	100.00				Average	
		point7	7	291.4	563.0	100.00				Average	
		point8	8	737.0	573.4	100.00				Average	
		point9	9	1,197.4	586.5	100.00					
N Orange Grove Ave s of St Mnca Blvd	38.0	point15	15	1,482.2	93.3	100.00				Average	
		point16	16	1,475.6	561.3	100.00					
N Orange Grove Ave n of St Mnca Blvd	38.0	point17	17	1,550.0	600.7	100.00				Average	
		point18	18	1,539.1	1,842.9	100.00					
N Ogden Ave s of Sta Mnca Blvd	38.0	point19	19	1,801.5	89.0	100.00				Average	
		point20	20	1,797.1	554.8	100.00					
N Ogden Ave n of Sta Mnca Blvd	34.0	point21	21	1,921.8	589.8	100.00				Average	
		point22	22	1,919.6	1,814.4	100.00					
N Genessee Ave s of St Mnca Blvd	38.0	point23	23	2,118.6	89.0	100.00				Average	
		point24	24	2,123.0	548.2	100.00					
N Genessee Ave n of St Mnca Blvd	34.0	point25	25	2,249.8	581.0	100.00				Average	
		point26	26	2,247.6	1,838.5	100.00					
Santa Monica Blvd Fairfax to OrngeGrv	55.0	point29	29	1,197.4	586.5	100.00				Average	
		point10	10	1,559.3	577.7	100.00					
Santa Monica Blvd OrngeGrv to Ogdon	55.0	point30	30	1,559.3	577.7	100.00				Average	
		point11	11	1,918.6	567.3	100.00					

INPUT: ROADWAYS**9127**

Santa Monica Blvd Ogdon to Genesee	55.0	point31	31	1,918.6	567.3	100.00				Average	
		point12	12	2,250.1	565.6	100.00					
Santa Monica Blvd e of N Genesee Ave	55.0	point32	32	2,250.1	565.6	100.00				Average	
		point13	13	2,668.4	560.5	100.00				Average	
		point14	14	3,190.6	553.6	100.00					

INPUT: TRAFFIC FOR LAeq1h Volumes

9127

Dudek MG		11 October 2022 TNM 2.5												
INPUT: TRAFFIC FOR LAeq1h Volumes														
PROJECT/CONTRACT:		9127												
RUN:		SM Blvd/O.Grove We Ho Exist 101122												
Roadway		Points												
Name	Name	No.	Segment		MTrucks		HTrucks		Buses		Motorcycles			
			V	S	V	S	V	S	V	S	V	S		
			Autos		veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
N Fairfax Ave s of Santa Monica Blvd	point1	1	2126	35	44	35	22	35	0	0	0	0		
	point2	2												
N Fairfax Ave n of Santa Monica Blvd	point3	3	2087	25	43	25	22	25	0	0	0	0		
	point4	4	2087	25	43	25	22	25	0	0	0	0		
	point5	5												
Santa Monica Blvd w. of N. Fairfax	point6	6	2409	30	50	30	25	30	0	0	0	0		
	point7	7	2409	30	50	30	25	30	0	0	0	0		
	point8	8	2409	30	50	30	25	30	0	0	0	0		
	point9	9												
N Orange GroveAve s of St Mnca Blvd	point15	15	167	25	3	25	2	25	0	0	0	0		
	point16	16												
N Orange GroveAve n of St Mnca Blvd	point17	17	115	25	2	25	1	25	0	0	0	0		
	point18	18												
N Ogden Ave s of Sta Mnca Blvd	point19	19	167	25	3	25	2	25	0	0	0	0		
	point20	20												
N Ogden Ave n of Sta Mnca Blvd	point21	21	228	25	5	25	2	25	0	0	0	0		
	point22	22												
N Genessee Ave s of St Mnca Blvd	point23	23	153	25	3	25	2	25	0	0	0	0		
	point24	24												
N Genessee Ave n of St Mnca Blvd	point25	25	190	25	4	25	2	25	0	0	0	0		
	point26	26												
Santa Monica Blvd Fairfax to OrngeGrv	point29	29	2397	30	49	30	25	30	0	0	0	0		
	point10	10												

INPUT: TRAFFIC FOR LAeq1h Volumes**9127**

Santa Monica Blvd OrngeGrv to Ogdon	point30	30	2427	30	50	30	25	30	0	0	0	0
	point11	11										
Santa Monica Blvd Ogdon to Genesee	point31	31	2456	30	51	30	25	30	0	0	0	0
	point12	12										
Santa Monica Blvd e of N Genesee Ave	point32	32	2417	30	50	30	25	30	0	0	0	0
	point13	13	2417	30	50	30	25	30	0	0	0	0
	point14	14										

INPUT: RECEIVERS

9127

						11 October 2022						
Dudek												
MG												
INPUT: RECEIVERS												
PROJECT/CONTRACT:		9127										
RUN:		SM Blvd/O.Grove We Ho Exist 101122										
Receiver												
Name	No.	#DUs	Coordinates (ground)		Height	Input Sound Levels and Criteria				Active		
			X	Y		Z	above	Existing	Impact Criteria		NR	in
						Ground	L _{Aeq} 1h	L _{Aeq} 1h	Sub'l	Goal	Calc.	
			ft	ft	ft	ft	dBA	dBA	dB	dB		
R1 / ST1 Proj Site on SMB	18	1	1,753.6	613.0	100.00	5.00	0.00	66	10.0	8.0	Y	
R2 /ST2 Resi n of Proj Site	20	1	1,794.5	782.1	100.00	5.00	0.00	66	10.0	8.0	Y	
R3 / ST3 Proj Site on N O.Grove Blvd	21	1	1,572.0	796.3	100.00	5.00	0.00	66	10.0	8.0	Y	
R4 / ST4 child car on N O.Grove Blvd	22	1	1,579.0	923.0	100.00	5.00	0.00	66	10.0	8.0	Y	
R5 / ST5 Resi N Ogden Dr n of SMB	23	1	1,871.6	869.2	100.00	5.00	0.00	66	10.0	8.0	Y	
R6 / ST6 Resi N Ogden Dr n of SMB	24	1	1,944.6	820.6	100.00	5.00	0.00	66	10.0	8.0	Y	
R7 Resi N Fairfax Ave n of SMB	25	1	1,117.4	1,119.3	100.00	5.00	0.00	66	10.0	8.0	Y	
R8 Res N Fairfax Ave s of SMB	26	1	1,132.7	227.5	100.00	5.00	0.00	66	10.0	8.0	Y	
R9 Resi N O.Grove Blvd s of SMB	27	1	1,510.7	217.5	100.00	5.00	0.00	66	10.0	8.0	Y	
R10 Resi N Ogden Dr s of SMB	28	1	1,835.2	266.9	100.00	5.00	0.00	66	10.0	8.0	Y	
R11 Resi N Genessee Ave n of SMB	29	1	2,221.1	904.9	100.00	5.00	0.00	66	10.0	8.0	Y	
R12 Resi N Genessee Ave s of SMB	33	1	2,148.2	231.9	100.00	5.00	0.00	66	10.0	8.0	Y	

Dudek MG									11 October 2022 TNM 2.5										
INPUT: BARRIERS PROJECT/CONTRACT: 9127 RUN: SM Blvd/O.Grove We Ho Exist 101122																			
Barrier									Points										
Name	Type	Height		If Wall \$ per Unit Area	If Berm \$ per Unit Vol.	Top Width	Run:Rise ft:ft	Add'tnl \$ per Unit Length	Name	No.	Coordinates (bottom)			Height at Point	Segment			On Struct?	Important Reflec- tions?
		Min	Max								X	Y	Z		Seg	Ht	Perturbs		
		ft	ft	\$/sq ft	\$/cu yd	ft	ft:ft	\$/ft			ft	ft	ft	ft	ft				
Barrier1	W	0.00	99.99	0.00				0.00	point1	1	1,579.2	860.8	100.00	20.00	0.00	0	0		
									point2	2	1,680.4	860.8	100.00	20.00	0.00	0	0		
									point3	3	1,680.4	873.2	100.00	20.00	0.00	0	0		
									point4	4	1,714.2	873.2	100.00	20.00	0.00	0	0		
									point5	5	1,714.2	898.0	100.00	20.00	0.00	0	0		
									point6	6	1,655.6	898.0	100.00	20.00	0.00	0	0		
									point7	7	1,655.6	900.1	100.00	20.00	0.00	0	0		
									point8	8	1,599.2	900.1	100.00	20.00	0.00	0	0		
									point9	9	1,599.2	877.3	100.00	20.00	0.00	0	0		
									point10	10	1,579.2	877.3	100.00	20.00					
Barrier2	W	0.00	99.99	0.00				0.00	point11	11	1,731.4	863.2	100.00	20.00	0.00	0	0		
									point12	12	1,865.1	861.5	100.00	20.00	0.00	0	0		
									point13	13	1,865.7	907.7	100.00	20.00	0.00	0	0		
Barrier3	W	0.00	99.99	0.00				0.00	point14	14	1,732.0	909.4	100.00	20.00					
									point15	15	1,732.1	915.9	100.00	20.00	0.00	0	0		
									point16	16	1,867.8	915.2	100.00	20.00	0.00	0	0		
									point17	17	1,868.0	960.0	100.00	20.00	0.00	0	0		
									point18	18	1,732.3	960.7	100.00	20.00					
Barrier4	W	0.00	99.99	0.00				0.00	point19	19	1,772.7	610.4	100.00	15.00	0.00	0	0		
									point20	20	1,878.8	609.1	100.00	15.00	0.00	0	0		
									point21	21	1,881.8	760.9	100.00	15.00	0.00	0	0		
									point22	22	1,775.7	760.9	100.00	15.00					
Barrier5	W	0.00	99.99	0.00				0.00	point23	23	1,827.2	773.3	100.00	20.00	0.00	0	0		
									point24	24	1,865.8	773.3	100.00	20.00	0.00	0	0		
									point25	25	1,865.8	807.1	100.00	20.00	0.00	0	0		
									point26	26	1,827.2	807.1	100.00	20.00					
Barrier6	W	0.00	99.99	0.00				0.00	point27	27	1,732.1	966.2	100.00	20.00	0.00	0	0		
									point28	28	1,866.5	966.2	100.00	20.00	0.00	0	0		
									point29	29	1,866.5	1,060.6	100.00	20.00	0.00	0	0		
									point30	30	1,732.1	1,060.6	100.00	20.00					
Barrier7	W	0.00	99.99	0.00				0.00	point31	31	1,940.6	765.7	100.00	20.00	0.00	0	0		
									point32	32	1,977.8	765.4	100.00	20.00	0.00	0	0		
									point33	33	1,978.2	807.8	100.00	20.00	0.00	0	0		
Barrier8	W	0.00	99.99	0.00				0.00	point34	34	1,941.0	808.1	100.00	20.00					
									point36	36	1,951.3	815.2	100.00	20.00	0.00	0	0		

INPUT: BARRIERS

9127

									point37	37	2,061.9	813.6	100.00	20.00	0.00	0	0	
									point38	38	2,062.6	844.2	100.00	20.00	0.00	0	0	
Barrier9	W	0.00	99.99	0.00			0.00		point39	39	1,951.7	845.8	100.00	20.00				
									point40	40	1,953.7	903.1	100.00	20.00	0.00	0	0	
									point41	41	1,953.4	863.2	100.00	20.00	0.00	0	0	
									point42	42	2,083.6	862.1	100.00	20.00	0.00	0	0	
Barrier10	W	0.00	99.99	0.00			0.00		point43	43	2,083.9	902.0	100.00	20.00				
									point45	45	1,954.1	917.6	100.00	20.00	0.00	0	0	
									point46	46	2,043.3	916.6	100.00	20.00	0.00	0	0	
									point47	47	2,043.8	957.6	100.00	20.00	0.00	0	0	
									point48	48	1,973.4	958.4	100.00	20.00	0.00	0	0	
									point49	49	1,973.3	949.3	100.00	20.00	0.00	0	0	
Barrier11	W	0.00	99.99	0.00			0.00		point50	50	1,954.5	949.5	100.00	20.00				
									point52	52	1,864.9	814.0	100.00	20.00	0.00	0	0	
									point53	53	1,865.4	852.9	100.00	20.00	0.00	0	0	
Barrier12	W	0.00	99.99	0.00			0.00		point54	54	1,828.9	853.2	100.00	20.00				
									point56	56	1,736.8	816.1	100.00	20.00	0.00	0	0	
									point57	57	1,819.5	815.0	100.00	20.00	0.00	0	0	
									point58	58	1,820.3	848.0	100.00	20.00	0.00	0	0	
Barrier13	W	0.00	99.99	0.00			0.00		point59	59	1,736.6	848.0	100.00	20.00				
									point60	60	1,622.5	611.7	100.00	15.00	0.00	0	0	
									point61	61	1,676.0	609.5	100.00	15.00	0.00	0	0	
									point62	62	1,673.9	692.0	100.00	15.00	0.00	0	0	
									point63	63	1,619.2	692.0	100.00	15.00				
Barrier14	W	0.00	99.99	0.00			0.00		point64	64	1,676.6	611.1	100.00	15.00	0.00	0	0	
									point65	65	1,724.7	610.5	100.00	15.00	0.00	0	0	
									point66	66	1,723.1	760.3	100.00	15.00	0.00	0	0	
									point67	67	1,622.5	759.8	100.00	15.00	0.00	0	0	
									point68	68	1,623.0	709.5	100.00	15.00	0.00	0	0	
Barrier15	W	0.00	99.99	0.00			0.00		point69	69	1,673.3	709.5	100.00	15.00				
									point70	70	1,621.4	731.4	100.00	20.00	0.00	0	0	
									point71	71	1,620.8	761.5	100.00	20.00	0.00	0	0	
									point72	72	1,569.4	761.5	100.00	20.00	0.00	0	0	
Barrier16	W	0.00	99.99	0.00			0.00		point73	73	1,571.1	731.4	100.00	20.00				
									point74	74	1,946.7	609.2	100.00	15.00	0.00	0	0	
									point75	75	2,093.8	607.1	100.00	15.00	0.00	0	0	
									point76	76	2,094.7	675.9	100.00	15.00	0.00	0	0	
									point77	77	2,047.8	676.6	100.00	15.00	0.00	0	0	
									point78	78	2,047.3	643.1	100.00	15.00	0.00	0	0	
Barrier17	W	0.00	99.99	0.00			0.00		point79	79	1,948.6	643.3	100.00	15.00				
									point81	81	1,468.0	629.3	100.00	15.00	0.00	0	0	
									point82	82	1,508.7	628.9	100.00	15.00	0.00	0	0	
									point83	83	1,507.5	680.5	100.00	15.00	0.00	0	0	
Barrier18	W	0.00	99.99	0.00			0.00		point84	84	1,465.8	681.0	100.00	15.00				
									point85	85	1,448.9	727.8	100.00	20.00	0.00	0	0	
									point86	86	1,509.2	727.8	100.00	20.00	0.00	0	0	
									point87	87	1,510.5	830.3	100.00	20.00	0.00	0	0	
									point88	88	1,471.4	830.3	100.00	20.00	0.00	0	0	
									point89	89	1,471.4	815.5	100.00	20.00	0.00	0	0	

INPUT: BARRIERS

9127

Barrier19	W	0.00	99.99	0.00				0.00	point90	90	1,447.6	815.5	100.00	20.00				
									point91	91	1,350.3	841.5	100.00	20.00	0.00	0	0	
									point92	92	1,507.4	840.7	100.00	20.00	0.00	0	0	
									point93	93	1,508.2	981.3	100.00	20.00	0.00	0	0	
									point94	94	1,406.4	981.8	100.00	20.00	0.00	0	0	
									point95	95	1,406.5	1,011.6	100.00	20.00	0.00	0	0	
Barrier20	W	0.00	99.99	0.00				0.00	point96	96	1,351.3	1,011.8	100.00	20.00				
									point97	97	1,572.9	1,017.9	100.00	20.00	0.00	0	0	
									point98	98	1,709.3	1,018.6	100.00	20.00	0.00	0	0	
									point99	99	1,708.8	1,113.0	100.00	20.00	0.00	0	0	
Barrier21	W	0.00	99.99	0.00				0.00	point100	100	1,572.4	1,112.3	100.00	20.00				
									point101	101	1,500.2	532.9	100.00	15.00	0.00	0	0	
									point102	102	1,773.6	532.9	100.00	15.00	0.00	0	0	
									point103	103	1,773.6	408.9	100.00	15.00	0.00	0	0	
									point104	104	1,664.8	408.9	100.00	15.00	0.00	0	0	
									point105	105	1,664.8	459.9	100.00	15.00	0.00	0	0	
									point106	106	1,500.2	459.9	100.00	15.00				
									point108	108	1,930.5	531.7	100.00	15.00	0.00	0	0	
Barrier22	W	0.00	99.99	0.00				0.00	point109	109	2,094.5	530.3	100.00	15.00	0.00	0	0	
									point110	110	2,093.9	462.7	100.00	15.00	0.00	0	0	
									point111	111	1,960.8	463.9	100.00	15.00	0.00	0	0	
									point112	112	1,960.4	406.3	100.00	15.00	0.00	0	0	
									point113	113	1,929.5	406.5	100.00	15.00				
									point115	115	2,071.9	389.2	100.00	20.00	0.00	0	0	
Barrier23	W	0.00	99.99	0.00				0.00	point116	116	2,075.8	145.0	100.00	20.00	0.00	0	0	
									point117	117	1,852.2	143.7	100.00	20.00	0.00	0	0	
									point118	118	1,848.4	385.6	100.00	20.00				
									point119	119	1,643.6	389.3	100.00	20.00	0.00	0	0	
Barrier24	W	0.00	99.99	0.00				0.00	point120	120	1,759.3	388.0	100.00	20.00	0.00	0	0	
									point121	121	1,760.7	97.3	100.00	20.00	0.00	0	0	
									point122	122	1,649.1	98.6	100.00	20.00				
									point123	123	1,519.6	106.9	100.00	20.00	0.00	0	0	
Barrier25	W	0.00	99.99	0.00				0.00	point124	124	1,628.3	105.9	100.00	20.00	0.00	0	0	
									point125	125	1,630.1	295.5	100.00	20.00	0.00	0	0	
									point126	126	1,603.6	295.8	100.00	20.00	0.00	0	0	
									point127	127	1,604.1	349.2	100.00	20.00	0.00	0	0	
									point128	128	1,579.2	349.4	100.00	20.00	0.00	0	0	
									point129	129	1,579.5	382.5	100.00	20.00	0.00	0	0	
									point130	130	1,544.4	382.8	100.00	20.00	0.00	0	0	
									point131	131	1,544.0	348.0	100.00	20.00	0.00	0	0	
Barrier26	W	0.00	99.99	0.00				0.00	point132	132	1,521.9	348.2	100.00	20.00				
									point133	133	1,953.8	970.7	100.00	20.00	0.00	0	0	
									point134	134	2,087.4	969.0	100.00	20.00	0.00	0	0	
									point135	135	2,092.4	1,352.6	100.00	20.00	0.00	0	0	
Barrier27	W	0.00	99.99	0.00				0.00	point136	136	1,958.8	1,354.4	100.00	20.00				
									point137	137	2,125.0	740.4	100.00	20.00	0.00	0	0	
									point138	138	2,215.2	740.4	100.00	20.00	0.00	0	0	
									point139	139	2,215.2	920.9	100.00	20.00	0.00	0	0	
									point140	140	2,125.0	920.9	100.00	20.00				

INPUT: BARRIERS

9127

Barrier28	W	0.00	99.99	0.00				0.00	point141	141	2,125.0	933.0	100.00	20.00	0.00	0	0	
									point142	142	2,206.6	933.0	100.00	20.00	0.00	0	0	
									point143	143	2,206.6	1,408.3	100.00	20.00	0.00	0	0	
									point144	144	2,125.0	1,408.3	100.00	20.00				
Barrier29	W	0.00	99.99	0.00				0.00	point145	145	1,449.8	475.1	100.00	15.00	0.00	0	0	
									point146	146	1,449.3	542.9	100.00	15.00	0.00	0	0	
									point147	147	1,251.3	544.6	100.00	15.00	0.00	0	0	
									point148	148	1,250.7	475.7	100.00	15.00				
Barrier30	W	0.00	99.99	0.00				0.00	point149	149	1,135.4	413.3	100.00	15.00	0.00	0	0	
									point150	150	1,134.1	528.3	100.00	15.00	0.00	0	0	
									point151	151	836.7	524.9	100.00	15.00	0.00	0	0	
									point152	152	837.9	409.9	100.00	15.00				
Barrier31	W	0.00	99.99	0.00				0.00	point153	153	1,141.1	624.3	100.00	15.00	0.00	0	0	
									point154	154	1,141.1	766.2	100.00	15.00	0.00	0	0	
									point155	155	876.5	766.2	100.00	15.00	0.00	0	0	
									point156	156	876.5	672.5	100.00	15.00	0.00	0	0	
									point157	157	977.1	672.5	100.00	15.00	0.00	0	0	
									point158	158	977.1	624.3	100.00	15.00				
Barrier32	W	0.00	99.99	0.00				0.00	point159	159	1,136.9	788.3	100.00	20.00	0.00	0	0	
									point160	160	1,138.3	922.0	100.00	20.00	0.00	0	0	
									point161	161	1,030.9	923.1	100.00	20.00	0.00	0	0	
									point162	162	1,029.5	789.4	100.00	20.00				
Barrier33	W	0.00	99.99	0.00				0.00	point163	163	1,223.8	861.3	100.00	20.00	0.00	0	0	
									point164	164	1,223.8	917.8	100.00	20.00	0.00	0	0	
									point165	165	1,349.2	917.8	100.00	20.00	0.00	0	0	
									point166	166	1,349.2	861.3	100.00	20.00				
Barrier34	W	0.00	99.99	0.00				0.00	point167	167	1,324.4	989.5	100.00	20.00	0.00	0	0	
									point168	168	1,327.2	1,138.3	100.00	20.00	0.00	0	0	
									point169	169	1,371.2	1,137.5	100.00	20.00	0.00	0	0	
									point170	170	1,372.4	1,200.4	100.00	20.00	0.00	0	0	
									point171	171	1,267.9	1,202.3	100.00	20.00	0.00	0	0	
									point172	172	1,264.8	1,032.2	100.00	20.00	0.00	0	0	
									point173	173	1,237.6	1,032.7	100.00	20.00	0.00	0	0	
									point174	174	1,236.9	991.1	100.00	20.00				
Barrier35	W	0.00	99.99	0.00				0.00	point175	175	1,212.7	1,229.3	100.00	20.00	0.00	0	0	
									point176	176	1,324.4	1,227.9	100.00	20.00	0.00	0	0	
									point177	177	1,324.4	1,267.9	100.00	20.00	0.00	0	0	
									point178	178	1,208.6	1,269.3	100.00	20.00	0.00	0	0	
									point179	179	1,210.0	1,219.6	100.00	20.00				
Barrier36	W	0.00	99.99	0.00				0.00	point180	180	1,101.1	979.9	100.00	20.00	0.00	0	0	
									point181	181	1,098.4	1,081.8	100.00	20.00	0.00	0	0	
									point182	182	929.0	1,077.3	100.00	20.00	0.00	0	0	
									point183	183	931.7	975.3	100.00	20.00				
Barrier37	W	0.00	99.99	0.00				0.00	point185	185	2,276.6	610.3	100.00	15.00	0.00	0	0	
									point186	186	2,276.6	697.9	100.00	15.00	0.00	0	0	
									point187	187	2,642.7	697.9	100.00	15.00	0.00	0	0	
									point188	188	2,642.7	610.3	100.00	15.00				
Barrier38	W	0.00	99.99	0.00				0.00	point189	189	1,089.5	389.4	100.00	20.00	0.00	0	0	
									point190	190	1,087.3	242.8	100.00	20.00	0.00	0	0	

INPUT: BARRIERS

9127

									point191	191	1,128.8	242.2	100.00	20.00	0.00	0	0		
									point192	192	1,131.0	388.8	100.00	20.00					
Barrier39	W	0.00	99.99	0.00			0.00		point194	194	1,352.7	394.4	100.00	20.00	0.00	0	0		
									point195	195	1,446.4	392.7	100.00	20.00	0.00	0	0		
									point196	196	1,444.7	305.9	100.00	20.00	0.00	0	0		
									point197	197	1,350.9	307.6	100.00	20.00					
Barrier40	W	0.00	99.99	0.00			0.00		point198	198	1,260.6	285.0	100.00	20.00	0.00	0	0		
									point199	199	1,429.1	283.3	100.00	20.00	0.00	0	0		
									point200	200	1,432.4	92.4	100.00	20.00	0.00	0	0		
									point201	201	1,258.7	94.1	100.00	20.00					
Barrier41	W	0.00	99.99	0.00			0.00		point202	202	2,145.4	522.9	100.00	15.00	0.00	0	0		
									point203	203	2,147.6	398.2	100.00	15.00	0.00	0	0		
									point204	204	2,414.4	398.5	100.00	15.00	0.00	0	0		
									point205	205	2,414.4	523.2	100.00	15.00					
Barrier42	W	0.00	99.99	0.00			0.00		point206	206	2,160.8	277.8	100.00	20.00	0.00	0	0		
									point207	207	2,165.1	46.0	100.00	20.00	0.00	0	0		
									point208	208	2,285.4	43.8	100.00	20.00	0.00	0	0		
									point209	209	2,281.1	275.7	100.00	20.00					

RESULTS: SOUND LEVELS

9127

Dudek													11 October 2022	
MG													TNM 2.5	
													Calculated with TNM 2.5	
RESULTS: SOUND LEVELS														
PROJECT/CONTRACT:		9127												
RUN:		SM Blvd/O.Grove We Ho Exist 101122												
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		Type Impact	With Barrier		Noise Reduction			
						Calculated	Crit'n		Calculated LAeq1h	Calculated	Goal	Calculated minus Goal		
							Sub'l Inc							
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB		
R1 / ST1 Proj Site on SMB	18	1	0.0	67.7	66	67.7	10	Snd Lvl	67.7	0.0	8	-8.0		
R2 /ST2 Resi n of Proj Site	20	1	0.0	43.3	66	43.3	10	----	43.3	0.0	8	-8.0		
R3 / ST3 Proj Site on N O.Grove Blvd	21	1	0.0	56.6	66	56.6	10	----	56.6	0.0	8	-8.0		
R4 / ST4 child car on N O.Grove Blvd	22	1	0.0	54.4	66	54.4	10	----	54.4	0.0	8	-8.0		
R5 / ST5 Resi N Ogden Dr n of SMB	23	1	0.0	55.0	66	55.0	10	----	55.0	0.0	8	-8.0		
R6 / ST6 Resi N Ogden Dr n of SMB	24	1	0.0	58.3	66	58.3	10	----	58.3	0.0	8	-8.0		
R7 Resi N Fairfax Ave n of SMB	25	1	0.0	63.2	66	63.2	10	----	63.2	0.0	8	-8.0		
R8 Res N Fairfax Ave s of SMB	26	1	0.0	66.2	66	66.2	10	Snd Lvl	66.2	0.0	8	-8.0		
R9 Resi N O.Grove Blvd s of SMB	27	1	0.0	56.1	66	56.1	10	----	56.1	0.0	8	-8.0		
R10 Resi N Ogden Dr s of SMB	28	1	0.0	55.7	66	55.7	10	----	55.7	0.0	8	-8.0		
R11 Resi N Genessee Ave n of SMB	29	1	0.0	57.3	66	57.3	10	----	57.3	0.0	8	-8.0		
R12 Resi N Genessee Ave s of SMB	33	1	0.0	56.3	66	56.3	10	----	56.3	0.0	8	-8.0		
Dwelling Units		# DUs	Noise Reduction											
			Min	Avg	Max									
			dB	dB	dB									
All Selected		12	0.0	0.0	0.0									
All Impacted		2	0.0	0.0	0.0									
All that meet NR Goal		0	0.0	0.0	0.0									

Dudek						11 October 2022					
MG						TNM 2.5					
INPUT: ROADWAYS						Average pavement type shall be used unless					
PROJECT/CONTRACT:		9127				a State highway agency substantiates the use					
RUN:		SM Blvd/O.Grove We Ho Exi w Prj101122				of a different type with the approval of FHWA					
Roadway Name	Width	Points Name	No.	Coordinates X	(pavement) Y	Z	Flow Control Control Device	Speed Constraint	Percent Vehicles Affected	Segment Pvmt Type	On Struct?
	ft			ft	ft	ft		mph	%		
N Fairfax Ave s of Santa Monica Blvd	60.0	point1	1	1,196.5	55.6	100.00				Average	
		point2	2	1,196.5	547.7	100.00					
N Fairfax Ave n of Santa Monica Blvd	60.0	point3	3	1,195.7	613.6	100.00				Average	
		point4	4	1,162.7	1,852.9	100.00				Average	
		point5	5	1,160.1	1,979.6	100.00					
Santa Monica Blvd w. of N. Fairfax	55.0	point6	6	2.1	561.0	100.00				Average	
		point7	7	291.4	563.0	100.00				Average	
		point8	8	737.0	573.4	100.00				Average	
		point9	9	1,197.4	586.5	100.00					
N Orange Grove Ave s of St Mnca Blvd	38.0	point15	15	1,482.2	93.3	100.00				Average	
		point16	16	1,475.6	561.3	100.00					
N Orange Grove Ave n of St Mnca Blvd	38.0	point17	17	1,550.0	600.7	100.00				Average	
		point18	18	1,539.1	1,842.9	100.00					
N Ogden Ave s of Sta Mnca Blvd	38.0	point19	19	1,801.5	89.0	100.00				Average	
		point20	20	1,797.1	554.8	100.00					
N Ogden Ave n of Sta Mnca Blvd	34.0	point21	21	1,921.8	589.8	100.00				Average	
		point22	22	1,919.6	1,814.4	100.00					
N Genessee Ave s of St Mnca Blvd	38.0	point23	23	2,118.6	89.0	100.00				Average	
		point24	24	2,123.0	548.2	100.00					
N Genessee Ave n of St Mnca Blvd	34.0	point25	25	2,249.8	581.0	100.00				Average	
		point26	26	2,247.6	1,838.5	100.00					
Santa Monica Blvd Fairfax to OrngeGrv	55.0	point29	29	1,197.4	586.5	100.00				Average	
		point10	10	1,559.3	577.7	100.00					
Santa Monica Blvd OrngeGrv to Ogdon	55.0	point30	30	1,559.3	577.7	100.00				Average	
		point11	11	1,918.6	567.3	100.00					

INPUT: ROADWAYS**9127**

Santa Monica Blvd Ogdon to Genesee	55.0	point31	31	1,918.6	567.3	100.00				Average	
		point12	12	2,250.1	565.6	100.00					
Santa Monica Blvd e of N Genesee Ave	55.0	point32	32	2,250.1	565.6	100.00				Average	
		point13	13	2,668.4	560.5	100.00				Average	
		point14	14	3,190.6	553.6	100.00					

INPUT: TRAFFIC FOR LAeq1h Volumes

9127

Dudek MG		11 October 2022 TNM 2.5											
INPUT: TRAFFIC FOR LAeq1h Volumes													
PROJECT/CONTRACT:		9127											
RUN:		SM Blvd/O.Grove We Ho Exi w Prj101122											
Roadway	Points												
Name	Name	No.	Segment		MTrucks		HTrucks		Buses		Motorcycles		
			V	S	V	S	V	S	V	S	V	S	
			Autos										
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	
N Fairfax Ave s of Santa Monica Blvd	point1	1	2135	35	44	35	22	35	0	0	0	0	
	point2	2											
N Fairfax Ave n of Santa Monica Blvd	point3	3	2093	25	43	25	22	25	0	0	0	0	
	point4	4	2093	25	43	25	22	25	0	0	0	0	
	point5	5											
Santa Monica Blvd w. of N. Fairfax	point6	6	2421	30	50	30	25	30	0	0	0	0	
	point7	7	2421	30	50	30	25	30	0	0	0	0	
	point8	8	2421	30	50	30	25	30	0	0	0	0	
	point9	9											
N Orange GroveAve s of St Mnca Blvd	point15	15	167	25	3	25	2	25	0	0	0	0	
	point16	16											
N Orange GroveAve n of St Mnca Blvd	point17	17	132	25	3	25	1	25	0	0	0	0	
	point18	18											
N Ogden Ave s of Sta Mnca Blvd	point19	19	167	25	3	25	2	25	0	0	0	0	
	point20	20											
N Ogden Ave n of Sta Mnca Blvd	point21	21	237	25	5	25	2	25	0	0	0	0	
	point22	22											
N Genessee Ave s of St Mnca Blvd	point23	23	157	25	3	25	2	25	0	0	0	0	
	point24	24											
N Genessee Ave n of St Mnca Blvd	point25	25	190	25	4	25	2	25	0	0	0	0	
	point26	26											
Santa Monica Blvd Fairfax to OrngeGrv	point29	29	2412	30	50	30	25	30	0	0	0	0	
	point10	10											

INPUT: TRAFFIC FOR LAeq1h Volumes**9127**

Santa Monica Blvd OrngeGrv to Ogdon	point30	30	2441	30	50	30	25	30	0	0	0	0
	point11	11										
Santa Monica Blvd Ogdon to Genesee	point31	31	2474	30	51	30	26	30	0	0	0	0
	point12	12										
Santa Monica Blvd e of N Genesee Ave	point32	32	2431	30	50	30	25	30	0	0	0	0
	point13	13	2431	30	50	30	25	30	0	0	0	0
	point14	14										

INPUT: RECEIVERS

9127

						11 October 2022					
						TNM 2.5					
Dudek											
MG											
INPUT: RECEIVERS											
PROJECT/CONTRACT:		9127									
RUN:		SM Blvd/O.Grove We Ho Exi w Prj101122									
Receiver											
Name	No.	#DUs	Coordinates (ground)		Height	Input Sound Levels and Criteria				Active	
			X	Y		Z	above	Existing	Impact Criteria		NR
						Ground	L _{Aeq} 1h	L _{Aeq} 1h	Sub'l	Goal	in
			ft	ft	ft	ft	dBA	dBA	dB	dB	Calc.
R1 / ST1 Proj Site on SMB	18	1	1,753.6	613.0	100.00	5.00	0.00	66	10.0	8.0	Y
R2 /ST2 Resi n of Proj Site	20	1	1,794.5	782.1	100.00	5.00	0.00	66	10.0	8.0	Y
R3 / ST3 Proj Site on N O.Grove Blvd	21	1	1,572.0	796.3	100.00	5.00	0.00	66	10.0	8.0	Y
R4 / ST4 child car on N O.Grove Blvd	22	1	1,579.0	923.0	100.00	5.00	0.00	66	10.0	8.0	Y
R5 / ST5 Resi N Ogden Dr n of SMB	23	1	1,871.6	869.2	100.00	5.00	0.00	66	10.0	8.0	Y
R6 / ST6 Resi N Ogden Dr n of SMB	24	1	1,944.6	820.6	100.00	5.00	0.00	66	10.0	8.0	Y
R7 Resi N Fairfax Ave n of SMB	25	1	1,117.4	1,119.3	100.00	5.00	0.00	66	10.0	8.0	Y
R8 Res N Fairfax Ave s of SMB	26	1	1,132.7	227.5	100.00	5.00	0.00	66	10.0	8.0	Y
R9 Resi N O.Grove Blvd s of SMB	27	1	1,510.7	217.5	100.00	5.00	0.00	66	10.0	8.0	Y
R10 Resi N Ogden Dr s of SMB	28	1	1,835.2	266.9	100.00	5.00	0.00	66	10.0	8.0	Y
R11 Resi N Genessee Ave n of SMB	29	1	2,221.1	904.9	100.00	5.00	0.00	66	10.0	8.0	Y
R12 Resi N Genessee Ave s of SMB	33	1	2,148.2	231.9	100.00	5.00	0.00	66	10.0	8.0	Y

Dudek MG									11 October 2022 TNM 2.5										
INPUT: BARRIERS PROJECT/CONTRACT: 9127 RUN: SM Blvd/O.Grove We Ho Exi w Prj101122																			
Barrier									Points										
Name	Type	Height		If Wall \$ per Unit Area	If Berm \$ per Unit Vol.	Top Width	Run:Rise ft:ft	Add'tnl \$ per Unit Length	Name	No.	Coordinates (bottom)			Height at Point	Segment				Important Reflec- tions?
		Min	Max								X	Y	Z		Incre-	#Up	#Dn	Struct?	
		ft	ft	\$/sq ft	\$/cu yd	ft	ft:ft	\$/ft			ft	ft	ft	ft	ft				
Barrier1	W	0.00	99.99	0.00				0.00	point1	1	1,579.2	860.8	100.00	20.00	0.00	0	0		
									point2	2	1,680.4	860.8	100.00	20.00	0.00	0	0		
									point3	3	1,680.4	873.2	100.00	20.00	0.00	0	0		
									point4	4	1,714.2	873.2	100.00	20.00	0.00	0	0		
									point5	5	1,714.2	898.0	100.00	20.00	0.00	0	0		
									point6	6	1,655.6	898.0	100.00	20.00	0.00	0	0		
									point7	7	1,655.6	900.1	100.00	20.00	0.00	0	0		
									point8	8	1,599.2	900.1	100.00	20.00	0.00	0	0		
									point9	9	1,599.2	877.3	100.00	20.00	0.00	0	0		
									point10	10	1,579.2	877.3	100.00	20.00					
Barrier2	W	0.00	99.99	0.00				0.00	point11	11	1,731.4	863.2	100.00	20.00	0.00	0	0		
									point12	12	1,865.1	861.5	100.00	20.00	0.00	0	0		
									point13	13	1,865.7	907.7	100.00	20.00	0.00	0	0		
Barrier3	W	0.00	99.99	0.00				0.00	point14	14	1,732.0	909.4	100.00	20.00					
									point15	15	1,732.1	915.9	100.00	20.00	0.00	0	0		
									point16	16	1,867.8	915.2	100.00	20.00	0.00	0	0		
									point17	17	1,868.0	960.0	100.00	20.00	0.00	0	0		
									point18	18	1,732.3	960.7	100.00	20.00					
Barrier4	W	0.00	99.99	0.00				0.00	point19	19	1,772.7	610.4	100.00	15.00	0.00	0	0		
									point20	20	1,878.8	609.1	100.00	15.00	0.00	0	0		
									point21	21	1,881.8	760.9	100.00	15.00	0.00	0	0		
									point22	22	1,775.7	760.9	100.00	15.00					
Barrier5	W	0.00	99.99	0.00				0.00	point23	23	1,827.2	773.3	100.00	20.00	0.00	0	0		
									point24	24	1,865.8	773.3	100.00	20.00	0.00	0	0		
									point25	25	1,865.8	807.1	100.00	20.00	0.00	0	0		
									point26	26	1,827.2	807.1	100.00	20.00					
Barrier6	W	0.00	99.99	0.00				0.00	point27	27	1,732.1	966.2	100.00	20.00	0.00	0	0		
									point28	28	1,866.5	966.2	100.00	20.00	0.00	0	0		
									point29	29	1,866.5	1,060.6	100.00	20.00	0.00	0	0		
									point30	30	1,732.1	1,060.6	100.00	20.00					
Barrier7	W	0.00	99.99	0.00				0.00	point31	31	1,940.6	765.7	100.00	20.00	0.00	0	0		
									point32	32	1,977.8	765.4	100.00	20.00	0.00	0	0		
									point33	33	1,978.2	807.8	100.00	20.00	0.00	0	0		
									point34	34	1,941.0	808.1	100.00	20.00					
Barrier8	W	0.00	99.99	0.00				0.00	point35	35	1,951.3	815.2	100.00	20.00	0.00	0	0		
									point36	36	1,951.3	815.2	100.00	20.00	0.00	0	0		

INPUT: BARRIERS

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									point37	37	2,061.9	813.6	100.00	20.00	0.00	0	0	
									point38	38	2,062.6	844.2	100.00	20.00	0.00	0	0	
Barrier9	W	0.00	99.99	0.00			0.00		point39	39	1,951.7	845.8	100.00	20.00				
									point40	40	1,953.7	903.1	100.00	20.00	0.00	0	0	
									point41	41	1,953.4	863.2	100.00	20.00	0.00	0	0	
									point42	42	2,083.6	862.1	100.00	20.00	0.00	0	0	
Barrier10	W	0.00	99.99	0.00			0.00		point43	43	2,083.9	902.0	100.00	20.00				
									point45	45	1,954.1	917.6	100.00	20.00	0.00	0	0	
									point46	46	2,043.3	916.6	100.00	20.00	0.00	0	0	
									point47	47	2,043.8	957.6	100.00	20.00	0.00	0	0	
									point48	48	1,973.4	958.4	100.00	20.00	0.00	0	0	
									point49	49	1,973.3	949.3	100.00	20.00	0.00	0	0	
Barrier11	W	0.00	99.99	0.00			0.00		point50	50	1,954.5	949.5	100.00	20.00				
									point52	52	1,864.9	814.0	100.00	20.00	0.00	0	0	
									point53	53	1,865.4	852.9	100.00	20.00	0.00	0	0	
Barrier12	W	0.00	99.99	0.00			0.00		point54	54	1,828.9	853.2	100.00	20.00				
									point56	56	1,736.8	816.1	100.00	20.00	0.00	0	0	
									point57	57	1,819.5	815.0	100.00	20.00	0.00	0	0	
									point58	58	1,820.3	848.0	100.00	20.00	0.00	0	0	
Barrier13	W	0.00	99.99	0.00			0.00		point59	59	1,736.6	848.0	100.00	20.00				
									point60	60	1,622.5	611.7	100.00	15.00	0.00	0	0	
									point61	61	1,676.0	609.5	100.00	15.00	0.00	0	0	
									point62	62	1,673.9	692.0	100.00	15.00	0.00	0	0	
Barrier14	W	0.00	99.99	0.00			0.00		point63	63	1,619.2	692.0	100.00	15.00				
									point64	64	1,676.6	611.1	100.00	15.00	0.00	0	0	
									point65	65	1,724.7	610.5	100.00	15.00	0.00	0	0	
									point66	66	1,723.1	760.3	100.00	15.00	0.00	0	0	
									point67	67	1,622.5	759.8	100.00	15.00	0.00	0	0	
									point68	68	1,623.0	709.5	100.00	15.00	0.00	0	0	
Barrier15	W	0.00	99.99	0.00			0.00		point69	69	1,673.3	709.5	100.00	15.00				
									point70	70	1,621.4	731.4	100.00	20.00	0.00	0	0	
									point71	71	1,620.8	761.5	100.00	20.00	0.00	0	0	
									point72	72	1,569.4	761.5	100.00	20.00	0.00	0	0	
Barrier16	W	0.00	99.99	0.00			0.00		point73	73	1,571.1	731.4	100.00	20.00				
									point74	74	1,946.7	609.2	100.00	15.00	0.00	0	0	
									point75	75	2,093.8	607.1	100.00	15.00	0.00	0	0	
									point76	76	2,094.7	675.9	100.00	15.00	0.00	0	0	
									point77	77	2,047.8	676.6	100.00	15.00	0.00	0	0	
									point78	78	2,047.3	643.1	100.00	15.00	0.00	0	0	
Barrier17	W	0.00	99.99	0.00			0.00		point79	79	1,948.6	643.3	100.00	15.00				
									point81	81	1,468.0	629.3	100.00	15.00	0.00	0	0	
									point82	82	1,508.7	628.9	100.00	15.00	0.00	0	0	
									point83	83	1,507.5	680.5	100.00	15.00	0.00	0	0	
Barrier18	W	0.00	99.99	0.00			0.00		point84	84	1,465.8	681.0	100.00	15.00				
									point85	85	1,448.9	727.8	100.00	20.00	0.00	0	0	
									point86	86	1,509.2	727.8	100.00	20.00	0.00	0	0	
									point87	87	1,510.5	830.3	100.00	20.00	0.00	0	0	
									point88	88	1,471.4	830.3	100.00	20.00	0.00	0	0	
									point89	89	1,471.4	815.5	100.00	20.00	0.00	0	0	

INPUT: BARRIERS

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Barrier19	W	0.00	99.99	0.00				0.00	point90	90	1,447.6	815.5	100.00	20.00				
									point91	91	1,350.3	841.5	100.00	20.00	0.00	0	0	
									point92	92	1,507.4	840.7	100.00	20.00	0.00	0	0	
									point93	93	1,508.2	981.3	100.00	20.00	0.00	0	0	
									point94	94	1,406.4	981.8	100.00	20.00	0.00	0	0	
									point95	95	1,406.5	1,011.6	100.00	20.00	0.00	0	0	
Barrier20	W	0.00	99.99	0.00				0.00	point96	96	1,351.3	1,011.8	100.00	20.00				
									point97	97	1,572.9	1,017.9	100.00	20.00	0.00	0	0	
									point98	98	1,709.3	1,018.6	100.00	20.00	0.00	0	0	
									point99	99	1,708.8	1,113.0	100.00	20.00	0.00	0	0	
Barrier21	W	0.00	99.99	0.00				0.00	point100	100	1,572.4	1,112.3	100.00	20.00				
									point101	101	1,500.2	532.9	100.00	15.00	0.00	0	0	
									point102	102	1,773.6	532.9	100.00	15.00	0.00	0	0	
									point103	103	1,773.6	408.9	100.00	15.00	0.00	0	0	
									point104	104	1,664.8	408.9	100.00	15.00	0.00	0	0	
									point105	105	1,664.8	459.9	100.00	15.00	0.00	0	0	
									point106	106	1,500.2	459.9	100.00	15.00				
									point108	108	1,930.5	531.7	100.00	15.00	0.00	0	0	
Barrier22	W	0.00	99.99	0.00				0.00	point109	109	2,094.5	530.3	100.00	15.00	0.00	0	0	
									point110	110	2,093.9	462.7	100.00	15.00	0.00	0	0	
									point111	111	1,960.8	463.9	100.00	15.00	0.00	0	0	
									point112	112	1,960.4	406.3	100.00	15.00	0.00	0	0	
									point113	113	1,929.5	406.5	100.00	15.00				
									point115	115	2,071.9	389.2	100.00	20.00	0.00	0	0	
Barrier23	W	0.00	99.99	0.00				0.00	point116	116	2,075.8	145.0	100.00	20.00	0.00	0	0	
									point117	117	1,852.2	143.7	100.00	20.00	0.00	0	0	
									point118	118	1,848.4	385.6	100.00	20.00				
									point119	119	1,643.6	389.3	100.00	20.00	0.00	0	0	
Barrier24	W	0.00	99.99	0.00				0.00	point120	120	1,759.3	388.0	100.00	20.00	0.00	0	0	
									point121	121	1,760.7	97.3	100.00	20.00	0.00	0	0	
									point122	122	1,649.1	98.6	100.00	20.00				
									point123	123	1,519.6	106.9	100.00	20.00	0.00	0	0	
Barrier25	W	0.00	99.99	0.00				0.00	point124	124	1,628.3	105.9	100.00	20.00	0.00	0	0	
									point125	125	1,630.1	295.5	100.00	20.00	0.00	0	0	
									point126	126	1,603.6	295.8	100.00	20.00	0.00	0	0	
									point127	127	1,604.1	349.2	100.00	20.00	0.00	0	0	
									point128	128	1,579.2	349.4	100.00	20.00	0.00	0	0	
									point129	129	1,579.5	382.5	100.00	20.00	0.00	0	0	
									point130	130	1,544.4	382.8	100.00	20.00	0.00	0	0	
									point131	131	1,544.0	348.0	100.00	20.00	0.00	0	0	
Barrier26	W	0.00	99.99	0.00				0.00	point132	132	1,521.9	348.2	100.00	20.00				
									point133	133	1,953.8	970.7	100.00	20.00	0.00	0	0	
									point134	134	2,087.4	969.0	100.00	20.00	0.00	0	0	
									point135	135	2,092.4	1,352.6	100.00	20.00	0.00	0	0	
Barrier27	W	0.00	99.99	0.00				0.00	point136	136	1,958.8	1,354.4	100.00	20.00				
									point137	137	2,125.0	740.4	100.00	20.00	0.00	0	0	
									point138	138	2,215.2	740.4	100.00	20.00	0.00	0	0	
									point139	139	2,215.2	920.9	100.00	20.00	0.00	0	0	
									point140	140	2,125.0	920.9	100.00	20.00				

INPUT: BARRIERS

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Barrier28	W	0.00	99.99	0.00				0.00	point141	141	2,125.0	933.0	100.00	20.00	0.00	0	0	
									point142	142	2,206.6	933.0	100.00	20.00	0.00	0	0	
									point143	143	2,206.6	1,408.3	100.00	20.00	0.00	0	0	
									point144	144	2,125.0	1,408.3	100.00	20.00				
Barrier29	W	0.00	99.99	0.00				0.00	point145	145	1,449.8	475.1	100.00	15.00	0.00	0	0	
									point146	146	1,449.3	542.9	100.00	15.00	0.00	0	0	
									point147	147	1,251.3	544.6	100.00	15.00	0.00	0	0	
									point148	148	1,250.7	475.7	100.00	15.00				
Barrier30	W	0.00	99.99	0.00				0.00	point149	149	1,135.4	413.3	100.00	15.00	0.00	0	0	
									point150	150	1,134.1	528.3	100.00	15.00	0.00	0	0	
									point151	151	836.7	524.9	100.00	15.00	0.00	0	0	
									point152	152	837.9	409.9	100.00	15.00				
Barrier31	W	0.00	99.99	0.00				0.00	point153	153	1,141.1	624.3	100.00	15.00	0.00	0	0	
									point154	154	1,141.1	766.2	100.00	15.00	0.00	0	0	
									point155	155	876.5	766.2	100.00	15.00	0.00	0	0	
									point156	156	876.5	672.5	100.00	15.00	0.00	0	0	
									point157	157	977.1	672.5	100.00	15.00	0.00	0	0	
									point158	158	977.1	624.3	100.00	15.00				
Barrier32	W	0.00	99.99	0.00				0.00	point159	159	1,136.9	788.3	100.00	20.00	0.00	0	0	
									point160	160	1,138.3	922.0	100.00	20.00	0.00	0	0	
									point161	161	1,030.9	923.1	100.00	20.00	0.00	0	0	
									point162	162	1,029.5	789.4	100.00	20.00				
Barrier33	W	0.00	99.99	0.00				0.00	point163	163	1,223.8	861.3	100.00	20.00	0.00	0	0	
									point164	164	1,223.8	917.8	100.00	20.00	0.00	0	0	
									point165	165	1,349.2	917.8	100.00	20.00	0.00	0	0	
									point166	166	1,349.2	861.3	100.00	20.00				
Barrier34	W	0.00	99.99	0.00				0.00	point167	167	1,324.4	989.5	100.00	20.00	0.00	0	0	
									point168	168	1,327.2	1,138.3	100.00	20.00	0.00	0	0	
									point169	169	1,371.2	1,137.5	100.00	20.00	0.00	0	0	
									point170	170	1,372.4	1,200.4	100.00	20.00	0.00	0	0	
									point171	171	1,267.9	1,202.3	100.00	20.00	0.00	0	0	
									point172	172	1,264.8	1,032.2	100.00	20.00	0.00	0	0	
									point173	173	1,237.6	1,032.7	100.00	20.00	0.00	0	0	
									point174	174	1,236.9	991.1	100.00	20.00				
Barrier35	W	0.00	99.99	0.00				0.00	point175	175	1,212.7	1,229.3	100.00	20.00	0.00	0	0	
									point176	176	1,324.4	1,227.9	100.00	20.00	0.00	0	0	
									point177	177	1,324.4	1,267.9	100.00	20.00	0.00	0	0	
									point178	178	1,208.6	1,269.3	100.00	20.00	0.00	0	0	
									point179	179	1,210.0	1,219.6	100.00	20.00				
									point180	180	1,101.1	979.9	100.00	20.00	0.00	0	0	
Barrier36	W	0.00	99.99	0.00				0.00	point181	181	1,098.4	1,081.8	100.00	20.00	0.00	0	0	
									point182	182	929.0	1,077.3	100.00	20.00	0.00	0	0	
									point183	183	931.7	975.3	100.00	20.00				
									point185	185	2,276.6	610.3	100.00	15.00	0.00	0	0	
Barrier37	W	0.00	99.99	0.00				0.00	point186	186	2,276.6	697.9	100.00	15.00	0.00	0	0	
									point187	187	2,642.7	697.9	100.00	15.00	0.00	0	0	
									point188	188	2,642.7	610.3	100.00	15.00				
									point189	189	1,089.5	389.4	100.00	20.00	0.00	0	0	
Barrier38	W	0.00	99.99	0.00				0.00	point190	190	1,087.3	242.8	100.00	20.00	0.00	0	0	

INPUT: BARRIERS

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									point191	191	1,128.8	242.2	100.00	20.00	0.00	0	0		
									point192	192	1,131.0	388.8	100.00	20.00					
Barrier39	W	0.00	99.99	0.00			0.00		point194	194	1,352.7	394.4	100.00	20.00	0.00	0	0		
									point195	195	1,446.4	392.7	100.00	20.00	0.00	0	0		
									point196	196	1,444.7	305.9	100.00	20.00	0.00	0	0		
									point197	197	1,350.9	307.6	100.00	20.00					
Barrier40	W	0.00	99.99	0.00			0.00		point198	198	1,260.6	285.0	100.00	20.00	0.00	0	0		
									point199	199	1,429.1	283.3	100.00	20.00	0.00	0	0		
									point200	200	1,432.4	92.4	100.00	20.00	0.00	0	0		
									point201	201	1,258.7	94.1	100.00	20.00					
Barrier41	W	0.00	99.99	0.00			0.00		point202	202	2,145.4	522.9	100.00	15.00	0.00	0	0		
									point203	203	2,147.6	398.2	100.00	15.00	0.00	0	0		
									point204	204	2,414.4	398.5	100.00	15.00	0.00	0	0		
									point205	205	2,414.4	523.2	100.00	15.00					
Barrier42	W	0.00	99.99	0.00			0.00		point206	206	2,160.8	277.8	100.00	20.00	0.00	0	0		
									point207	207	2,165.1	46.0	100.00	20.00	0.00	0	0		
									point208	208	2,285.4	43.8	100.00	20.00	0.00	0	0		
									point209	209	2,281.1	275.7	100.00	20.00					

RESULTS: SOUND LEVELS

9127

Dudek													11 October 2022	
MG													TNM 2.5	
													Calculated with TNM 2.5	
RESULTS: SOUND LEVELS														
PROJECT/CONTRACT:		9127												
RUN:		SM Blvd/O.Grove We Ho Exi w Prj101122												
BARRIER DESIGN:		INPUT HEIGHTS												
													Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.	
ATMOSPHERICS:		68 deg F, 50% RH												
Receiver														
Name		No.	#DUs	Existing LAeq1h	No Barrier LAeq1h	Crit'n	Increase over existing	Type	With Barrier	Noise Reduction	Goal	Calculated	Calculated	Calculated
				dBA	dBA	dBA	Calculated	Impact	Calculated	Calculated		LAeq1h	Calculated	minus Goal
							Sub'l Inc							
R1 / ST1 Proj Site on SMB		18	1	0.0	67.7	66	67.7	10	Snd Lvl	67.7	8	0.0	8	-8.0
R2 /ST2 Resi n of Proj Site		20	1	0.0	43.4	66	43.4	10	----	43.4	8	0.0	8	-8.0
R3 / ST3 Proj Site on N O.Grove Blvd		21	1	0.0	57.1	66	57.1	10	----	57.1	8	0.0	8	-8.0
R4 / ST4 child car on N O.Grove Blvd		22	1	0.0	55.0	66	55.0	10	----	55.0	8	0.0	8	-8.0
R5 / ST5 Resi N Ogden Dr n of SMB		23	1	0.0	55.1	66	55.1	10	----	55.1	8	0.0	8	-8.0
R6 / ST6 Resi N Ogden Dr n of SMB		24	1	0.0	58.4	66	58.4	10	----	58.4	8	0.0	8	-8.0
R7 Resi N Fairfax Ave n of SMB		25	1	0.0	63.2	66	63.2	10	----	63.2	8	0.0	8	-8.0
R8 Res N Fairfax Ave s of SMB		26	1	0.0	66.2	66	66.2	10	Snd Lvl	66.2	8	0.0	8	-8.0
R9 Resi N O.Grove Blvd s of SMB		27	1	0.0	56.1	66	56.1	10	----	56.1	8	0.0	8	-8.0
R10 Resi N Ogden Dr s of SMB		28	1	0.0	55.7	66	55.7	10	----	55.7	8	0.0	8	-8.0
R11 Resi N Genessee Ave n of SMB		29	1	0.0	57.3	66	57.3	10	----	57.3	8	0.0	8	-8.0
R12 Resi N Genessee Ave s of SMB		33	1	0.0	56.4	66	56.4	10	----	56.4	8	0.0	8	-8.0
Dwelling Units			# DUs	Noise Reduction										
				Min	Avg	Max								
				dB	dB	dB								
All Selected			12	0.0	0.0	0.0								
All Impacted			2	0.0	0.0	0.0								
All that meet NR Goal			0	0.0	0.0	0.0								

Dudek					11 October 2022						
MG					TNM 2.5						
INPUT: ROADWAYS					Average pavement type shall be used unless						
PROJECT/CONTRACT: 9127					a State highway agency substantiates the use						
RUN: SM Blvd/O.Grove We Ho Cultv 101122					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	%		
N Fairfax Ave s of Santa Monica Blvd	60.0	point1	1	1,196.5	55.6	100.00				Average	
		point2	2	1,196.5	547.7	100.00					
N Fairfax Ave n of Santa Monica Blvd	60.0	point3	3	1,195.7	613.6	100.00				Average	
		point4	4	1,162.7	1,852.9	100.00				Average	
		point5	5	1,160.1	1,979.6	100.00					
Santa Monica Blvd w. of N. Fairfax	55.0	point6	6	2.1	561.0	100.00				Average	
		point7	7	291.4	563.0	100.00				Average	
		point8	8	737.0	573.4	100.00				Average	
		point9	9	1,197.4	586.5	100.00					
N Orange Grove Ave s of St Mnca Blvd	38.0	point15	15	1,482.2	93.3	100.00				Average	
		point16	16	1,475.6	561.3	100.00					
N Orange Grove Ave n of St Mnca Blvd	38.0	point17	17	1,550.0	600.7	100.00				Average	
		point18	18	1,539.1	1,842.9	100.00					
N Ogden Ave s of Sta Mnca Blvd	38.0	point19	19	1,801.5	89.0	100.00				Average	
		point20	20	1,797.1	554.8	100.00					
N Ogden Ave n of Sta Mnca Blvd	34.0	point21	21	1,921.8	589.8	100.00				Average	
		point22	22	1,919.6	1,814.4	100.00					
N Genessee Ave s of St Mnca Blvd	38.0	point23	23	2,118.6	89.0	100.00				Average	
		point24	24	2,123.0	548.2	100.00					
N Genessee Ave n of St Mnca Blvd	34.0	point25	25	2,249.8	581.0	100.00				Average	
		point26	26	2,247.6	1,838.5	100.00					
Santa Monica Blvd Fairfax to OrngeGrv	55.0	point29	29	1,197.4	586.5	100.00				Average	
		point10	10	1,559.3	577.7	100.00					
Santa Monica Blvd OrngeGrv to Ogdon	55.0	point30	30	1,559.3	577.7	100.00				Average	
		point11	11	1,918.6	567.3	100.00					

INPUT: ROADWAYS**9127**

Santa Monica Blvd Ogdon to Genesee	55.0	point31	31	1,918.6	567.3	100.00				Average	
		point12	12	2,250.1	565.6	100.00					
Santa Monica Blvd e of N Genesee Ave	55.0	point32	32	2,250.1	565.6	100.00				Average	
		point13	13	2,668.4	560.5	100.00				Average	
		point14	14	3,190.6	553.6	100.00					

INPUT: TRAFFIC FOR LAeq1h Volumes

9127

Dudek MG		11 October 2022 TNM 2.5										
INPUT: TRAFFIC FOR LAeq1h Volumes												
PROJECT/CONTRACT:		9127										
RUN:		SM Blvd/O.Grove We Ho Cultv 101122										
Roadway	Points											
Name	Name	No.	Segment		MTrucks		HTrucks		Buses		Motorcycles	
			V	S	V	S	V	S	V	S	V	S
			Autos									
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
N Fairfax Ave s of Santa Monica Blvd	point1	1	2519	35	52	35	26	35	0	0	0	0
	point2	2										
N Fairfax Ave n of Santa Monica Blvd	point3	3	2409	25	50	25	25	25	0	0	0	0
	point4	4	2409	25	50	25	25	25	0	0	0	0
	point5	5										
Santa Monica Blvd w. of N. Fairfax	point6	6	3907	30	81	30	40	30	0	0	0	0
	point7	7	3907	30	81	30	40	30	0	0	0	0
	point8	8	3907	30	81	30	40	30	0	0	0	0
	point9	9										
N Orange GroveAve s of St Mnca Blvd	point15	15	201	25	4	25	2	25	0	0	0	0
	point16	16										
N Orange GroveAve n of St Mnca Blvd	point17	17	130	25	3	25	1	25	0	0	0	0
	point18	18										
N Ogden Ave s of Sta Mnca Blvd	point19	19	201	25	4	25	2	25	0	0	0	0
	point20	20										
N Ogden Ave n of Sta Mnca Blvd	point21	21	252	25	5	25	3	25	0	0	0	0
	point22	22										
N Genessee Ave s of St Mnca Blvd	point23	23	183	25	4	25	2	25	0	0	0	0
	point24	24										
N Genessee Ave n of St Mnca Blvd	point25	25	210	25	4	25	2	25	0	0	0	0
	point26	26										
Santa Monica Blvd Fairfax to OrngeGrv	point29	29	3944	30	81	30	41	30	0	0	0	0
	point10	10										

INPUT: TRAFFIC FOR LAeq1h Volumes**9127**

Santa Monica Blvd OrngeGrv to Ogdon	point30	30	3981	30	82	30	41	30	0	0	0	0
	point11	11										
Santa Monica Blvd Ogdon to Genesee	point31	31	4012	30	83	30	41	30	0	0	0	0
	point12	12										
Santa Monica Blvd e of N Genesee Ave	point32	32	3975	30	82	30	41	30	0	0	0	0
	point13	13	3975	30	82	30	41	30	0	0	0	0
	point14	14										

INPUT: RECEIVERS

9127

Dudek						11 October 2022					
MG						TNM 2.5					
INPUT: RECEIVERS											
PROJECT/CONTRACT:		9127									
RUN:		SM Blvd/O.Grove We Ho Cultv 101122									
Receiver											
Name	No.	#DUs	Coordinates (ground)		Height	Input Sound Levels and Criteria				Active	
			X	Y		Z	above	Existing	Impact Criteria		NR
						Ground	LAeq1h	LAeq1h	Sub'l	Goal	Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
R1 / ST1 Proj Site on SMB	18	1	1,753.6	613.0	100.00	5.00	0.00	66	10.0	8.0	Y
R2 /ST2 Resi n of Proj Site	20	1	1,794.5	782.1	100.00	5.00	0.00	66	10.0	8.0	Y
R3 / ST3 Proj Site on N O.Grove Blvd	21	1	1,572.0	796.3	100.00	5.00	0.00	66	10.0	8.0	Y
R4 / ST4 child car on N O.Grove Blvd	22	1	1,579.0	923.0	100.00	5.00	0.00	66	10.0	8.0	Y
R5 / ST5 Resi N Ogden Dr n of SMB	23	1	1,871.6	869.2	100.00	5.00	0.00	66	10.0	8.0	Y
R6 / ST6 Resi N Ogden Dr n of SMB	24	1	1,944.6	820.6	100.00	5.00	0.00	66	10.0	8.0	Y
R7 Resi N Fairfax Ave n of SMB	25	1	1,117.4	1,119.3	100.00	5.00	0.00	66	10.0	8.0	Y
R8 Res N Fairfax Ave s of SMB	26	1	1,132.7	227.5	100.00	5.00	0.00	66	10.0	8.0	Y
R9 Resi N O.Grove Blvd s of SMB	27	1	1,510.7	217.5	100.00	5.00	0.00	66	10.0	8.0	Y
R10 Resi N Ogden Dr s of SMB	28	1	1,835.2	266.9	100.00	5.00	0.00	66	10.0	8.0	Y
R11 Resi N Genessee Ave n of SMB	29	1	2,221.1	904.9	100.00	5.00	0.00	66	10.0	8.0	Y
R12 Resi N Genessee Ave s of SMB	33	1	2,148.2	231.9	100.00	5.00	0.00	66	10.0	8.0	Y

Dudek MG									11 October 2022 TNM 2.5										
INPUT: BARRIERS PROJECT/CONTRACT: 9127 RUN: SM Blvd/O.Grove We Ho Cultv 101122																			
Barrier									Points										
Name	Type	Height		If Wall \$ per Unit Area	If Berm \$ per Unit Vol.	Top Width	Run:Rise ft:ft	Add'tnl \$ per Unit Length	Name	No.	Coordinates (bottom)			Height at Point	Segment				Important Reflec- tions?
		Min	Max								X	Y	Z		Seg	Ht	Perturbs	On	
		ft	ft	\$/sq ft	\$/cu yd	ft	ft:ft	\$/ft			ft	ft	ft	ft	ft				
Barrier1	W	0.00	99.99	0.00				0.00	point1	1	1,579.2	860.8	100.00	20.00	0.00	0	0		
									point2	2	1,680.4	860.8	100.00	20.00	0.00	0	0		
									point3	3	1,680.4	873.2	100.00	20.00	0.00	0	0		
									point4	4	1,714.2	873.2	100.00	20.00	0.00	0	0		
									point5	5	1,714.2	898.0	100.00	20.00	0.00	0	0		
									point6	6	1,655.6	898.0	100.00	20.00	0.00	0	0		
									point7	7	1,655.6	900.1	100.00	20.00	0.00	0	0		
									point8	8	1,599.2	900.1	100.00	20.00	0.00	0	0		
									point9	9	1,599.2	877.3	100.00	20.00	0.00	0	0		
									point10	10	1,579.2	877.3	100.00	20.00					
Barrier2	W	0.00	99.99	0.00				0.00	point11	11	1,731.4	863.2	100.00	20.00	0.00	0	0		
									point12	12	1,865.1	861.5	100.00	20.00	0.00	0	0		
									point13	13	1,865.7	907.7	100.00	20.00	0.00	0	0		
									point14	14	1,732.0	909.4	100.00	20.00					
Barrier3	W	0.00	99.99	0.00				0.00	point15	15	1,732.1	915.9	100.00	20.00	0.00	0	0		
									point16	16	1,867.8	915.2	100.00	20.00	0.00	0	0		
									point17	17	1,868.0	960.0	100.00	20.00	0.00	0	0		
									point18	18	1,732.3	960.7	100.00	20.00					
Barrier4	W	0.00	99.99	0.00				0.00	point19	19	1,772.7	610.4	100.00	15.00	0.00	0	0		
									point20	20	1,878.8	609.1	100.00	15.00	0.00	0	0		
									point21	21	1,881.8	760.9	100.00	15.00	0.00	0	0		
									point22	22	1,775.7	760.9	100.00	15.00					
Barrier5	W	0.00	99.99	0.00				0.00	point23	23	1,827.2	773.3	100.00	20.00	0.00	0	0		
									point24	24	1,865.8	773.3	100.00	20.00	0.00	0	0		
									point25	25	1,865.8	807.1	100.00	20.00	0.00	0	0		
									point26	26	1,827.2	807.1	100.00	20.00					
Barrier6	W	0.00	99.99	0.00				0.00	point27	27	1,732.1	966.2	100.00	20.00	0.00	0	0		
									point28	28	1,866.5	966.2	100.00	20.00	0.00	0	0		
									point29	29	1,866.5	1,060.6	100.00	20.00	0.00	0	0		
									point30	30	1,732.1	1,060.6	100.00	20.00					
Barrier7	W	0.00	99.99	0.00				0.00	point31	31	1,940.6	765.7	100.00	20.00	0.00	0	0		
									point32	32	1,977.8	765.4	100.00	20.00	0.00	0	0		
									point33	33	1,978.2	807.8	100.00	20.00	0.00	0	0		
									point34	34	1,941.0	808.1	100.00	20.00					
Barrier8	W	0.00	99.99	0.00				0.00	point35	35	1,951.3	815.2	100.00	20.00	0.00	0	0		
									point36	36	1,951.3	815.2	100.00	20.00	0.00	0	0		

INPUT: BARRIERS

9127

									point37	37	2,061.9	813.6	100.00	20.00	0.00	0	0	
									point38	38	2,062.6	844.2	100.00	20.00	0.00	0	0	
Barrier9	W	0.00	99.99	0.00			0.00		point39	39	1,951.7	845.8	100.00	20.00				
									point40	40	1,953.7	903.1	100.00	20.00	0.00	0	0	
									point41	41	1,953.4	863.2	100.00	20.00	0.00	0	0	
									point42	42	2,083.6	862.1	100.00	20.00	0.00	0	0	
Barrier10	W	0.00	99.99	0.00			0.00		point43	43	2,083.9	902.0	100.00	20.00				
									point45	45	1,954.1	917.6	100.00	20.00	0.00	0	0	
									point46	46	2,043.3	916.6	100.00	20.00	0.00	0	0	
									point47	47	2,043.8	957.6	100.00	20.00	0.00	0	0	
									point48	48	1,973.4	958.4	100.00	20.00	0.00	0	0	
									point49	49	1,973.3	949.3	100.00	20.00	0.00	0	0	
									point50	50	1,954.5	949.5	100.00	20.00				
Barrier11	W	0.00	99.99	0.00			0.00		point52	52	1,864.9	814.0	100.00	20.00	0.00	0	0	
									point53	53	1,865.4	852.9	100.00	20.00	0.00	0	0	
									point54	54	1,828.9	853.2	100.00	20.00				
Barrier12	W	0.00	99.99	0.00			0.00		point56	56	1,736.8	816.1	100.00	20.00	0.00	0	0	
									point57	57	1,819.5	815.0	100.00	20.00	0.00	0	0	
									point58	58	1,820.3	848.0	100.00	20.00	0.00	0	0	
									point59	59	1,736.6	848.0	100.00	20.00				
Barrier13	W	0.00	99.99	0.00			0.00		point60	60	1,622.5	611.7	100.00	15.00	0.00	0	0	
									point61	61	1,676.0	609.5	100.00	15.00	0.00	0	0	
									point62	62	1,673.9	692.0	100.00	15.00	0.00	0	0	
									point63	63	1,619.2	692.0	100.00	15.00				
Barrier14	W	0.00	99.99	0.00			0.00		point64	64	1,676.6	611.1	100.00	15.00	0.00	0	0	
									point65	65	1,724.7	610.5	100.00	15.00	0.00	0	0	
									point66	66	1,723.1	760.3	100.00	15.00	0.00	0	0	
									point67	67	1,622.5	759.8	100.00	15.00	0.00	4	0	
									point68	68	1,623.0	709.5	100.00	15.00	0.00	0	0	
									point69	69	1,673.3	709.5	100.00	15.00				
Barrier15	W	0.00	99.99	0.00			0.00		point70	70	1,621.4	731.4	100.00	20.00	0.00	0	0	
									point71	71	1,620.8	761.5	100.00	20.00	0.00	0	0	
									point72	72	1,569.4	761.5	100.00	20.00	0.00	0	0	
									point73	73	1,571.1	731.4	100.00	20.00				
Barrier16	W	0.00	99.99	0.00			0.00		point74	74	1,946.7	609.2	100.00	15.00	0.00	0	0	
									point75	75	2,093.8	607.1	100.00	15.00	0.00	0	0	
									point76	76	2,094.7	675.9	100.00	15.00	0.00	0	0	
									point77	77	2,047.8	676.6	100.00	15.00	0.00	0	0	
									point78	78	2,047.3	643.1	100.00	15.00	0.00	0	0	
									point79	79	1,948.6	643.3	100.00	15.00				
Barrier17	W	0.00	99.99	0.00			0.00		point81	81	1,468.0	629.3	100.00	15.00	0.00	0	0	
									point82	82	1,508.7	628.9	100.00	15.00	0.00	0	0	
									point83	83	1,507.5	680.5	100.00	15.00	0.00	0	0	
									point84	84	1,465.8	681.0	100.00	15.00				
Barrier18	W	0.00	99.99	0.00			0.00		point85	85	1,448.9	727.8	100.00	20.00	0.00	0	0	
									point86	86	1,509.2	727.8	100.00	20.00	0.00	0	0	
									point87	87	1,510.5	830.3	100.00	20.00	0.00	0	0	
									point88	88	1,471.4	830.3	100.00	20.00	0.00	0	0	
									point89	89	1,471.4	815.5	100.00	20.00	0.00	0	0	

INPUT: BARRIERS

9127

Barrier19	W	0.00	99.99	0.00				0.00	point90	90	1,447.6	815.5	100.00	20.00				
									point91	91	1,350.3	841.5	100.00	20.00	0.00	0	0	
									point92	92	1,507.4	840.7	100.00	20.00	0.00	0	0	
									point93	93	1,508.2	981.3	100.00	20.00	0.00	0	0	
									point94	94	1,406.4	981.8	100.00	20.00	0.00	0	0	
									point95	95	1,406.5	1,011.6	100.00	20.00	0.00	0	0	
Barrier20	W	0.00	99.99	0.00				0.00	point96	96	1,351.3	1,011.8	100.00	20.00				
									point97	97	1,572.9	1,017.9	100.00	20.00	0.00	0	0	
									point98	98	1,709.3	1,018.6	100.00	20.00	0.00	0	0	
									point99	99	1,708.8	1,113.0	100.00	20.00	0.00	0	0	
Barrier21	W	0.00	99.99	0.00				0.00	point100	100	1,572.4	1,112.3	100.00	20.00				
									point101	101	1,500.2	532.9	100.00	15.00	0.00	0	0	
									point102	102	1,773.6	532.9	100.00	15.00	0.00	0	0	
									point103	103	1,773.6	408.9	100.00	15.00	0.00	0	0	
									point104	104	1,664.8	408.9	100.00	15.00	0.00	0	0	
									point105	105	1,664.8	459.9	100.00	15.00	0.00	0	0	
									point106	106	1,500.2	459.9	100.00	15.00				
									point108	108	1,930.5	531.7	100.00	15.00	0.00	0	0	
Barrier22	W	0.00	99.99	0.00				0.00	point109	109	2,094.5	530.3	100.00	15.00	0.00	0	0	
									point110	110	2,093.9	462.7	100.00	15.00	0.00	0	0	
									point111	111	1,960.8	463.9	100.00	15.00	0.00	0	0	
									point112	112	1,960.4	406.3	100.00	15.00	0.00	0	0	
									point113	113	1,929.5	406.5	100.00	15.00				
									point115	115	2,071.9	389.2	100.00	20.00	0.00	0	0	
Barrier23	W	0.00	99.99	0.00				0.00	point116	116	2,075.8	145.0	100.00	20.00	0.00	0	0	
									point117	117	1,852.2	143.7	100.00	20.00	0.00	0	0	
									point118	118	1,848.4	385.6	100.00	20.00				
									point119	119	1,643.6	389.3	100.00	20.00	0.00	0	0	
Barrier24	W	0.00	99.99	0.00				0.00	point120	120	1,759.3	388.0	100.00	20.00	0.00	0	0	
									point121	121	1,760.7	97.3	100.00	20.00	0.00	0	0	
									point122	122	1,649.1	98.6	100.00	20.00				
									point123	123	1,519.6	106.9	100.00	20.00	0.00	0	0	
Barrier25	W	0.00	99.99	0.00				0.00	point124	124	1,628.3	105.9	100.00	20.00	0.00	0	0	
									point125	125	1,630.1	295.5	100.00	20.00	0.00	0	0	
									point126	126	1,603.6	295.8	100.00	20.00	0.00	0	0	
									point127	127	1,604.1	349.2	100.00	20.00	0.00	0	0	
									point128	128	1,579.2	349.4	100.00	20.00	0.00	0	0	
									point129	129	1,579.5	382.5	100.00	20.00	0.00	0	0	
									point130	130	1,544.4	382.8	100.00	20.00	0.00	0	0	
									point131	131	1,544.0	348.0	100.00	20.00	0.00	0	0	
Barrier26	W	0.00	99.99	0.00				0.00	point132	132	1,521.9	348.2	100.00	20.00				
									point133	133	1,953.8	970.7	100.00	20.00	0.00	0	0	
									point134	134	2,087.4	969.0	100.00	20.00	0.00	0	0	
									point135	135	2,092.4	1,352.6	100.00	20.00	0.00	0	0	
Barrier27	W	0.00	99.99	0.00				0.00	point136	136	1,958.8	1,354.4	100.00	20.00				
									point137	137	2,125.0	740.4	100.00	20.00	0.00	0	0	
									point138	138	2,215.2	740.4	100.00	20.00	0.00	0	0	
									point139	139	2,215.2	920.9	100.00	20.00	0.00	0	0	
									point140	140	2,125.0	920.9	100.00	20.00				

INPUT: BARRIERS

9127

Barrier28	W	0.00	99.99	0.00				0.00	point141	141	2,125.0	933.0	100.00	20.00	0.00	0	0	
									point142	142	2,206.6	933.0	100.00	20.00	0.00	0	0	
									point143	143	2,206.6	1,408.3	100.00	20.00	0.00	0	0	
									point144	144	2,125.0	1,408.3	100.00	20.00				
Barrier29	W	0.00	99.99	0.00				0.00	point145	145	1,449.8	475.1	100.00	15.00	0.00	0	0	
									point146	146	1,449.3	542.9	100.00	15.00	0.00	0	0	
									point147	147	1,251.3	544.6	100.00	15.00	0.00	0	0	
									point148	148	1,250.7	475.7	100.00	15.00				
Barrier30	W	0.00	99.99	0.00				0.00	point149	149	1,135.4	413.3	100.00	15.00	0.00	0	0	
									point150	150	1,134.1	528.3	100.00	15.00	0.00	0	0	
									point151	151	836.7	524.9	100.00	15.00	0.00	0	0	
									point152	152	837.9	409.9	100.00	15.00				
Barrier31	W	0.00	99.99	0.00				0.00	point153	153	1,141.1	624.3	100.00	15.00	0.00	0	0	
									point154	154	1,141.1	766.2	100.00	15.00	0.00	0	0	
									point155	155	876.5	766.2	100.00	15.00	0.00	0	0	
									point156	156	876.5	672.5	100.00	15.00	0.00	0	0	
									point157	157	977.1	672.5	100.00	15.00	0.00	0	0	
									point158	158	977.1	624.3	100.00	15.00				
Barrier32	W	0.00	99.99	0.00				0.00	point159	159	1,136.9	788.3	100.00	20.00	0.00	0	0	
									point160	160	1,138.3	922.0	100.00	20.00	0.00	0	0	
									point161	161	1,030.9	923.1	100.00	20.00	0.00	0	0	
									point162	162	1,029.5	789.4	100.00	20.00				
Barrier33	W	0.00	99.99	0.00				0.00	point163	163	1,223.8	861.3	100.00	20.00	0.00	0	0	
									point164	164	1,223.8	917.8	100.00	20.00	0.00	0	0	
									point165	165	1,349.2	917.8	100.00	20.00	0.00	0	0	
									point166	166	1,349.2	861.3	100.00	20.00				
Barrier34	W	0.00	99.99	0.00				0.00	point167	167	1,324.4	989.5	100.00	20.00	0.00	0	0	
									point168	168	1,327.2	1,138.3	100.00	20.00	0.00	0	0	
									point169	169	1,371.2	1,137.5	100.00	20.00	0.00	0	0	
									point170	170	1,372.4	1,200.4	100.00	20.00	0.00	0	0	
									point171	171	1,267.9	1,202.3	100.00	20.00	0.00	0	0	
									point172	172	1,264.8	1,032.2	100.00	20.00	0.00	0	0	
									point173	173	1,237.6	1,032.7	100.00	20.00	0.00	0	0	
									point174	174	1,236.9	991.1	100.00	20.00				
Barrier35	W	0.00	99.99	0.00				0.00	point175	175	1,212.7	1,229.3	100.00	20.00	0.00	0	0	
									point176	176	1,324.4	1,227.9	100.00	20.00	0.00	0	0	
									point177	177	1,324.4	1,267.9	100.00	20.00	0.00	0	0	
									point178	178	1,208.6	1,269.3	100.00	20.00	0.00	0	0	
									point179	179	1,210.0	1,219.6	100.00	20.00				
Barrier36	W	0.00	99.99	0.00				0.00	point180	180	1,101.1	979.9	100.00	20.00	0.00	0	0	
									point181	181	1,098.4	1,081.8	100.00	20.00	0.00	0	0	
									point182	182	929.0	1,077.3	100.00	20.00	0.00	0	0	
									point183	183	931.7	975.3	100.00	20.00				
Barrier37	W	0.00	99.99	0.00				0.00	point185	185	2,276.6	610.3	100.00	15.00	0.00	0	0	
									point186	186	2,276.6	697.9	100.00	15.00	0.00	0	0	
									point187	187	2,642.7	697.9	100.00	15.00	0.00	0	0	
									point188	188	2,642.7	610.3	100.00	15.00				
Barrier38	W	0.00	99.99	0.00				0.00	point189	189	1,089.5	389.4	100.00	20.00	0.00	0	0	
									point190	190	1,087.3	242.8	100.00	20.00	0.00	0	0	

INPUT: BARRIERS

9127

									point191	191	1,128.8	242.2	100.00	20.00	0.00	0	0		
									point192	192	1,131.0	388.8	100.00	20.00					
Barrier39	W	0.00	99.99	0.00			0.00		point194	194	1,352.7	394.4	100.00	20.00	0.00	0	0		
									point195	195	1,446.4	392.7	100.00	20.00	0.00	0	0		
									point196	196	1,444.7	305.9	100.00	20.00	0.00	0	0		
									point197	197	1,350.9	307.6	100.00	20.00					
Barrier40	W	0.00	99.99	0.00			0.00		point198	198	1,260.6	285.0	100.00	20.00	0.00	0	0		
									point199	199	1,429.1	283.3	100.00	20.00	0.00	0	0		
									point200	200	1,432.4	92.4	100.00	20.00	0.00	0	0		
									point201	201	1,258.7	94.1	100.00	20.00					
Barrier41	W	0.00	99.99	0.00			0.00		point202	202	2,145.4	522.9	100.00	15.00	0.00	0	0		
									point203	203	2,147.6	398.2	100.00	15.00	0.00	0	0		
									point204	204	2,414.4	398.5	100.00	15.00	0.00	0	0		
									point205	205	2,414.4	523.2	100.00	15.00					
Barrier42	W	0.00	99.99	0.00			0.00		point206	206	2,160.8	277.8	100.00	20.00	0.00	0	0		
									point207	207	2,165.1	46.0	100.00	20.00	0.00	0	0		
									point208	208	2,285.4	43.8	100.00	20.00	0.00	0	0		
									point209	209	2,281.1	275.7	100.00	20.00					

RESULTS: SOUND LEVELS

9127

Dudek													11 October 2022	
MG													TNM 2.5	
													Calculated with TNM 2.5	
RESULTS: SOUND LEVELS														
PROJECT/CONTRACT:		9127												
RUN:		SM Blvd/O.Grove We Ho Cultv 101122												
BARRIER DESIGN:		INPUT HEIGHTS												
													Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.	
ATMOSPHERICS:		68 deg F, 50% RH												
Receiver														
Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing		Type Impact	With Barrier		Noise Reduction			
						Calculated	Crit'n		Calculated LAeq1h	Calculated	Goal	Calculated minus Goal		
							Sub'l Inc							
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB		
R1 / ST1 Proj Site on SMB	18	1	0.0	69.8	66	69.8	10	Snd Lvl	69.8	0.0	8	-8.0		
R2 /ST2 Resi n of Proj Site	20	1	0.0	45.0	66	45.0	10	----	45.0	0.0	8	-8.0		
R3 / ST3 Proj Site on N O.Grove Blvd	21	1	0.0	57.6	66	57.6	10	----	57.6	0.0	8	-8.0		
R4 / ST4 child car on N O.Grove Blvd	22	1	0.0	55.2	66	55.2	10	----	55.2	0.0	8	-8.0		
R5 / ST5 Resi N Ogden Dr n of SMB	23	1	0.0	55.9	66	55.9	10	----	55.9	0.0	8	-8.0		
R6 / ST6 Resi N Ogden Dr n of SMB	24	1	0.0	59.0	66	59.0	10	----	59.0	0.0	8	-8.0		
R7 Resi N Fairfax Ave n of SMB	25	1	0.0	63.8	66	63.8	10	----	63.8	0.0	8	-8.0		
R8 Res N Fairfax Ave s of SMB	26	1	0.0	66.9	66	66.9	10	Snd Lvl	66.9	0.0	8	-8.0		
R9 Resi N O.Grove Blvd s of SMB	27	1	0.0	56.9	66	56.9	10	----	56.9	0.0	8	-8.0		
R10 Resi N Ogden Dr s of SMB	28	1	0.0	56.6	66	56.6	10	----	56.6	0.0	8	-8.0		
R11 Resi N Genessee Ave n of SMB	29	1	0.0	57.7	66	57.7	10	----	57.7	0.0	8	-8.0		
R12 Resi N Genessee Ave s of SMB	33	1	0.0	57.1	66	57.1	10	----	57.1	0.0	8	-8.0		
Dwelling Units		# DUs	Noise Reduction											
			Min	Avg	Max									
			dB	dB	dB									
All Selected		12	0.0	0.0	0.0									
All Impacted		2	0.0	0.0	0.0									
All that meet NR Goal		0	0.0	0.0	0.0									

Dudek					11 October 2022						
MG					TNM 2.5						
INPUT: ROADWAYS					Average pavement type shall be used unless						
PROJECT/CONTRACT: 9127					a State highway agency substantiates the use						
RUN: SM Blvd/O.Grve WeHo Cultv w Pr 101122					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	%		
N Fairfax Ave s of Santa Monica Blvd	60.0	point1	1	1,196.5	55.6	100.00				Average	
		point2	2	1,196.5	547.7	100.00					
N Fairfax Ave n of Santa Monica Blvd	60.0	point3	3	1,195.7	613.6	100.00				Average	
		point4	4	1,162.7	1,852.9	100.00				Average	
		point5	5	1,160.1	1,979.6	100.00					
Santa Monica Blvd w. of N. Fairfax	55.0	point6	6	2.1	561.0	100.00				Average	
		point7	7	291.4	563.0	100.00				Average	
		point8	8	737.0	573.4	100.00				Average	
		point9	9	1,197.4	586.5	100.00					
N Orange Grove Ave s of St Mnca Blvd	38.0	point15	15	1,482.2	93.3	100.00				Average	
		point16	16	1,475.6	561.3	100.00					
N Orange Grove Ave n of St Mnca Blvd	38.0	point17	17	1,550.0	600.7	100.00				Average	
		point18	18	1,539.1	1,842.9	100.00					
N Ogden Ave s of Sta Mnca Blvd	38.0	point19	19	1,801.5	89.0	100.00				Average	
		point20	20	1,797.1	554.8	100.00					
N Ogden Ave n of Sta Mnca Blvd	34.0	point21	21	1,921.8	589.8	100.00				Average	
		point22	22	1,919.6	1,814.4	100.00					
N Genessee Ave s of St Mnca Blvd	38.0	point23	23	2,118.6	89.0	100.00				Average	
		point24	24	2,123.0	548.2	100.00					
N Genessee Ave n of St Mnca Blvd	34.0	point25	25	2,249.8	581.0	100.00				Average	
		point26	26	2,247.6	1,838.5	100.00					
Santa Monica Blvd Fairfax to OrngeGrv	55.0	point29	29	1,197.4	586.5	100.00				Average	
		point10	10	1,559.3	577.7	100.00					
Santa Monica Blvd OrngeGrv to Ogdon	55.0	point30	30	1,559.3	577.7	100.00				Average	
		point11	11	1,918.6	567.3	100.00					

INPUT: ROADWAYS**9127**

Santa Monica Blvd Ogdon to Genesee	55.0	point31	31	1,918.6	567.3	100.00				Average	
		point12	12	2,250.1	565.6	100.00					
Santa Monica Blvd e of N Genesee Ave	55.0	point32	32	2,250.1	565.6	100.00				Average	
		point13	13	2,668.4	560.5	100.00				Average	
		point14	14	3,190.6	553.6	100.00					

INPUT: TRAFFIC FOR LAeq1h Volumes

9127

Dudek MG		11 October 2022 TNM 2.5										
INPUT: TRAFFIC FOR LAeq1h Volumes												
PROJECT/CONTRACT:		9127										
RUN:		SM Blvd/O.Grve WeHo Cultv w Pr 101122										
Roadway	Points											
Name	Name	No.	Segment		MTrucks		HTrucks		Buses		Motorcycles	
			V	S	V	S	V	S	V	S	V	S
			Autos		veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
N Fairfax Ave s of Santa Monica Blvd	point1	1	3110	35	64	35	32	35	0	0	0	0
	point2	2										
N Fairfax Ave n of Santa Monica Blvd	point3	3	2415	25	50	25	25	25	0	0	0	0
	point4	4	2415	25	50	25	25	25	0	0	0	0
	point5	5										
Santa Monica Blvd w. of N. Fairfax	point6	6	3920	30	81	30	40	30	0	0	0	0
	point7	7	3920	30	81	30	40	30	0	0	0	0
	point8	8	3920	30	81	30	40	30	0	0	0	0
	point9	9										
N Orange GroveAve s of St Mnca Blvd	point15	15	201	25	4	25	2	25	0	0	0	0
	point16	16										
N Orange GroveAve n of St Mnca Blvd	point17	17	146	25	3	25	2	25	0	0	0	0
	point18	18										
N Ogden Ave s of Sta Mnca Blvd	point19	19	201	25	4	25	2	25	0	0	0	0
	point20	20										
N Ogden Ave n of Sta Mnca Blvd	point21	21	261	25	5	25	3	25	0	0	0	0
	point22	22										
N Genessee Ave s of St Mnca Blvd	point23	23	187	25	4	25	2	25	0	0	0	0
	point24	24										
N Genessee Ave n of St Mnca Blvd	point25	25	210	25	4	25	2	25	0	0	0	0
	point26	26										
Santa Monica Blvd Fairfax to OrngeGrv	point29	29	3960	30	82	30	41	30	0	0	0	0
	point10	10										

INPUT: TRAFFIC FOR LAeq1h Volumes**9127**

Santa Monica Blvd OrngeGrv to Ogdon	point30	30	3995	30	82	30	41	30	0	0	0	0
	point11	11										
Santa Monica Blvd Ogdon to Genesee	point31	31	4029	30	83	30	42	30	0	0	0	0
	point12	12										
Santa Monica Blvd e of N Genesee Ave	point32	32	3989	30	82	30	41	30	0	0	0	0
	point13	13	3989	30	82	30	41	30	0	0	0	0
	point14	14										

INPUT: RECEIVERS

9127

						11 October 2022					
						TNM 2.5					
Dudek											
MG											
INPUT: RECEIVERS											
PROJECT/CONTRACT:		9127									
RUN:		SM Blvd/O.Grve WeHo Cultv w Pr 101122									
Receiver											
Name	No.	#DUs	Coordinates (ground)		Height	Input Sound Levels and Criteria				Active	
			X	Y		Z	above	Existing	Impact Criteria		NR
						Ground	LAeq1h	LAeq1h	Sub'l	Goal	in
			ft	ft	ft	ft	dBA	dBA	dB	dB	Calc.
R1 / ST1 Proj Site on SMB	18	1	1,753.6	613.0	100.00	5.00	0.00	66	10.0	8.0	Y
R2 /ST2 Resi n of Proj Site	20	1	1,794.5	782.1	100.00	5.00	0.00	66	10.0	8.0	Y
R3 / ST3 Proj Site on N O.Grove Blvd	21	1	1,572.0	796.3	100.00	5.00	0.00	66	10.0	8.0	Y
R4 / ST4 child car on N O.Grove Blvd	22	1	1,579.0	923.0	100.00	5.00	0.00	66	10.0	8.0	Y
R5 / ST5 Resi N Ogden Dr n of SMB	23	1	1,871.6	869.2	100.00	5.00	0.00	66	10.0	8.0	Y
R6 / ST6 Resi N Ogden Dr n of SMB	24	1	1,944.6	820.6	100.00	5.00	0.00	66	10.0	8.0	Y
R7 Resi N Fairfax Ave n of SMB	25	1	1,117.4	1,119.3	100.00	5.00	0.00	66	10.0	8.0	Y
R8 Res N Fairfax Ave s of SMB	26	1	1,132.7	227.5	100.00	5.00	0.00	66	10.0	8.0	Y
R9 Resi N O.Grove Blvd s of SMB	27	1	1,510.7	217.5	100.00	5.00	0.00	66	10.0	8.0	Y
R10 Resi N Ogden Dr s of SMB	28	1	1,835.2	266.9	100.00	5.00	0.00	66	10.0	8.0	Y
R11 Resi N Genessee Ave n of SMB	29	1	2,221.1	904.9	100.00	5.00	0.00	66	10.0	8.0	Y
R12 Resi N Genessee Ave s of SMB	33	1	2,148.2	231.9	100.00	5.00	0.00	66	10.0	8.0	Y

Dudek MG									11 October 2022 TNM 2.5										
INPUT: BARRIERS PROJECT/CONTRACT: 9127 RUN: SM Blvd/O.Grve WeHo Cultv w Pr 101122																			
Barrier									Points										
Name	Type	Height		If Wall \$ per Unit Area	If Berm \$ per Unit Vol.	Top Width	Run:Rise ft:ft	Add'tnl \$ per Unit Length	Name	No.	Coordinates (bottom)			Height at Point	Segment			On Struct?	Important Reflec- tions?
		Min	Max								X	Y	Z		Seg	Ht	Perturbs		
		ft	ft	\$/sq ft	\$/cu yd	ft	ft:ft	\$/ft			ft	ft	ft	ft	ft				
Barrier1	W	0.00	99.99	0.00				0.00	point1	1	1,579.2	860.8	100.00	20.00	0.00	0	0		
									point2	2	1,680.4	860.8	100.00	20.00	0.00	0	0		
									point3	3	1,680.4	873.2	100.00	20.00	0.00	0	0		
									point4	4	1,714.2	873.2	100.00	20.00	0.00	0	0		
									point5	5	1,714.2	898.0	100.00	20.00	0.00	0	0		
									point6	6	1,655.6	898.0	100.00	20.00	0.00	0	0		
									point7	7	1,655.6	900.1	100.00	20.00	0.00	0	0		
									point8	8	1,599.2	900.1	100.00	20.00	0.00	0	0		
									point9	9	1,599.2	877.3	100.00	20.00	0.00	0	0		
									point10	10	1,579.2	877.3	100.00	20.00					
Barrier2	W	0.00	99.99	0.00				0.00	point11	11	1,731.4	863.2	100.00	20.00	0.00	0	0		
									point12	12	1,865.1	861.5	100.00	20.00	0.00	0	0		
									point13	13	1,865.7	907.7	100.00	20.00	0.00	0	0		
									point14	14	1,732.0	909.4	100.00	20.00					
Barrier3	W	0.00	99.99	0.00				0.00	point15	15	1,732.1	915.9	100.00	20.00	0.00	0	0		
									point16	16	1,867.8	915.2	100.00	20.00	0.00	0	0		
									point17	17	1,868.0	960.0	100.00	20.00	0.00	0	0		
									point18	18	1,732.3	960.7	100.00	20.00					
Barrier4	W	0.00	99.99	0.00				0.00	point19	19	1,772.7	610.4	100.00	15.00	0.00	0	0		
									point20	20	1,878.8	609.1	100.00	15.00	0.00	0	0		
									point21	21	1,881.8	760.9	100.00	15.00	0.00	0	0		
									point22	22	1,775.7	760.9	100.00	15.00					
Barrier5	W	0.00	99.99	0.00				0.00	point23	23	1,827.2	773.3	100.00	20.00	0.00	0	0		
									point24	24	1,865.8	773.3	100.00	20.00	0.00	0	0		
									point25	25	1,865.8	807.1	100.00	20.00	0.00	0	0		
									point26	26	1,827.2	807.1	100.00	20.00					
Barrier6	W	0.00	99.99	0.00				0.00	point27	27	1,732.1	966.2	100.00	20.00	0.00	0	0		
									point28	28	1,866.5	966.2	100.00	20.00	0.00	0	0		
									point29	29	1,866.5	1,060.6	100.00	20.00	0.00	0	0		
									point30	30	1,732.1	1,060.6	100.00	20.00					
Barrier7	W	0.00	99.99	0.00				0.00	point31	31	1,940.6	765.7	100.00	20.00	0.00	0	0		
									point32	32	1,977.8	765.4	100.00	20.00	0.00	0	0		
									point33	33	1,978.2	807.8	100.00	20.00	0.00	0	0		
									point34	34	1,941.0	808.1	100.00	20.00					
Barrier8	W	0.00	99.99	0.00				0.00	point35	35	1,951.3	815.2	100.00	20.00	0.00	0	0		
									point36	36	1,951.3	815.2	100.00	20.00	0.00	0	0		

INPUT: BARRIERS

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									point37	37	2,061.9	813.6	100.00	20.00	0.00	0	0		
									point38	38	2,062.6	844.2	100.00	20.00	0.00	0	0		
Barrier9	W	0.00	99.99	0.00			0.00		point39	39	1,951.7	845.8	100.00	20.00					
									point40	40	1,953.7	903.1	100.00	20.00	0.00	0	0		
									point41	41	1,953.4	863.2	100.00	20.00	0.00	0	0		
									point42	42	2,083.6	862.1	100.00	20.00	0.00	0	0		
Barrier10	W	0.00	99.99	0.00			0.00		point43	43	2,083.9	902.0	100.00	20.00					
									point45	45	1,954.1	917.6	100.00	20.00	0.00	0	0		
									point46	46	2,043.3	916.6	100.00	20.00	0.00	0	0		
									point47	47	2,043.8	957.6	100.00	20.00	0.00	0	0		
									point48	48	1,973.4	958.4	100.00	20.00	0.00	0	0		
									point49	49	1,973.3	949.3	100.00	20.00	0.00	0	0		
									point50	50	1,954.5	949.5	100.00	20.00					
Barrier11	W	0.00	99.99	0.00			0.00		point52	52	1,864.9	814.0	100.00	20.00	0.00	0	0		
									point53	53	1,865.4	852.9	100.00	20.00	0.00	0	0		
									point54	54	1,828.9	853.2	100.00	20.00					
Barrier12	W	0.00	99.99	0.00			0.00		point56	56	1,736.8	816.1	100.00	20.00	0.00	0	0		
									point57	57	1,819.5	815.0	100.00	20.00	0.00	0	0		
									point58	58	1,820.3	848.0	100.00	20.00	0.00	0	0		
									point59	59	1,736.6	848.0	100.00	20.00					
Barrier13	W	0.00	99.99	0.00			0.00		point60	60	1,622.5	611.7	100.00	15.00	0.00	0	0		
									point61	61	1,676.0	609.5	100.00	15.00	0.00	0	0		
									point62	62	1,673.9	692.0	100.00	15.00	0.00	0	0		
									point63	63	1,619.2	692.0	100.00	15.00					
Barrier14	W	0.00	99.99	0.00			0.00		point64	64	1,676.6	611.1	100.00	15.00	0.00	0	0		
									point65	65	1,724.7	610.5	100.00	15.00	0.00	0	0		
									point66	66	1,723.1	760.3	100.00	15.00	0.00	0	0		
									point67	67	1,622.5	759.8	100.00	15.00	0.00	0	0		
									point68	68	1,623.0	709.5	100.00	15.00	0.00	0	0		
									point69	69	1,673.3	709.5	100.00	15.00					
Barrier15	W	0.00	99.99	0.00			0.00		point70	70	1,621.4	731.4	100.00	20.00	0.00	0	0		
									point71	71	1,620.8	761.5	100.00	20.00	0.00	0	0		
									point72	72	1,569.4	761.5	100.00	20.00	0.00	0	0		
									point73	73	1,571.1	731.4	100.00	20.00					
Barrier16	W	0.00	99.99	0.00			0.00		point74	74	1,946.7	609.2	100.00	15.00	0.00	0	0		
									point75	75	2,093.8	607.1	100.00	15.00	0.00	0	0		
									point76	76	2,094.7	675.9	100.00	15.00	0.00	0	0		
									point77	77	2,047.8	676.6	100.00	15.00	0.00	0	0		
									point78	78	2,047.3	643.1	100.00	15.00	0.00	0	0		
									point79	79	1,948.6	643.3	100.00	15.00					
Barrier17	W	0.00	99.99	0.00			0.00		point81	81	1,468.0	629.3	100.00	15.00	0.00	0	0		
									point82	82	1,508.7	628.9	100.00	15.00	0.00	0	0		
									point83	83	1,507.5	680.5	100.00	15.00	0.00	0	0		
									point84	84	1,465.8	681.0	100.00	15.00					
Barrier18	W	0.00	99.99	0.00			0.00		point85	85	1,448.9	727.8	100.00	20.00	0.00	0	0		
									point86	86	1,509.2	727.8	100.00	20.00	0.00	0	0		
									point87	87	1,510.5	830.3	100.00	20.00	0.00	0	0		
									point88	88	1,471.4	830.3	100.00	20.00	0.00	0	0		
									point89	89	1,471.4	815.5	100.00	20.00	0.00	0	0		

INPUT: BARRIERS

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Barrier19	W	0.00	99.99	0.00				0.00	point90	90	1,447.6	815.5	100.00	20.00				
									point91	91	1,350.3	841.5	100.00	20.00	0.00	0	0	
									point92	92	1,507.4	840.7	100.00	20.00	0.00	0	0	
									point93	93	1,508.2	981.3	100.00	20.00	0.00	0	0	
									point94	94	1,406.4	981.8	100.00	20.00	0.00	0	0	
									point95	95	1,406.5	1,011.6	100.00	20.00	0.00	0	0	
Barrier20	W	0.00	99.99	0.00				0.00	point96	96	1,351.3	1,011.8	100.00	20.00				
									point97	97	1,572.9	1,017.9	100.00	20.00	0.00	0	0	
									point98	98	1,709.3	1,018.6	100.00	20.00	0.00	0	0	
									point99	99	1,708.8	1,113.0	100.00	20.00	0.00	0	0	
Barrier21	W	0.00	99.99	0.00				0.00	point100	100	1,572.4	1,112.3	100.00	20.00				
									point101	101	1,500.2	532.9	100.00	15.00	0.00	0	0	
									point102	102	1,773.6	532.9	100.00	15.00	0.00	0	0	
									point103	103	1,773.6	408.9	100.00	15.00	0.00	0	0	
									point104	104	1,664.8	408.9	100.00	15.00	0.00	0	0	
									point105	105	1,664.8	459.9	100.00	15.00	0.00	0	0	
									point106	106	1,500.2	459.9	100.00	15.00				
									point108	108	1,930.5	531.7	100.00	15.00	0.00	0	0	
Barrier22	W	0.00	99.99	0.00				0.00	point109	109	2,094.5	530.3	100.00	15.00	0.00	0	0	
									point110	110	2,093.9	462.7	100.00	15.00	0.00	0	0	
									point111	111	1,960.8	463.9	100.00	15.00	0.00	0	0	
									point112	112	1,960.4	406.3	100.00	15.00	0.00	0	0	
									point113	113	1,929.5	406.5	100.00	15.00				
									point115	115	2,071.9	389.2	100.00	20.00	0.00	0	0	
Barrier23	W	0.00	99.99	0.00				0.00	point116	116	2,075.8	145.0	100.00	20.00	0.00	0	0	
									point117	117	1,852.2	143.7	100.00	20.00	0.00	0	0	
									point118	118	1,848.4	385.6	100.00	20.00				
									point119	119	1,643.6	389.3	100.00	20.00	0.00	0	0	
Barrier24	W	0.00	99.99	0.00				0.00	point120	120	1,759.3	388.0	100.00	20.00	0.00	0	0	
									point121	121	1,760.7	97.3	100.00	20.00	0.00	0	0	
									point122	122	1,649.1	98.6	100.00	20.00				
									point123	123	1,519.6	106.9	100.00	20.00	0.00	0	0	
Barrier25	W	0.00	99.99	0.00				0.00	point124	124	1,628.3	105.9	100.00	20.00	0.00	0	0	
									point125	125	1,630.1	295.5	100.00	20.00	0.00	0	0	
									point126	126	1,603.6	295.8	100.00	20.00	0.00	0	0	
									point127	127	1,604.1	349.2	100.00	20.00	0.00	0	0	
									point128	128	1,579.2	349.4	100.00	20.00	0.00	0	0	
									point129	129	1,579.5	382.5	100.00	20.00	0.00	0	0	
									point130	130	1,544.4	382.8	100.00	20.00	0.00	0	0	
									point131	131	1,544.0	348.0	100.00	20.00	0.00	0	0	
Barrier26	W	0.00	99.99	0.00				0.00	point132	132	1,521.9	348.2	100.00	20.00				
									point133	133	1,953.8	970.7	100.00	20.00	0.00	0	0	
									point134	134	2,087.4	969.0	100.00	20.00	0.00	0	0	
									point135	135	2,092.4	1,352.6	100.00	20.00	0.00	0	0	
Barrier27	W	0.00	99.99	0.00				0.00	point136	136	1,958.8	1,354.4	100.00	20.00				
									point137	137	2,125.0	740.4	100.00	20.00	0.00	0	0	
									point138	138	2,215.2	740.4	100.00	20.00	0.00	0	0	
									point139	139	2,215.2	920.9	100.00	20.00	0.00	0	0	
									point140	140	2,125.0	920.9	100.00	20.00				

INPUT: BARRIERS

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Barrier28	W	0.00	99.99	0.00				0.00	point141	141	2,125.0	933.0	100.00	20.00	0.00	0	0	
									point142	142	2,206.6	933.0	100.00	20.00	0.00	0	0	
									point143	143	2,206.6	1,408.3	100.00	20.00	0.00	0	0	
									point144	144	2,125.0	1,408.3	100.00	20.00				
Barrier29	W	0.00	99.99	0.00				0.00	point145	145	1,449.8	475.1	100.00	15.00	0.00	0	0	
									point146	146	1,449.3	542.9	100.00	15.00	0.00	0	0	
									point147	147	1,251.3	544.6	100.00	15.00	0.00	0	0	
									point148	148	1,250.7	475.7	100.00	15.00				
Barrier30	W	0.00	99.99	0.00				0.00	point149	149	1,135.4	413.3	100.00	15.00	0.00	0	0	
									point150	150	1,134.1	528.3	100.00	15.00	0.00	0	0	
									point151	151	836.7	524.9	100.00	15.00	0.00	0	0	
									point152	152	837.9	409.9	100.00	15.00				
Barrier31	W	0.00	99.99	0.00				0.00	point153	153	1,141.1	624.3	100.00	15.00	0.00	0	0	
									point154	154	1,141.1	766.2	100.00	15.00	0.00	0	0	
									point155	155	876.5	766.2	100.00	15.00	0.00	0	0	
									point156	156	876.5	672.5	100.00	15.00	0.00	0	0	
									point157	157	977.1	672.5	100.00	15.00	0.00	0	0	
									point158	158	977.1	624.3	100.00	15.00				
Barrier32	W	0.00	99.99	0.00				0.00	point159	159	1,136.9	788.3	100.00	20.00	0.00	0	0	
									point160	160	1,138.3	922.0	100.00	20.00	0.00	0	0	
									point161	161	1,030.9	923.1	100.00	20.00	0.00	0	0	
									point162	162	1,029.5	789.4	100.00	20.00				
Barrier33	W	0.00	99.99	0.00				0.00	point163	163	1,223.8	861.3	100.00	20.00	0.00	0	0	
									point164	164	1,223.8	917.8	100.00	20.00	0.00	0	0	
									point165	165	1,349.2	917.8	100.00	20.00	0.00	0	0	
									point166	166	1,349.2	861.3	100.00	20.00				
Barrier34	W	0.00	99.99	0.00				0.00	point167	167	1,324.4	989.5	100.00	20.00	0.00	0	0	
									point168	168	1,327.2	1,138.3	100.00	20.00	0.00	0	0	
									point169	169	1,371.2	1,137.5	100.00	20.00	0.00	0	0	
									point170	170	1,372.4	1,200.4	100.00	20.00	0.00	0	0	
									point171	171	1,267.9	1,202.3	100.00	20.00	0.00	0	0	
									point172	172	1,264.8	1,032.2	100.00	20.00	0.00	0	0	
									point173	173	1,237.6	1,032.7	100.00	20.00	0.00	0	0	
									point174	174	1,236.9	991.1	100.00	20.00				
Barrier35	W	0.00	99.99	0.00				0.00	point175	175	1,212.7	1,229.3	100.00	20.00	0.00	0	0	
									point176	176	1,324.4	1,227.9	100.00	20.00	0.00	0	0	
									point177	177	1,324.4	1,267.9	100.00	20.00	0.00	0	0	
									point178	178	1,208.6	1,269.3	100.00	20.00	0.00	0	0	
									point179	179	1,210.0	1,219.6	100.00	20.00				
Barrier36	W	0.00	99.99	0.00				0.00	point180	180	1,101.1	979.9	100.00	20.00	0.00	0	0	
									point181	181	1,098.4	1,081.8	100.00	20.00	0.00	0	0	
									point182	182	929.0	1,077.3	100.00	20.00	0.00	0	0	
									point183	183	931.7	975.3	100.00	20.00				
Barrier37	W	0.00	99.99	0.00				0.00	point185	185	2,276.6	610.3	100.00	15.00	0.00	0	0	
									point186	186	2,276.6	697.9	100.00	15.00	0.00	0	0	
									point187	187	2,642.7	697.9	100.00	15.00	0.00	0	0	
									point188	188	2,642.7	610.3	100.00	15.00				
Barrier38	W	0.00	99.99	0.00				0.00	point189	189	1,089.5	389.4	100.00	20.00	0.00	0	0	
									point190	190	1,087.3	242.8	100.00	20.00	0.00	0	0	

INPUT: BARRIERS

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									point191	191	1,128.8	242.2	100.00	20.00	0.00	0	0		
									point192	192	1,131.0	388.8	100.00	20.00					
Barrier39	W	0.00	99.99	0.00			0.00		point194	194	1,352.7	394.4	100.00	20.00	0.00	0	0		
									point195	195	1,446.4	392.7	100.00	20.00	0.00	0	0		
									point196	196	1,444.7	305.9	100.00	20.00	0.00	0	0		
									point197	197	1,350.9	307.6	100.00	20.00					
Barrier40	W	0.00	99.99	0.00			0.00		point198	198	1,260.6	285.0	100.00	20.00	0.00	0	0		
									point199	199	1,429.1	283.3	100.00	20.00	0.00	0	0		
									point200	200	1,432.4	92.4	100.00	20.00	0.00	0	0		
									point201	201	1,258.7	94.1	100.00	20.00					
Barrier41	W	0.00	99.99	0.00			0.00		point202	202	2,145.4	522.9	100.00	15.00	0.00	0	0		
									point203	203	2,147.6	398.2	100.00	15.00	0.00	0	0		
									point204	204	2,414.4	398.5	100.00	15.00	0.00	0	0		
									point205	205	2,414.4	523.2	100.00	15.00					
Barrier42	W	0.00	99.99	0.00			0.00		point206	206	2,160.8	277.8	100.00	20.00	0.00	0	0		
									point207	207	2,165.1	46.0	100.00	20.00	0.00	0	0		
									point208	208	2,285.4	43.8	100.00	20.00	0.00	0	0		
									point209	209	2,281.1	275.7	100.00	20.00					

RESULTS: SOUND LEVELS

9127

Dudek													11 October 2022	
MG													TNM 2.5	
													Calculated with TNM 2.5	
RESULTS: SOUND LEVELS														
PROJECT/CONTRACT:		9127												
RUN:		SM Blvd/O.Grve WeHo Cultv w Pr 101122												
BARRIER DESIGN:		INPUT HEIGHTS												
													Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.	
ATMOSPHERICS:		68 deg F, 50% RH												
Receiver														
Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h	Crit'n	Increase over existing		Type	With Barrier		Noise Reduction		Calculated	
				Calculated		Calculated	Crit'n	Impact	Calculated	Calculated	Goal	Calculated	minus	
						Sub'l Inc						Goal	Goal	
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB	dB	
R1 / ST1 Proj Site on SMB	18	1	0.0	69.8	66	69.8	10	Snd Lvl	69.8	0.0	8	-8.0		
R2 /ST2 Resi n of Proj Site	20	1	0.0	45.2	66	45.2	10	----	45.2	0.0	8	-8.0		
R3 / ST3 Proj Site on N O.Grove Blvd	21	1	0.0	58.3	66	58.3	10	----	58.3	0.0	8	-8.0		
R4 / ST4 child car on N O.Grove Blvd	22	1	0.0	56.1	66	56.1	10	----	56.1	0.0	8	-8.0		
R5 / ST5 Resi N Ogden Dr n of SMB	23	1	0.0	55.9	66	55.9	10	----	55.9	0.0	8	-8.0		
R6 / ST6 Resi N Ogden Dr n of SMB	24	1	0.0	59.1	66	59.1	10	----	59.1	0.0	8	-8.0		
R7 Resi N Fairfax Ave n of SMB	25	1	0.0	63.9	66	63.9	10	----	63.9	0.0	8	-8.0		
R8 Res N Fairfax Ave s of SMB	26	1	0.0	67.8	66	67.8	10	Snd Lvl	67.8	0.0	8	-8.0		
R9 Resi N O.Grove Blvd s of SMB	27	1	0.0	56.9	66	56.9	10	----	56.9	0.0	8	-8.0		
R10 Resi N Ogden Dr s of SMB	28	1	0.0	56.6	66	56.6	10	----	56.6	0.0	8	-8.0		
R11 Resi N Genessee Ave n of SMB	29	1	0.0	57.7	66	57.7	10	----	57.7	0.0	8	-8.0		
R12 Resi N Genessee Ave s of SMB	33	1	0.0	57.1	66	57.1	10	----	57.1	0.0	8	-8.0		
Dwelling Units		# DUs	Noise Reduction											
			Min	Avg	Max									
			dB	dB	dB									
All Selected		12	0.0	0.0	0.0									
All Impacted		2	0.0	0.0	0.0									
All that meet NR Goal		0	0.0	0.0	0.0									