

Appendix E: Noise Modeling Data

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Project Number: 3746.0002
 Project Name: Alves Ranch EIR
 Test Personnel: Spencer

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Noise Measurement Survey

Site Number: ST-1 Date: 10/8 Time: From 3:00pm To 3:15pm

Site Location:
Northeast corner of Palacio Dr. and Roma Dr.

Primary Noise Sources: Car traffic along Highway 4 and BART train passings

Measurement Results

	dBA
Leq	61.7
Lmax	65.2
Lmin	57.5
L5	63.0
L10	62.7
L50	61.6
L90	60.3
Ldn	-
CNEL	-

Observed Noise Sources/Events

Time	Noise Source/Event	dBA

Comments: Bright, sunny day with slight breeze

Equipment: LXT-1
 Settings: A-Weighted Other

Measured Difference: -0.03 dBA
 Slow Fast Windscreen

Atmospheric Conditions:

Maximum Wind Velocity (mph)	Average Wind Velocity (mph)	Temperature (F)	Relative Humidity (%)
7.6	3.2	83.4	57%
Comments:			

Project Number: 3746.0002
 Project Name: Alves Ranch
 Test Personnel: Spencer

Sheet ___ of ___

Noise Measurement Survey

Site Number: ST-2 Date: 10/8/2018 Time: From 3:28 To 3:43

Site Location: Southwest corner of W. Leland Rd. and Tomales Bay Dr. Intersection

Primary Noise Sources: Traffic along W. Leland Rd.

Measurement Results

	dBA
Leq	68.7
Lmax	86.5
Lmin	51.4
L5	74.4
L10	72.5
L50	62.3
L90	55.9
Ldn	
CNEL	

Observed Noise Sources/Events

Time	Noise Source/Event	dBA

Comments: _____

Equipment: LXT-1
 Settings: A-Weighted Other

Measured Difference: -0.12 dBA
 Slow Fast Windscreen

Atmospheric Conditions:

Maximum Wind Velocity (mph)	Average Wind Velocity (mph)	Temperature (F)	Relative Humidity (%)
<u>7.6</u>	<u>3.2</u>	<u>83.4</u>	<u>57%</u>
Comments:			

Project Number: 3746.0002
 Project Name: Alves Ranch EIR
 Test Personnel: Spencer

Sheet ___ of ___

Noise Measurement Survey

Site Number: S-3 Date: 10/8/2018 Time: From 3:52 p.m. To 4:07 p.m.

Site Location:
Car traffic along W. Leland Rd.

Primary Noise Sources: _____

Measurement Results

	dB(A)
Leq	67.2
Lmax	87.5
Lmin	49.4
L5	72.4
L10	70.6
L50	62.0
L90	53.9
Ldn	—
CNEL	—

Observed Noise Sources/Events

Time	Noise Source/Event	dB(A)

Comments: _____

Equipment: LXT-1
 Settings: A-Weighted Other

Measured Difference: 0.05 dB(A)
 Slow Fast Windscreen

Atmospheric Conditions:

Maximum Wind Velocity (mph)	Average Wind Velocity (mph)	Temperature (F)	Relative Humidity (%)
<u>7.6</u>	<u>3.2</u>	<u>83.4</u>	<u>53%</u>
Comments: <u>Bright, sunny day with slight breeze</u>			

Summary

Filename LxT_Data.048
Serial Number 4397
Model SoundTrack LxT®
Firmware Version 2.301
User
Location
Job Description
Note
Measurement Description
Start 2018/10/08 14:45:29
Stop 2018/10/10 15:18:45
Duration 2 Days 00:33:15.8
Run Time 2 Days 00:33:15.8
Pause 0:00:00.0

Pre Calibration 2018/09/08 9:43:20
Post Calibration None
Calibration Deviation ---

Overall Settings

RMS Weight A Weighting
Peak Weight A Weighting
Detector Slow
Preamp PRMLxT2L
Microphone Correction Off
Integration Method Linear
Overload 124.8 dB

	A	C	Z
Under Range Peak	81.0	78.0	83.0 dB
Under Range Limit	27.1	27.1	31.8 dB
Noise Floor	18.0	18.0	22.7 dB

Results

LAeq 72.2 dB
LAE 124.7 dB
EA 325.453 mPa²h
EA8 53.623 mPa²h
EA40 268.114 mPa²h
LApeak (max) 2018/09/08 9:46:27 113.9 dB
LASmax 2018/09/09 11:34:54 89.8 dB
LASmin 2018/09/09 21:04:01 49.9 dB
SEA -99.9 dB

LAS > 85.0 dB (Exceedence Counts / Duration)	4	10.6 s
LAS > 115.0 dB (Exceedence Counts / Duration)	0	0.0 s
LApeak > 135.0 dB (Exceedence Counts / Duration)	0	0.0 s
LApeak > 137.0 dB (Exceedence Counts / Duration)	0	0.0 s
LApeak > 140.0 dB (Exceedence Counts / Duration)	0	0.0 s

Community Noise

	Ldn	LDay 07:00-22:00	LNight 22:00-07:00	Lden	LDay 07:00-19:00	LEvening 19:00-22:00	LNight 22:00-07:00
	78.1	72.5	71.6	78.2	73.2	67.3	71.6
LCeq	75.6 dB						
LAeq	72.2 dB						
LCeq - LAeq	3.3 dB						
LAeq	72.9 dB						
LAeq	72.2 dB						

TABLE Existing-01
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/05/2018
ROADWAY SEGMENT: W Leland Road - San Marcos Boulevard to Tomales Bay Drive
NOTES: Alves Ranch - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 13300 SPEED (MPH): 45 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.62

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	92.9	194.8	417.0

TABLE Existing-02
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/05/2018
ROADWAY SEGMENT: W Leland Road - Tomales Bay Drive to Alves Ranch Road
NOTES: Alves Ranch - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 10300 SPEED (MPH): 45 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.51

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	79.4	164.7	351.9

TABLE Existing-03
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/05/2018
ROADWAY SEGMENT: W Leland Road - Alves Ranch Road to Woodhill Drive
NOTES: Alves Ranch - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 10500 SPEED (MPH): 45 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	----	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.59

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	80.3	166.8	356.4

TABLE Existing-04
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/05/2018
ROADWAY SEGMENT: W Leland Road - Woodhill Drive to Southwood Drive
NOTES: Alves Ranch - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 9700 SPEED (MPH): 35 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 62.56

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	106.4	224.5

TABLE Existing-05
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/05/2018
ROADWAY SEGMENT: W Leland Road - Southwood Drive to BART Exit
NOTES: Alves Ranch - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 10400 SPEED (MPH): 35 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 62.86

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	55.8	111.2	235.0

TABLE Existing-06
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/05/2018
ROADWAY SEGMENT: W Leland Road - BART Exit to BART Entrance
NOTES: Alves Ranch - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 10900 SPEED (MPH): 35 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 63.06

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	57.3	114.5	242.4

TABLE Existing-07
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/05/2018
ROADWAY SEGMENT: W Leland Road - BART Entrance to Oak Hills Drive
NOTES: Alves Ranch - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 10900 SPEED (MPH): 35 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 63.06

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	57.3	114.5	242.4

TABLE Existing-08
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/05/2018
ROADWAY SEGMENT: W Leland Road - Oak Hills Drive to Bailey Road
NOTES: Alves Ranch - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 13000 SPEED (MPH): 35 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 63.83

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	63.2	128.2	272.3

TABLE Existing with Project-01
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/05/2018
ROADWAY SEGMENT: W Leland Road - San Marcos Boulevard to Tomales Bay Drive
NOTES: Alves Ranch - Existing with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 14900 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES			
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.11

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	99.7	209.9	449.7

TABLE Existing with Project-02
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/05/2018

ROADWAY SEGMENT: W Leland Road - Tomales Bay Drive to Alves Ranch Road

NOTES: Alves Ranch - Existing with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 14100 SPEED (MPH): 45 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.87

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	96.3	202.4	433.5

TABLE Existing with Project-03
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/05/2018
ROADWAY SEGMENT: W Leland Road - Alves Ranch Road to Woodhill Drive
NOTES: Alves Ranch - Existing with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 13800 SPEED (MPH): 45 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.78

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	95.0	199.5	427.4

TABLE Existing with Project-04
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/05/2018
ROADWAY SEGMENT: W Leland Road - Woodhill Drive to Southwood Drive
NOTES: Alves Ranch - Existing with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 12700 SPEED (MPH): 35 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 63.73

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	62.4	126.3	268.2

TABLE Existing with Project-05
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/05/2018
ROADWAY SEGMENT: W Leland Road - Southwood Drive to BART Exit
NOTES: Alves Ranch - Existing with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 13100 SPEED (MPH): 35 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 63.86

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	63.5	128.8	273.7

TABLE Existing with Project-06
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/05/2018
ROADWAY SEGMENT: W Leland Road - BART Exit to BART Entrance
NOTES: Alves Ranch - Existing with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 13600 SPEED (MPH): 35 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.03

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	64.9	132.0	280.6

TABLE Existing with Project-07
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/05/2018
ROADWAY SEGMENT: W Leland Road - BART Entrance to Oak Hills Drive
NOTES: Alves Ranch - Existing with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 13600 SPEED (MPH): 35 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.03

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	64.9	132.0	280.6

TABLE Existing with Project-08
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/05/2018

ROADWAY SEGMENT: W Leland Road - Oak Hills Drive to Bailey Road

NOTES: Alves Ranch - Existing with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 15600 SPEED (MPH): 35 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.62

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	70.2	144.2	307.3

TABLE Near-Term without Project-01
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/05/2018

ROADWAY SEGMENT: W Leland Road - San Marcos Boulevard to Tomales Bay Drive

NOTES: Alves Ranch - Near-Term without Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 14100 SPEED (MPH): 45 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.87

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	96.3	202.4	433.5

TABLE Near-Term without Project-02
 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/05/2018

ROADWAY SEGMENT: W Leland Road - Tomales Bay Drive to Alves Ranch Road

NOTES: Alves Ranch - Near-Term without Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 13000 SPEED (MPH): 45 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.52

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	91.6	191.9	410.7

TABLE Near-Term without Project-03
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/05/2018
ROADWAY SEGMENT: W Leland Road - Alves Ranch Road to Woodhill Drive
NOTES: Alves Ranch - Near-Term without Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 13300 SPEED (MPH): 45 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.62

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	92.9	194.8	417.0

TABLE Near-Term without Project-04
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/05/2018

ROADWAY SEGMENT: W Leland Road - Woodhill Drive to Southwood Drive

NOTES: Alves Ranch - Near-Term without Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 12800 SPEED (MPH): 35 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 63.76

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	62.6	126.9	269.6

TABLE Near-Term without Project-05
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/05/2018
ROADWAY SEGMENT: W Leland Road - Southwood Drive to BART Exit
NOTES: Alves Ranch - Near-Term without Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 13400 SPEED (MPH): 35 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	----	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 63.96

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	64.3	130.7	277.9

TABLE Near-Term without Project-06
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/05/2018
ROADWAY SEGMENT: W Leland Road - BART Exit to BART Entrance
NOTES: Alves Ranch - Near-Term without Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 14000 SPEED (MPH): 35 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.15

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	65.9	134.5	286.0

TABLE Near-Term without Project-07
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/05/2018
ROADWAY SEGMENT: W Leland Road - BART Entrance to Oak Hills Drive
NOTES: Alves Ranch - Near-Term without Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 14000 SPEED (MPH): 35 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.15

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	65.9	134.5	286.0

TABLE Near-Term without Project-08
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/05/2018

ROADWAY SEGMENT: W Leland Road - Oak Hills Drive to Bailey Road

NOTES: Alves Ranch - Near-Term without Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 16300 SPEED (MPH): 35 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.81

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	72.1	148.4	316.3

TABLE Near-Term with Project-01
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/05/2018

ROADWAY SEGMENT: W Leland Road - San Marcos Boulevard to Tomales Bay Drive

NOTES: Alves Ranch - Near-Term with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 18500 SPEED (MPH): 45 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.05

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
57.2	114.3	242.0	519.2

TABLE Near-Term with Project-02
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/05/2018

ROADWAY SEGMENT: W Leland Road - Tomales Bay Drive to Alves Ranch Road

NOTES: Alves Ranch - Near-Term with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 16900 SPEED (MPH): 45 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.66

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	108.0	228.0	489.0

TABLE Near-Term with Project-03
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/05/2018
ROADWAY SEGMENT: W Leland Road - Alves Ranch Road to Woodhill Drive
NOTES: Alves Ranch - Near-Term with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 16700 SPEED (MPH): 45 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.61

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	107.2	226.2	485.1

TABLE Near-Term with Project-04
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/05/2018
ROADWAY SEGMENT: W Leland Road - Woodhill Drive to Southwood Drive
NOTES: Alves Ranch - Near-Term with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 15800 SPEED (MPH): 35 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.68

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	70.8	145.4	309.9

TABLE Near-Term with Project-05
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/05/2018
ROADWAY SEGMENT: W Leland Road - Southwood Drive to BART Exit
NOTES: Alves Ranch - Near-Term with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 16100 SPEED (MPH): 35 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.76

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	71.6	147.2	313.8

TABLE Near-Term with Project-06
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/05/2018
ROADWAY SEGMENT: W Leland Road - BART Exit to BART Entrance
NOTES: Alves Ranch - Near-Term with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 16700 SPEED (MPH): 35 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.92

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	73.1	150.7	321.5

TABLE Near-Term with Project-07
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/05/2018
ROADWAY SEGMENT: W Leland Road - BART Entrance to Oak Hills Drive
NOTES: Alves Ranch - Near-Term with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 16700 SPEED (MPH): 35 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.92

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	73.1	150.7	321.5

TABLE Near-Term with Project-08
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/05/2018
ROADWAY SEGMENT: W Leland Road - Oak Hills Drive to Bailey Road
NOTES: Alves Ranch - Near-Term with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 18900 SPEED (MPH): 35 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.45

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	78.8	163.4	349.0

TABLE Cumulative without Project-01
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/05/2018

ROADWAY SEGMENT: W Leland Road - San Marcos Boulevard to Tomales Bay Drive

NOTES: Alves Ranch - Cumulative without Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 32300 SPEED (MPH): 45 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.47

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
79.0	163.8	349.9	752.4

TABLE Cumulative without Project-02
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/05/2018
ROADWAY SEGMENT: W Leland Road - Tomales Bay Drive to Alves Ranch Road
NOTES: Alves Ranch - Cumulative without Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 31000 SPEED (MPH): 45 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.29

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
77.0	159.5	340.5	732.1

TABLE Cumulative without Project-03
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/05/2018
ROADWAY SEGMENT: W Leland Road - Alves Ranch Road to Woodhill Drive
NOTES: Alves Ranch - Cumulative without Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 31300 SPEED (MPH): 45 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	----	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.34

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
77.5	160.5	342.7	736.8

TABLE Cumulative without Project-04
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/05/2018

ROADWAY SEGMENT: W Leland Road - Woodhill Drive to Southwood Drive

NOTES: Alves Ranch - Cumulative without Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 30200 SPEED (MPH): 35 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.49

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	105.3	222.2	476.4

TABLE Cumulative without Project-05
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/05/2018
ROADWAY SEGMENT: W Leland Road - Southwood Drive to BART Exit
NOTES: Alves Ranch - Cumulative without Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 31300 SPEED (MPH): 35 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.64

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	107.7	227.5	487.9

TABLE Cumulative without Project-06
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/05/2018
ROADWAY SEGMENT: W Leland Road - BART Exit to BART Entrance
NOTES: Alves Ranch - Cumulative without Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 32100 SPEED (MPH): 35 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.75

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	109.5	231.3	496.2

TABLE Cumulative without Project-07
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/05/2018
ROADWAY SEGMENT: W Leland Road - BART Entrance to Oak Hills Drive
NOTES: Alves Ranch - Cumulative without Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 36300 SPEED (MPH): 35 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.29

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
58.9	118.4	250.8	538.3

TABLE Cumulative without Project-08
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/05/2018
ROADWAY SEGMENT: W Leland Road - Oak Hills Drive to Bailey Road
NOTES: Alves Ranch - Cumulative without Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 40900 SPEED (MPH): 35 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	----	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.81

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
63.0	127.8	271.4	582.8

TABLE Cumulative with Project-01
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/05/2018
ROADWAY SEGMENT: W Leland Road - San Marcos Boulevard to Tomales Bay Drive
NOTES: Alves Ranch - Cumulative with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 37100 SPEED (MPH): 45 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 71.07

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
85.9	179.4	383.7	825.1

TABLE Cumulative with Project-02
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/05/2018

ROADWAY SEGMENT: W Leland Road - Tomales Bay Drive to Alves Ranch Road

NOTES: Alves Ranch - Cumulative with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 35400 SPEED (MPH): 45 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.87

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
83.5	174.0	371.9	799.8

TABLE Cumulative with Project-03
 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/05/2018
 ROADWAY SEGMENT: W Leland Road - Alves Ranch Road to Woodhill Drive
 NOTES: Alves Ranch - Cumulative with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 35200 SPEED (MPH): 45 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	----	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.85

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
83.2	173.3	370.5	796.7

TABLE Cumulative with Project-04
 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/05/2018
 ROADWAY SEGMENT: W Leland Road - Woodhill Drive to Southwood Drive
 NOTES: Alves Ranch - Cumulative with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 33700 SPEED (MPH): 35 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.97

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
56.6	112.9	238.8	512.4

TABLE Cumulative with Project-05
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/05/2018
ROADWAY SEGMENT: W Leland Road - Southwood Drive to BART Exit
NOTES: Alves Ranch - Cumulative with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 34400 SPEED (MPH): 35 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.06

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
57.2	114.4	242.1	519.4

TABLE Cumulative with Project-06
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/05/2018
ROADWAY SEGMENT: W Leland Road - BART Exit to BART Entrance
NOTES: Alves Ranch - Cumulative with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 35200 SPEED (MPH): 35 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.15

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
57.9	116.1	245.8	527.4

TABLE Cumulative with Project-07
 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/05/2018
 ROADWAY SEGMENT: W Leland Road - BART Entrance to Oak Hills Drive
 NOTES: Alves Ranch - Cumulative with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 39400 SPEED (MPH): 35 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.64

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
61.7	124.8	264.8	568.5

TABLE Cumulative with Project-08
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/05/2018
ROADWAY SEGMENT: W Leland Road - Oak Hills Drive to Bailey Road
NOTES: Alves Ranch - Cumulative with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 43900 SPEED (MPH): 35 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.11

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
65.6	133.7	284.4	610.9

Ldn Output - Barrier Run

With 6 ft barrier

dBA at Modeled Receptors

Roadway Segment	ADT			dBA at Modeled Receptors		
		Barrier Type	Barrier Height	Ldn without Barrier (dB)	Ldn with Barrier (dB)	Barrier Attenuation
W Leland Road - Tomales Bay Drive to Alves Ranch Road	35,400	WALL	6	69	62.9	-6.1
W Leland Road - Alves Ranch Road to Woodhill Drive (Area #1)	35,200	WALL	6	67	61.1	-5.9
W Leland Road - Alves Ranch Road to Woodhill Drive (Area #2)	35,200	WALL	6	66.7	60.8	-5.9
W Leland Road - Alves Ranch Road to Woodhill Drive (Area #3)	35,200	WALL	6	67.9	61.9	-6
State Route 4 - Neighborhood D	155,400	WALL	6	69.4	61.7	-7.7
State Route 4 - Neighborhood A-2 Receptor #1	155,400	WALL	6	74.1	67.5	-6.6
State Route 4 - Neighborhood A-2 Receptor #2	155,400	WALL	6	72.8	66.4	-6.4
State Route 4 - Neighborhood A-1 Receptor #3	155,400	WALL	6	72.8	66.4	-6.4
State Route 4 - Neighborhood A-1 Receptor #4	155,400	WALL	6	73.6	67.1	-6.5
State Route 4 - Neighborhood A-1 Receptor #5	155,400	WALL	6	70.4	63	-7.4

With 8 ft barrier

dBA at Modeled Receptors

Roadway Segment	ADT			dBA at Modeled Receptors		
		Barrier Type	Barrier Height	Ldn without Barrier (dB)	Ldn with Barrier (dB)	Barrier Attenuation
W Leland Road - Tomales Bay Drive to Alves Ranch Road	35,400	WALL	8	69	60	-9
W Leland Road - Alves Ranch Road to Woodhill Drive (Area #1)	35,200	WALL	8	67	58.2	-8.8
W Leland Road - Alves Ranch Road to Woodhill Drive (Area #2)	35,200	WALL	8	66.7	57.9	-8.8
W Leland Road - Alves Ranch Road to Woodhill Drive (Area #3)	35,200	WALL	8	67.9	59	-8.9
State Route 4 - Neighborhood D	155,400	WALL	8	69.4	60.8	-8.6
State Route 4 - Neighborhood A-2 Receptor #1	155,400	WALL	8	74.1	64.7	-9.4
State Route 4 - Neighborhood A-2 Receptor #2	155,400	WALL	8	72.8	63.5	-9.3
State Route 4 - Neighborhood A-1 Receptor #3	155,400	WALL	8	72.8	63.5	-9.3
State Route 4 - Neighborhood A-1 Receptor #4	155,400	WALL	8	73.6	64.2	-9.4
State Route 4 - Neighborhood A-1 Receptor #5	155,400	WALL	8	70.4	61.9	-8.5

With 10 ft barrier

dBA at Modeled Receptors

Roadway Segment	ADT			dBA at Modeled Receptors		
		Barrier Type	Barrier Height	Ldn without Barrier (dB)	Ldn with Barrier (dB)	Barrier Attenuation
W Leland Road - Tomales Bay Drive to Alves Ranch Road	35,400	WALL	10	69	57.6	-11.4
W Leland Road - Alves Ranch Road to Woodhill Drive (Area #1)	35,200	WALL	10	67	55.7	-11.3
W Leland Road - Alves Ranch Road to Woodhill Drive (Area #2)	35,200	WALL	10	66.7	55.5	-11.2
W Leland Road - Alves Ranch Road to Woodhill Drive (Area #3)	35,200	WALL	10	67.9	56.6	-11.3
State Route 4 - Neighborhood D	155,400	WALL	10	69.4	59.9	-9.5
State Route 4 - Neighborhood A-2 Receptor #1	155,400	WALL	10	74.1	62.4	-11.7
State Route 4 - Neighborhood A-2 Receptor #2	155,400	WALL	10	72.8	61.2	-11.6
State Route 4 - Neighborhood A-1 Receptor #3	155,400	WALL	10	72.8	61.2	-11.6
State Route 4 - Neighborhood A-1 Receptor #4	155,400	WALL	10	73.6	61.9	-11.7
State Route 4 - Neighborhood A-1 Receptor #5	155,400	WALL	10	70.4	61	-9.4

With 12 ft barrier

dBA at Modeled Receptors

Roadway Segment	ADT			dBA at Modeled Receptors		
		Barrier Type	Barrier Height	Ldn without Barrier (dB)	Ldn with Barrier (dB)	Barrier Attenuation
W Leland Road - Tomales Bay Drive to Alves Ranch Road	35,400	WALL	12	69	55.8	-13.2
W Leland Road - Alves Ranch Road to Woodhill Drive (Area #1)	35,200	WALL	12	67	53.9	-13.1
W Leland Road - Alves Ranch Road to Woodhill Drive (Area #2)	35,200	WALL	12	66.7	53.6	-13.1
W Leland Road - Alves Ranch Road to Woodhill Drive (Area #3)	35,200	WALL	12	67.9	54.8	-13.1
State Route 4 - Neighborhood D	155,400	WALL	12	69.4	59.1	-10.3
State Route 4 - Neighborhood A-2 Receptor #1	155,400	WALL	12	74.1	60.7	-13.4
State Route 4 - Neighborhood A-2 Receptor #2	155,400	WALL	12	72.8	59.5	-13.3
State Route 4 - Neighborhood A-1 Receptor #3	155,400	WALL	12	72.8	59.5	-13.3
State Route 4 - Neighborhood A-1 Receptor #4	155,400	WALL	12	73.6	60.2	-13.4
State Route 4 - Neighborhood A-1 Receptor #5	155,400	WALL	12	70.4	60.1	-10.3

TABLE With 6 ft barrier-01
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/05/2019
ROADWAY SEGMENT: W Leland Road - Tomales Bay Drive to Alves Ranch Road
NOTES: Alves Ranch - With 6 ft barrier

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 35400 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
	---	-----
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

ELEVATION AT ROAD SURFACE: 0
ELEVATION AT BARRIER BASE: 0
BARRIER HEIGHT (FT): 6
BARRIER TYPE: WALL
ELEVATION AT RECEPTOR BASE: 0
RECEPTOR HEIGHT (FT): 5

ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 90
BARRIER TO RECEPTOR DISTANCE (FT): 10

* * CALCULATED NOISE LEVELS * *

Ldn WITHOUT BARRIER (dB)= 68.99

BARRIER ATTENUATION (dB):
Autos: - 6.33
Med. Trucks: - 5.97
Hvy. Trucks: - 5.26

Ldn WITH BARRIER (dB)= 62.95

TABLE With 6 ft barrier-02
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/05/2019

ROADWAY SEGMENT: W Leland Road - Alves Ranch Road to Woodhill Drive (Area #1)

NOTES: Alves Ranch - With 6 ft barrier

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 35200 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
	---	-----
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

ELEVATION AT ROAD SURFACE: 0
ELEVATION AT BARRIER BASE: 0
BARRIER HEIGHT (FT): 6
BARRIER TYPE: WALL
ELEVATION AT RECEPTOR BASE: 0
RECEPTOR HEIGHT (FT): 5

ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 120
BARRIER TO RECEPTOR DISTANCE (FT): 10

* * CALCULATED NOISE LEVELS * *

Ldn WITHOUT BARRIER (dB)= 66.96

BARRIER ATTENUATION (dB):
Autos: - 6.09
Med. Trucks: - 5.84
Hvy. Trucks: - 5.33

Ldn WITH BARRIER (dB)= 61.07

TABLE With 6 ft barrier-03
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/05/2019

ROADWAY SEGMENT: W Leland Road - Alves Ranch Road to Woodhill Drive (Area #2)

NOTES: Alves Ranch - With 6 ft barrier

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 35200 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
	---	-----
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

ELEVATION AT ROAD SURFACE: 0
ELEVATION AT BARRIER BASE: 0
BARRIER HEIGHT (FT): 6
BARRIER TYPE: WALL
ELEVATION AT RECEPTOR BASE: 0
RECEPTOR HEIGHT (FT): 5

ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 125
BARRIER TO RECEPTOR DISTANCE (FT): 10

* * CALCULATED NOISE LEVELS * *

Ldn WITHOUT BARRIER (dB)= 66.67

BARRIER ATTENUATION (dB):
Autos: - 6.06
Med. Trucks: - 5.82
Hvy. Trucks: - 5.34

Ldn WITH BARRIER (dB)= 60.80

TABLE With 6 ft barrier-04
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/05/2019

ROADWAY SEGMENT: W Leland Road - Alves Ranch Road to Woodhill Drive (Area #3)

NOTES: Alves Ranch - With 6 ft barrier

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 35200 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
	---	-----
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

ELEVATION AT ROAD SURFACE: 0
ELEVATION AT BARRIER BASE: 0
BARRIER HEIGHT (FT): 6
BARRIER TYPE: WALL
ELEVATION AT RECEPTOR BASE: 0
RECEPTOR HEIGHT (FT): 5

ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 105
BARRIER TO RECEPTOR DISTANCE (FT): 10

* * CALCULATED NOISE LEVELS * *

Ldn WITHOUT BARRIER (dB)= 67.88

BARRIER ATTENUATION (dB):
Autos: - 6.19
Med. Trucks: - 5.89
Hvy. Trucks: - 5.30

Ldn WITH BARRIER (dB)= 61.93

TABLE With 6 ft barrier-05
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/05/2019
ROADWAY SEGMENT: State Route 4 - Neighborhood D
NOTES: Alves Ranch - With 6 ft barrier

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 155400 SPEED (MPH): 65 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
	---	-----
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 80 SITE CHARACTERISTICS: SOFT

ELEVATION AT ROAD SURFACE: 0
ELEVATION AT BARRIER BASE: 12
BARRIER HEIGHT (FT): 6
BARRIER TYPE: WALL
ELEVATION AT RECEPTOR BASE: 12
RECEPTOR HEIGHT (FT): 5

ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 400
BARRIER TO RECEPTOR DISTANCE (FT): 180

* * CALCULATED NOISE LEVELS * *

Ldn WITHOUT BARRIER (dB)= 69.36

BARRIER ATTENUATION (dB):
Autos: - 7.98
Med. Trucks: - 7.48
Hvy. Trucks: - 6.29

Ldn WITH BARRIER (dB)= 61.72

TABLE With 6 ft barrier-06
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/05/2019
ROADWAY SEGMENT: State Route 4 - Neighborhood A-2 Receptor #1
NOTES: Alves Ranch - With 6 ft barrier

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 155400 SPEED (MPH): 65 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
	---	-----
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 80 SITE CHARACTERISTICS: SOFT

ELEVATION AT ROAD SURFACE: 0
ELEVATION AT BARRIER BASE: 12
BARRIER HEIGHT (FT): 6
BARRIER TYPE: WALL
ELEVATION AT RECEPTOR BASE: 12
RECEPTOR HEIGHT (FT): 5

ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 210
BARRIER TO RECEPTOR DISTANCE (FT): 10

* * CALCULATED NOISE LEVELS * *

Ldn WITHOUT BARRIER (dB)= 74.10

BARRIER ATTENUATION (dB):
Autos: - 6.67
Med. Trucks: - 6.50
Hvy. Trucks: - 6.10

Ldn WITH BARRIER (dB)= 67.54

TABLE With 6 ft barrier-07
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/05/2019
ROADWAY SEGMENT: State Route 4 - Neighborhood A-2 Receptor #2
NOTES: Alves Ranch - With 6 ft barrier

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 155400 SPEED (MPH): 65 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
	---	-----
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 80 SITE CHARACTERISTICS: SOFT

ELEVATION AT ROAD SURFACE: 0
ELEVATION AT BARRIER BASE: 12
BARRIER HEIGHT (FT): 6
BARRIER TYPE: WALL
ELEVATION AT RECEPTOR BASE: 12
RECEPTOR HEIGHT (FT): 5

ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 250
BARRIER TO RECEPTOR DISTANCE (FT): 10

* * CALCULATED NOISE LEVELS * *

Ldn WITHOUT BARRIER (dB)= 72.77

BARRIER ATTENUATION (dB):
Autos: - 6.44
Med. Trucks: - 6.30
Hvy. Trucks: - 5.99

Ldn WITH BARRIER (dB)= 66.42

TABLE With 6 ft barrier-08
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/05/2019
ROADWAY SEGMENT: State Route 4 - Neighborhood A-1 Receptor #3
NOTES: Alves Ranch - With 6 ft barrier

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 155400 SPEED (MPH): 65 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
	---	-----
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 80 SITE CHARACTERISTICS: SOFT

ELEVATION AT ROAD SURFACE: 0
ELEVATION AT BARRIER BASE: 12
BARRIER HEIGHT (FT): 6
BARRIER TYPE: WALL
ELEVATION AT RECEPTOR BASE: 12
RECEPTOR HEIGHT (FT): 5

ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 250
BARRIER TO RECEPTOR DISTANCE (FT): 10

* * CALCULATED NOISE LEVELS * *

Ldn WITHOUT BARRIER (dB)= 72.77

BARRIER ATTENUATION (dB):
Autos: - 6.44
Med. Trucks: - 6.30
Hvy. Trucks: - 5.99

Ldn WITH BARRIER (dB)= 66.42

TABLE With 6 ft barrier-09
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/05/2019
ROADWAY SEGMENT: State Route 4 - Neighborhood A-1 Receptor #4
NOTES: Alves Ranch - With 6 ft barrier

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 155400 SPEED (MPH): 65 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
	---	-----
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 80 SITE CHARACTERISTICS: SOFT

ELEVATION AT ROAD SURFACE: 0
ELEVATION AT BARRIER BASE: 12
BARRIER HEIGHT (FT): 6
BARRIER TYPE: WALL
ELEVATION AT RECEPTOR BASE: 12
RECEPTOR HEIGHT (FT): 5

ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 225
BARRIER TO RECEPTOR DISTANCE (FT): 10

* * CALCULATED NOISE LEVELS * *

Ldn WITHOUT BARRIER (dB)= 73.57

BARRIER ATTENUATION (dB):
Autos: - 6.57
Med. Trucks: - 6.42
Hvy. Trucks: - 6.05

Ldn WITH BARRIER (dB)= 67.09

TABLE With 6 ft barrier-10
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/05/2019
ROADWAY SEGMENT: State Route 4 - Neighborhood A-1 Receptor #5
NOTES: Alves Ranch - With 6 ft barrier

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 155400 SPEED (MPH): 65 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
	---	-----
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 80 SITE CHARACTERISTICS: SOFT

ELEVATION AT ROAD SURFACE: 0
ELEVATION AT BARRIER BASE: 12
BARRIER HEIGHT (FT): 6
BARRIER TYPE: WALL
ELEVATION AT RECEPTOR BASE: 12
RECEPTOR HEIGHT (FT): 5

ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 345
BARRIER TO RECEPTOR DISTANCE (FT): 130

* * CALCULATED NOISE LEVELS * *

Ldn WITHOUT BARRIER (dB)= 70.42

BARRIER ATTENUATION (dB):
Autos: - 7.78
Med. Trucks: - 7.32
Hvy. Trucks: - 6.22

Ldn WITH BARRIER (dB)= 62.95

TABLE With 8 ft barrier-01
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/05/2019

ROADWAY SEGMENT: W Leland Road - Tomales Bay Drive to Alves Ranch Road

NOTES: Alves Ranch - With 8 ft barrier

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 35400 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
	---	-----
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

ELEVATION AT ROAD SURFACE: 0
ELEVATION AT BARRIER BASE: 0
BARRIER HEIGHT (FT): 8
BARRIER TYPE: WALL
ELEVATION AT RECEPTOR BASE: 0
RECEPTOR HEIGHT (FT): 5

ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 90
BARRIER TO RECEPTOR DISTANCE (FT): 10

* * CALCULATED NOISE LEVELS * *

Ldn WITHOUT BARRIER (dB)= 68.99

BARRIER ATTENUATION (dB):
Autos: - 9.32
Med. Trucks: - 8.93
Hvy. Trucks: - 7.93

Ldn WITH BARRIER (dB)= 60.04

TABLE With 8 ft barrier-02
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/05/2019

ROADWAY SEGMENT: W Leland Road - Alves Ranch Road to Woodhill Drive (Area #1)

NOTES: Alves Ranch - With 8 ft barrier

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 35200 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
	---	-----
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

ELEVATION AT ROAD SURFACE: 0
ELEVATION AT BARRIER BASE: 0
BARRIER HEIGHT (FT): 8
BARRIER TYPE: WALL
ELEVATION AT RECEPTOR BASE: 0
RECEPTOR HEIGHT (FT): 5

ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 120
BARRIER TO RECEPTOR DISTANCE (FT): 10

* * CALCULATED NOISE LEVELS * *

Ldn WITHOUT BARRIER (dB)= 66.96

BARRIER ATTENUATION (dB):
Autos: - 9.02
Med. Trucks: - 8.73
Hvy. Trucks: - 8.00

Ldn WITH BARRIER (dB)= 58.20

TABLE With 8 ft barrier-03
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/05/2019

ROADWAY SEGMENT: W Leland Road - Alves Ranch Road to Woodhill Drive (Area #2)

NOTES: Alves Ranch - With 8 ft barrier

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 35200 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
	---	-----
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

ELEVATION AT ROAD SURFACE: 0
ELEVATION AT BARRIER BASE: 0
BARRIER HEIGHT (FT): 8
BARRIER TYPE: WALL
ELEVATION AT RECEPTOR BASE: 0
RECEPTOR HEIGHT (FT): 5

ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 125
BARRIER TO RECEPTOR DISTANCE (FT): 10

* * CALCULATED NOISE LEVELS * *

Ldn WITHOUT BARRIER (dB)= 66.67

BARRIER ATTENUATION (dB):
Autos: - 8.98
Med. Trucks: - 8.71
Hvy. Trucks: - 8.01

Ldn WITH BARRIER (dB)= 57.95

TABLE With 8 ft barrier-04
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/05/2019

ROADWAY SEGMENT: W Leland Road - Alves Ranch Road to Woodhill Drive (Area #3)

NOTES: Alves Ranch - With 8 ft barrier

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 35200 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
	---	-----
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

ELEVATION AT ROAD SURFACE: 0
ELEVATION AT BARRIER BASE: 0
BARRIER HEIGHT (FT): 8
BARRIER TYPE: WALL
ELEVATION AT RECEPTOR BASE: 0
RECEPTOR HEIGHT (FT): 5

ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 105
BARRIER TO RECEPTOR DISTANCE (FT): 10

* * CALCULATED NOISE LEVELS * *

Ldn WITHOUT BARRIER (dB)= 67.88

BARRIER ATTENUATION (dB):
Autos: - 9.14
Med. Trucks: - 8.82
Hvy. Trucks: - 7.97

Ldn WITH BARRIER (dB)= 59.05

TABLE With 8 ft barrier-05
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/05/2019
ROADWAY SEGMENT: State Route 4 - Neighborhood D
NOTES: Alves Ranch - With 8 ft barrier

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 155400 SPEED (MPH): 65 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
	---	-----
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 80 SITE CHARACTERISTICS: SOFT

ELEVATION AT ROAD SURFACE: 0
ELEVATION AT BARRIER BASE: 12
BARRIER HEIGHT (FT): 8
BARRIER TYPE: WALL
ELEVATION AT RECEPTOR BASE: 12
RECEPTOR HEIGHT (FT): 5

ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 400
BARRIER TO RECEPTOR DISTANCE (FT): 180

* * CALCULATED NOISE LEVELS * *

Ldn WITHOUT BARRIER (dB)= 69.36

BARRIER ATTENUATION (dB):
Autos: - 8.89
Med. Trucks: - 8.41
Hvy. Trucks: - 7.19

Ldn WITH BARRIER (dB)= 60.81

TABLE With 8 ft barrier-06
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/05/2019
ROADWAY SEGMENT: State Route 4 - Neighborhood A-2 Receptor #1
NOTES: Alves Ranch - With 8 ft barrier

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 155400 SPEED (MPH): 65 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
	---	-----
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 80 SITE CHARACTERISTICS: SOFT

ELEVATION AT ROAD SURFACE: 0
ELEVATION AT BARRIER BASE: 12
BARRIER HEIGHT (FT): 8
BARRIER TYPE: WALL
ELEVATION AT RECEPTOR BASE: 12
RECEPTOR HEIGHT (FT): 5

ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 210
BARRIER TO RECEPTOR DISTANCE (FT): 10

* * CALCULATED NOISE LEVELS * *

Ldn WITHOUT BARRIER (dB)= 74.10

BARRIER ATTENUATION (dB):
Autos: - 9.55
Med. Trucks: - 9.39
Hvy. Trucks: - 8.98

Ldn WITH BARRIER (dB)= 64.66

TABLE With 8 ft barrier-07
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/05/2019
ROADWAY SEGMENT: State Route 4 - Neighborhood A-2 Receptor #2
NOTES: Alves Ranch - With 8 ft barrier

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 155400 SPEED (MPH): 65 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
	---	-----
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 80 SITE CHARACTERISTICS: SOFT

ELEVATION AT ROAD SURFACE: 0
ELEVATION AT BARRIER BASE: 12
BARRIER HEIGHT (FT): 8
BARRIER TYPE: WALL
ELEVATION AT RECEPTOR BASE: 12
RECEPTOR HEIGHT (FT): 5

ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 250
BARRIER TO RECEPTOR DISTANCE (FT): 10

* * CALCULATED NOISE LEVELS * *

Ldn WITHOUT BARRIER (dB)= 72.77

BARRIER ATTENUATION (dB):
Autos: - 9.31
Med. Trucks: - 9.18
Hvy. Trucks: - 8.84

Ldn WITH BARRIER (dB)= 63.55

TABLE With 8 ft barrier-08
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/05/2019
ROADWAY SEGMENT: State Route 4 - Neighborhood A-1 Receptor #3
NOTES: Alves Ranch - With 8 ft barrier

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 155400 SPEED (MPH): 65 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
	---	-----
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 80 SITE CHARACTERISTICS: SOFT

ELEVATION AT ROAD SURFACE: 0
ELEVATION AT BARRIER BASE: 12
BARRIER HEIGHT (FT): 8
BARRIER TYPE: WALL
ELEVATION AT RECEPTOR BASE: 12
RECEPTOR HEIGHT (FT): 5

ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 250
BARRIER TO RECEPTOR DISTANCE (FT): 10

* * CALCULATED NOISE LEVELS * *

Ldn WITHOUT BARRIER (dB)= 72.77

BARRIER ATTENUATION (dB):
Autos: - 9.31
Med. Trucks: - 9.18
Hvy. Trucks: - 8.84

Ldn WITH BARRIER (dB)= 63.55

TABLE With 8 ft barrier-09
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/05/2019
ROADWAY SEGMENT: State Route 4 - Neighborhood A-1 Receptor #4
NOTES: Alves Ranch - With 8 ft barrier

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 155400 SPEED (MPH): 65 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
	---	-----
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 80 SITE CHARACTERISTICS: SOFT

ELEVATION AT ROAD SURFACE: 0
ELEVATION AT BARRIER BASE: 12
BARRIER HEIGHT (FT): 8
BARRIER TYPE: WALL
ELEVATION AT RECEPTOR BASE: 12
RECEPTOR HEIGHT (FT): 5

ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 225
BARRIER TO RECEPTOR DISTANCE (FT): 10

* * CALCULATED NOISE LEVELS * *

Ldn WITHOUT BARRIER (dB)= 73.57

BARRIER ATTENUATION (dB):
Autos: - 9.45
Med. Trucks: - 9.30
Hvy. Trucks: - 8.92

Ldn WITH BARRIER (dB)= 64.22

TABLE With 8 ft barrier-10
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/05/2019
ROADWAY SEGMENT: State Route 4 - Neighborhood A-1 Receptor #5
NOTES: Alves Ranch - With 8 ft barrier

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 155400 SPEED (MPH): 65 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
	---	-----
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 80 SITE CHARACTERISTICS: SOFT

ELEVATION AT ROAD SURFACE: 0
ELEVATION AT BARRIER BASE: 12
BARRIER HEIGHT (FT): 8
BARRIER TYPE: WALL
ELEVATION AT RECEPTOR BASE: 12
RECEPTOR HEIGHT (FT): 5

ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 345
BARRIER TO RECEPTOR DISTANCE (FT): 130

* * CALCULATED NOISE LEVELS * *

Ldn WITHOUT BARRIER (dB)= 70.42

BARRIER ATTENUATION (dB):
Autos: - 8.79
Med. Trucks: - 8.35
Hvy. Trucks: - 7.21

Ldn WITH BARRIER (dB)= 61.94

TABLE With 10 ft barrier-01
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/05/2019

ROADWAY SEGMENT: W Leland Road - Tomales Bay Drive to Alves Ranch Road

NOTES: Alves Ranch - With 10 ft barrier

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 35400 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
	---	-----
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

ELEVATION AT ROAD SURFACE: 0
ELEVATION AT BARRIER BASE: 0
BARRIER HEIGHT (FT): 10
BARRIER TYPE: WALL
ELEVATION AT RECEPTOR BASE: 0
RECEPTOR HEIGHT (FT): 5

ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 90
BARRIER TO RECEPTOR DISTANCE (FT): 10

* * CALCULATED NOISE LEVELS * *

Ldn WITHOUT BARRIER (dB)= 68.99

BARRIER ATTENUATION (dB):
Autos: -11.71
Med. Trucks: -11.41
Hvy. Trucks: -10.61

Ldn WITH BARRIER (dB)= 57.56

TABLE With 10 ft barrier-02
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/05/2019

ROADWAY SEGMENT: W Leland Road - Alves Ranch Road to Woodhill Drive (Area #1)

NOTES: Alves Ranch - With 10 ft barrier

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 35200 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
	---	-----
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

ELEVATION AT ROAD SURFACE: 0
ELEVATION AT BARRIER BASE: 0
BARRIER HEIGHT (FT): 10
BARRIER TYPE: WALL
ELEVATION AT RECEPTOR BASE: 0
RECEPTOR HEIGHT (FT): 5

ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 120
BARRIER TO RECEPTOR DISTANCE (FT): 10

* * CALCULATED NOISE LEVELS * *

Ldn WITHOUT BARRIER (dB)= 66.96

BARRIER ATTENUATION (dB):
Autos: -11.44
Med. Trucks: -11.21
Hvy. Trucks: -10.63

Ldn WITH BARRIER (dB)= 55.73

TABLE With 10 ft barrier-03
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/05/2019

ROADWAY SEGMENT: W Leland Road - Alves Ranch Road to Woodhill Drive (Area #2)

NOTES: Alves Ranch - With 10 ft barrier

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 35200 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
	---	-----
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

ELEVATION AT ROAD SURFACE: 0
ELEVATION AT BARRIER BASE: 0
BARRIER HEIGHT (FT): 10
BARRIER TYPE: WALL
ELEVATION AT RECEPTOR BASE: 0
RECEPTOR HEIGHT (FT): 5

ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 125
BARRIER TO RECEPTOR DISTANCE (FT): 10

* * CALCULATED NOISE LEVELS * *

Ldn WITHOUT BARRIER (dB)= 66.67

BARRIER ATTENUATION (dB):
Autos: -11.41
Med. Trucks: -11.19
Hvy. Trucks: -10.63

Ldn WITH BARRIER (dB)= 55.47

TABLE With 10 ft barrier-04
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/05/2019

ROADWAY SEGMENT: W Leland Road - Alves Ranch Road to Woodhill Drive (Area #3)

NOTES: Alves Ranch - With 10 ft barrier

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 35200 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
	---	-----
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

ELEVATION AT ROAD SURFACE: 0
ELEVATION AT BARRIER BASE: 0
BARRIER HEIGHT (FT): 10
BARRIER TYPE: WALL
ELEVATION AT RECEPTOR BASE: 0
RECEPTOR HEIGHT (FT): 5

ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 105
BARRIER TO RECEPTOR DISTANCE (FT): 10

* * CALCULATED NOISE LEVELS * *

Ldn WITHOUT BARRIER (dB)= 67.88

BARRIER ATTENUATION (dB):
Autos: -11.55
Med. Trucks: -11.30
Hvy. Trucks: -10.62

Ldn WITH BARRIER (dB)= 56.57

TABLE With 10 ft barrier-05
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/05/2019
ROADWAY SEGMENT: State Route 4 - Neighborhood D
NOTES: Alves Ranch - With 10 ft barrier

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 155400 SPEED (MPH): 65 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
	---	-----
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 80 SITE CHARACTERISTICS: SOFT

ELEVATION AT ROAD SURFACE: 0
ELEVATION AT BARRIER BASE: 12
BARRIER HEIGHT (FT): 10
BARRIER TYPE: WALL
ELEVATION AT RECEPTOR BASE: 12
RECEPTOR HEIGHT (FT): 5

ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 400
BARRIER TO RECEPTOR DISTANCE (FT): 180

* * CALCULATED NOISE LEVELS * *

Ldn WITHOUT BARRIER (dB)= 69.36

BARRIER ATTENUATION (dB):
Autos: - 9.74
Med. Trucks: - 9.30
Hvy. Trucks: - 8.13

Ldn WITH BARRIER (dB)= 59.94

TABLE With 10 ft barrier-06
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/05/2019
ROADWAY SEGMENT: State Route 4 - Neighborhood A-2 Receptor #1
NOTES: Alves Ranch - With 10 ft barrier

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 155400 SPEED (MPH): 65 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
	---	-----
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 80 SITE CHARACTERISTICS: SOFT

ELEVATION AT ROAD SURFACE: 0
ELEVATION AT BARRIER BASE: 12
BARRIER HEIGHT (FT): 10
BARRIER TYPE: WALL
ELEVATION AT RECEPTOR BASE: 12
RECEPTOR HEIGHT (FT): 5

ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 210
BARRIER TO RECEPTOR DISTANCE (FT): 10

* * CALCULATED NOISE LEVELS * *

Ldn WITHOUT BARRIER (dB)= 74.10

BARRIER ATTENUATION (dB):
Autos: -11.82
Med. Trucks: -11.69
Hvy. Trucks: -11.37

Ldn WITH BARRIER (dB)= 62.37

TABLE With 10 ft barrier-07
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/05/2019
ROADWAY SEGMENT: State Route 4 - Neighborhood A-2 Receptor #2
NOTES: Alves Ranch - With 10 ft barrier

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 155400 SPEED (MPH): 65 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
	---	-----
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 80 SITE CHARACTERISTICS: SOFT

ELEVATION AT ROAD SURFACE: 0
ELEVATION AT BARRIER BASE: 12
BARRIER HEIGHT (FT): 10
BARRIER TYPE: WALL
ELEVATION AT RECEPTOR BASE: 12
RECEPTOR HEIGHT (FT): 5

ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 250
BARRIER TO RECEPTOR DISTANCE (FT): 10

* * CALCULATED NOISE LEVELS * *

Ldn WITHOUT BARRIER (dB)= 72.77

BARRIER ATTENUATION (dB):
Autos: -11.62
Med. Trucks: -11.51
Hvy. Trucks: -11.25

Ldn WITH BARRIER (dB)= 61.22

TABLE With 10 ft barrier-08
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/05/2019
ROADWAY SEGMENT: State Route 4 - Neighborhood A-1 Receptor #3
NOTES: Alves Ranch - With 10 ft barrier

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 155400 SPEED (MPH): 65 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
	---	-----
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 80 SITE CHARACTERISTICS: SOFT

ELEVATION AT ROAD SURFACE: 0
ELEVATION AT BARRIER BASE: 12
BARRIER HEIGHT (FT): 10
BARRIER TYPE: WALL
ELEVATION AT RECEPTOR BASE: 12
RECEPTOR HEIGHT (FT): 5

ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 250
BARRIER TO RECEPTOR DISTANCE (FT): 10

* * CALCULATED NOISE LEVELS * *

Ldn WITHOUT BARRIER (dB)= 72.77

BARRIER ATTENUATION (dB):
Autos: -11.62
Med. Trucks: -11.51
Hvy. Trucks: -11.25

Ldn WITH BARRIER (dB)= 61.22

TABLE With 10 ft barrier-09
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/05/2019
ROADWAY SEGMENT: State Route 4 - Neighborhood A-1 Receptor #4
NOTES: Alves Ranch - With 10 ft barrier

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 155400 SPEED (MPH): 65 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
	---	-----
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 80 SITE CHARACTERISTICS: SOFT

ELEVATION AT ROAD SURFACE: 0
ELEVATION AT BARRIER BASE: 12
BARRIER HEIGHT (FT): 10
BARRIER TYPE: WALL
ELEVATION AT RECEPTOR BASE: 12
RECEPTOR HEIGHT (FT): 5

ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 225
BARRIER TO RECEPTOR DISTANCE (FT): 10

* * CALCULATED NOISE LEVELS * *

Ldn WITHOUT BARRIER (dB)= 73.57

BARRIER ATTENUATION (dB):
Autos: -11.73
Med. Trucks: -11.62
Hvy. Trucks: -11.32

Ldn WITH BARRIER (dB)= 61.91

TABLE With 10 ft barrier-10
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/05/2019
ROADWAY SEGMENT: State Route 4 - Neighborhood A-1 Receptor #5
NOTES: Alves Ranch - With 10 ft barrier

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 155400 SPEED (MPH): 65 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
	---	-----
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 80 SITE CHARACTERISTICS: SOFT

ELEVATION AT ROAD SURFACE: 0
ELEVATION AT BARRIER BASE: 12
BARRIER HEIGHT (FT): 10
BARRIER TYPE: WALL
ELEVATION AT RECEPTOR BASE: 12
RECEPTOR HEIGHT (FT): 5

ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 345
BARRIER TO RECEPTOR DISTANCE (FT): 130

* * CALCULATED NOISE LEVELS * *

Ldn WITHOUT BARRIER (dB)= 70.42

BARRIER ATTENUATION (dB):
Autos: - 9.74
Med. Trucks: - 9.33
Hvy. Trucks: - 8.24

Ldn WITH BARRIER (dB)= 60.97

TABLE With 12 ft barrier-01
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/05/2019

ROADWAY SEGMENT: W Leland Road - Tomales Bay Drive to Alves Ranch Road

NOTES: Alves Ranch - With 12 ft barrier

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 35400 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
	---	-----
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

ELEVATION AT ROAD SURFACE: 0
ELEVATION AT BARRIER BASE: 0
BARRIER HEIGHT (FT): 12
BARRIER TYPE: WALL
ELEVATION AT RECEPTOR BASE: 0
RECEPTOR HEIGHT (FT): 5

ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 90
BARRIER TO RECEPTOR DISTANCE (FT): 10

* * CALCULATED NOISE LEVELS * *

Ldn WITHOUT BARRIER (dB)= 68.99

BARRIER ATTENUATION (dB):
Autos: -13.45
Med. Trucks: -13.22
Hvy. Trucks: -12.59

Ldn WITH BARRIER (dB)= 55.76

TABLE With 12 ft barrier-02
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/05/2019

ROADWAY SEGMENT: W Leland Road - Alves Ranch Road to Woodhill Drive (Area #1)

NOTES: Alves Ranch - With 12 ft barrier

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 35200 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
	---	-----
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

ELEVATION AT ROAD SURFACE: 0
ELEVATION AT BARRIER BASE: 0
BARRIER HEIGHT (FT): 12
BARRIER TYPE: WALL
ELEVATION AT RECEPTOR BASE: 0
RECEPTOR HEIGHT (FT): 5

ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 120
BARRIER TO RECEPTOR DISTANCE (FT): 10

* * CALCULATED NOISE LEVELS * *

Ldn WITHOUT BARRIER (dB)= 66.96

BARRIER ATTENUATION (dB):
Autos: -13.21
Med. Trucks: -13.03
Hvy. Trucks: -12.57

Ldn WITH BARRIER (dB)= 53.91

TABLE With 12 ft barrier-03
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/05/2019

ROADWAY SEGMENT: W Leland Road - Alves Ranch Road to Woodhill Drive (Area #2)

NOTES: Alves Ranch - With 12 ft barrier

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 35200 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
	---	-----
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

ELEVATION AT ROAD SURFACE: 0
ELEVATION AT BARRIER BASE: 0
BARRIER HEIGHT (FT): 12
BARRIER TYPE: WALL
ELEVATION AT RECEPTOR BASE: 0
RECEPTOR HEIGHT (FT): 5

ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 125
BARRIER TO RECEPTOR DISTANCE (FT): 10

* * CALCULATED NOISE LEVELS * *

Ldn WITHOUT BARRIER (dB)= 66.67

BARRIER ATTENUATION (dB):
Autos: -13.18
Med. Trucks: -13.01
Hvy. Trucks: -12.57

Ldn WITH BARRIER (dB)= 53.65

TABLE With 12 ft barrier-04
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/05/2019

ROADWAY SEGMENT: W Leland Road - Alves Ranch Road to Woodhill Drive (Area #3)

NOTES: Alves Ranch - With 12 ft barrier

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 35200 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
	---	-----
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

ELEVATION AT ROAD SURFACE: 0
ELEVATION AT BARRIER BASE: 0
BARRIER HEIGHT (FT): 12
BARRIER TYPE: WALL
ELEVATION AT RECEPTOR BASE: 0
RECEPTOR HEIGHT (FT): 5

ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 105
BARRIER TO RECEPTOR DISTANCE (FT): 10

* * CALCULATED NOISE LEVELS * *

Ldn WITHOUT BARRIER (dB)= 67.88

BARRIER ATTENUATION (dB):
Autos: -13.31
Med. Trucks: -13.11
Hvy. Trucks: -12.58

Ldn WITH BARRIER (dB)= 54.75

TABLE With 12 ft barrier-05
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/05/2019
ROADWAY SEGMENT: State Route 4 - Neighborhood D
NOTES: Alves Ranch - With 12 ft barrier

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 155400 SPEED (MPH): 65 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
	---	-----
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 80 SITE CHARACTERISTICS: SOFT

ELEVATION AT ROAD SURFACE: 0
ELEVATION AT BARRIER BASE: 12
BARRIER HEIGHT (FT): 12
BARRIER TYPE: WALL
ELEVATION AT RECEPTOR BASE: 12
RECEPTOR HEIGHT (FT): 5

ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 400
BARRIER TO RECEPTOR DISTANCE (FT): 180

* * CALCULATED NOISE LEVELS * *

Ldn WITHOUT BARRIER (dB)= 69.36

BARRIER ATTENUATION (dB):
Autos: -10.53
Med. Trucks: -10.12
Hvy. Trucks: - 9.03

Ldn WITH BARRIER (dB)= 59.12

TABLE With 12 ft barrier-06
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/05/2019
ROADWAY SEGMENT: State Route 4 - Neighborhood A-2 Receptor #1
NOTES: Alves Ranch - With 12 ft barrier

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 155400 SPEED (MPH): 65 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
	---	-----
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 80 SITE CHARACTERISTICS: SOFT

ELEVATION AT ROAD SURFACE: 0
ELEVATION AT BARRIER BASE: 12
BARRIER HEIGHT (FT): 12
BARRIER TYPE: WALL
ELEVATION AT RECEPTOR BASE: 12
RECEPTOR HEIGHT (FT): 5

ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 210
BARRIER TO RECEPTOR DISTANCE (FT): 10

* * CALCULATED NOISE LEVELS * *

Ldn WITHOUT BARRIER (dB)= 74.10

BARRIER ATTENUATION (dB):
Autos: -13.48
Med. Trucks: -13.38
Hvy. Trucks: -13.12

Ldn WITH BARRIER (dB)= 60.69

TABLE With 12 ft barrier-07
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/05/2019
ROADWAY SEGMENT: State Route 4 - Neighborhood A-2 Receptor #2
NOTES: Alves Ranch - With 12 ft barrier

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 155400 SPEED (MPH): 65 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
	---	-----
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 80 SITE CHARACTERISTICS: SOFT

ELEVATION AT ROAD SURFACE: 0
ELEVATION AT BARRIER BASE: 12
BARRIER HEIGHT (FT): 12
BARRIER TYPE: WALL
ELEVATION AT RECEPTOR BASE: 12
RECEPTOR HEIGHT (FT): 5

ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 250
BARRIER TO RECEPTOR DISTANCE (FT): 10

* * CALCULATED NOISE LEVELS * *

Ldn WITHOUT BARRIER (dB)= 72.77

BARRIER ATTENUATION (dB):
Autos: -13.31
Med. Trucks: -13.23
Hvy. Trucks: -13.02

Ldn WITH BARRIER (dB)= 59.51

TABLE With 12 ft barrier-08
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/05/2019
ROADWAY SEGMENT: State Route 4 - Neighborhood A-1 Receptor #3
NOTES: Alves Ranch - With 12 ft barrier

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 155400 SPEED (MPH): 65 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
	---	-----
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 80 SITE CHARACTERISTICS: SOFT

ELEVATION AT ROAD SURFACE: 0
ELEVATION AT BARRIER BASE: 12
BARRIER HEIGHT (FT): 12
BARRIER TYPE: WALL
ELEVATION AT RECEPTOR BASE: 12
RECEPTOR HEIGHT (FT): 5

ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 250
BARRIER TO RECEPTOR DISTANCE (FT): 10

* * CALCULATED NOISE LEVELS * *

Ldn WITHOUT BARRIER (dB)= 72.77

BARRIER ATTENUATION (dB):
Autos: -13.31
Med. Trucks: -13.23
Hvy. Trucks: -13.02

Ldn WITH BARRIER (dB)= 59.51

TABLE With 12 ft barrier-09
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/05/2019
ROADWAY SEGMENT: State Route 4 - Neighborhood A-1 Receptor #4
NOTES: Alves Ranch - With 12 ft barrier

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 155400 SPEED (MPH): 65 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
	---	-----
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 80 SITE CHARACTERISTICS: SOFT

ELEVATION AT ROAD SURFACE: 0
ELEVATION AT BARRIER BASE: 12
BARRIER HEIGHT (FT): 12
BARRIER TYPE: WALL
ELEVATION AT RECEPTOR BASE: 12
RECEPTOR HEIGHT (FT): 5

ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 225
BARRIER TO RECEPTOR DISTANCE (FT): 10

* * CALCULATED NOISE LEVELS * *

Ldn WITHOUT BARRIER (dB)= 73.57

BARRIER ATTENUATION (dB):
Autos: -13.41
Med. Trucks: -13.32
Hvy. Trucks: -13.08

Ldn WITH BARRIER (dB)= 60.22

TABLE With 12 ft barrier-10
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/05/2019
ROADWAY SEGMENT: State Route 4 - Neighborhood A-1 Receptor #5
NOTES: Alves Ranch - With 12 ft barrier

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 155400 SPEED (MPH): 65 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
	---	-----
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 80 SITE CHARACTERISTICS: SOFT

ELEVATION AT ROAD SURFACE: 0
ELEVATION AT BARRIER BASE: 12
BARRIER HEIGHT (FT): 12
BARRIER TYPE: WALL
ELEVATION AT RECEPTOR BASE: 12
RECEPTOR HEIGHT (FT): 5

ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 345
BARRIER TO RECEPTOR DISTANCE (FT): 130

* * CALCULATED NOISE LEVELS * *

Ldn WITHOUT BARRIER (dB)= 70.42

BARRIER ATTENUATION (dB):
Autos: -10.61
Med. Trucks: -10.23
Hvy. Trucks: - 9.23

Ldn WITH BARRIER (dB)= 60.07
