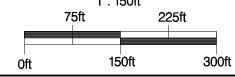


+ ST - SHORTERM MEASUREMENT

**+LT** - LONGTERM MEASUREMENT

- COMMERCIAL · - EXISTING WALL

- SOUNDWALL

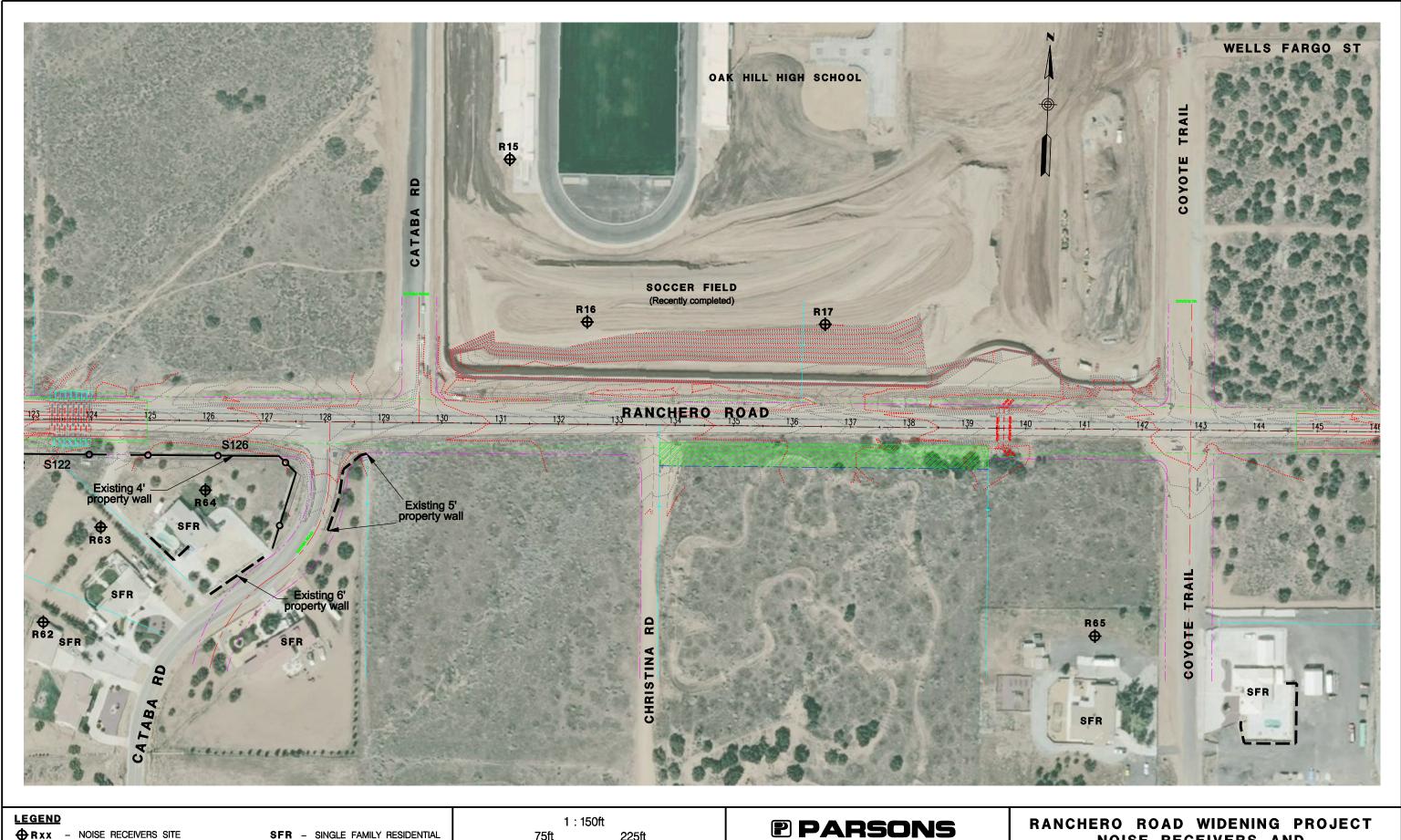


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### NOISE RECEIVERS AND **BARRIER LOCATIONS**

OCTOBER 21, 2011

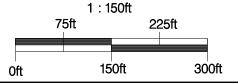
FIGURE 3



+ ST - SHORTERM MEASUREMENT

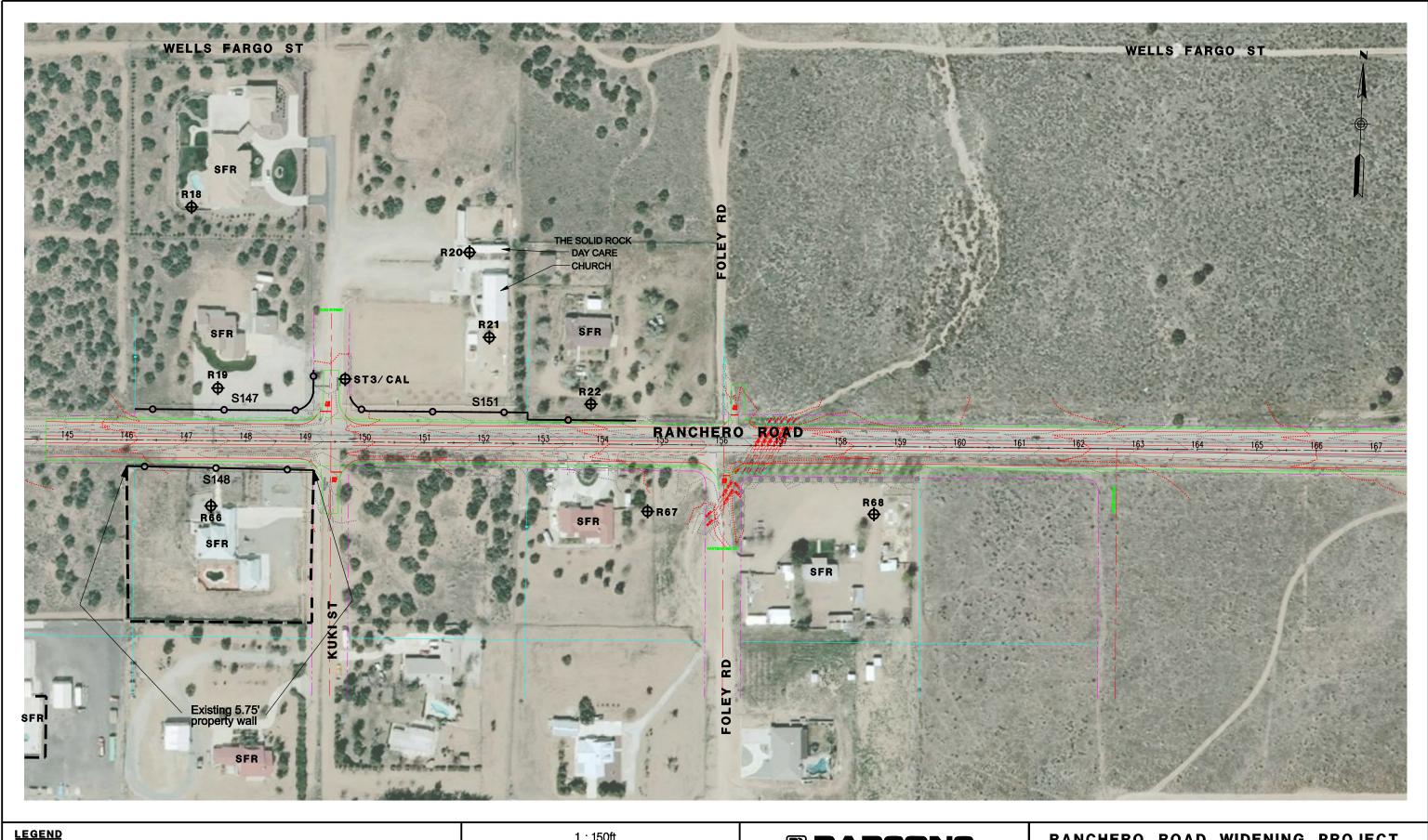
COMM - COMMERCIAL - - EXISTING WALL **+LT** - LONGTERM MEASUREMENT

SOUNDWALL



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## NOISE RECEIVERS AND **BARRIER LOCATIONS**



+ ST - SHORTERM MEASUREMENT

**+LT** - LONGTERM MEASUREMENT

SFR - SINGLE FAMILY RESIDENTIAL

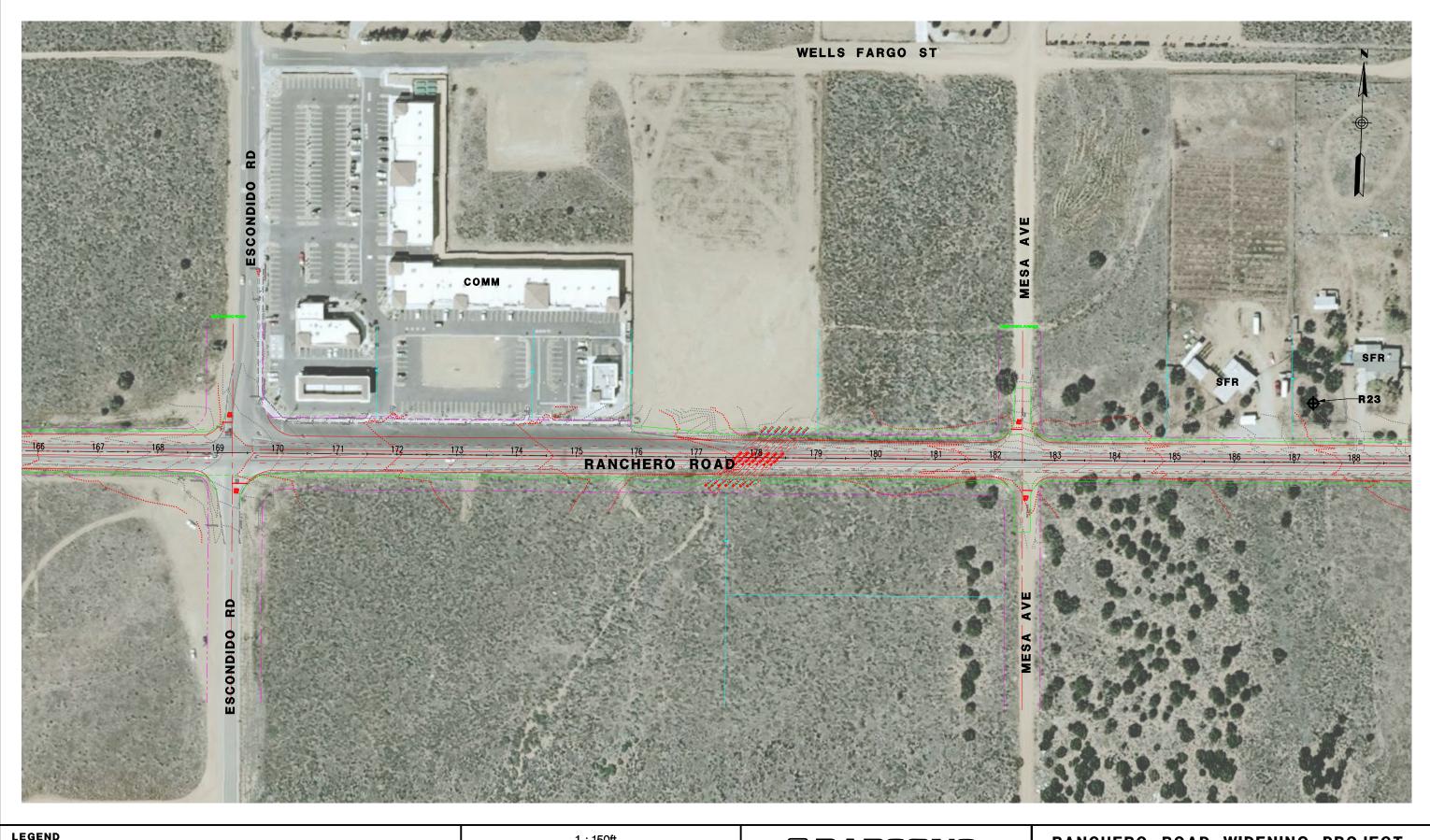
COMM - COMMERCIAL - · - EXISTING WALL — – SOUNDWALL



# P PARSONS

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### RANCHERO ROAD WIDENING PROJECT NOISE RECEIVERS AND **BARRIER LOCATIONS**



**LEGEND** 

⊕RXX - NOISE RECEIVERS SITE

+ ST - SHORTERM MEASUREMENT

**+LT** - LONGTERM MEASUREMENT

SFR - SINGLE FAMILY RESIDENTIAL

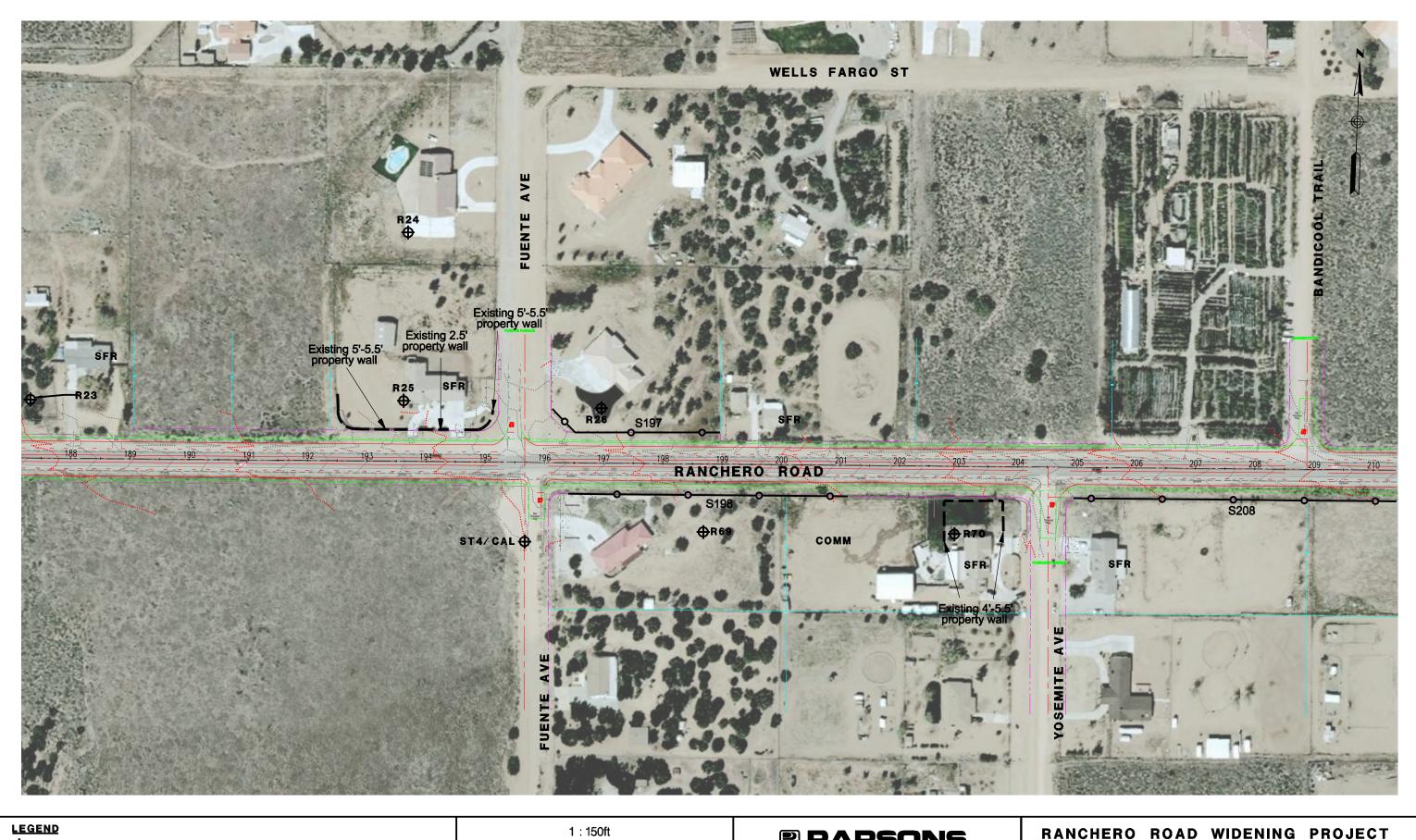
COMM - COMMERCIAL - · - EXISTING WALL - SOUNDWALL



## P PARSONS

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### RANCHERO ROAD WIDENING PROJECT NOISE RECEIVERS AND **BARRIER LOCATIONS**

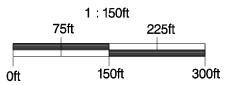


**♦ ST** - SHORTERM MEASUREMENT

**+LT** - LONGTERM MEASUREMENT

SFR - SINGLE FAMILY RESIDENTIAL

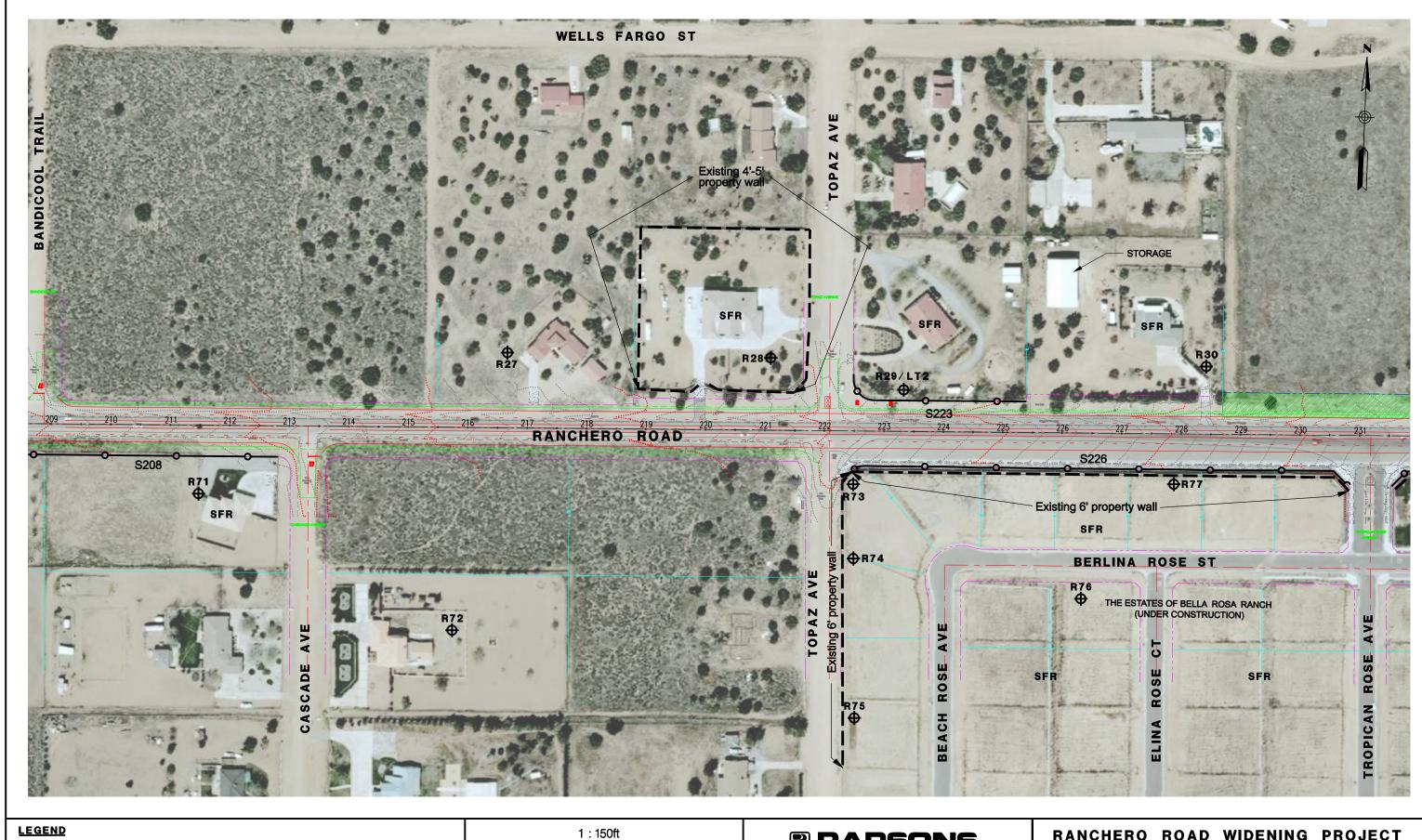
COMM - COMMERCIAL - - EXISTING WALL — - SOUNDWALL



### P PARSONS

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### NOISE RECEIVERS AND **BARRIER LOCATIONS**



⊕ST - SHORTERM MEASUREMENT

**+LT** - LONGTERM MEASUREMENT

SFR - SINGLE FAMILY RESIDENTIAL

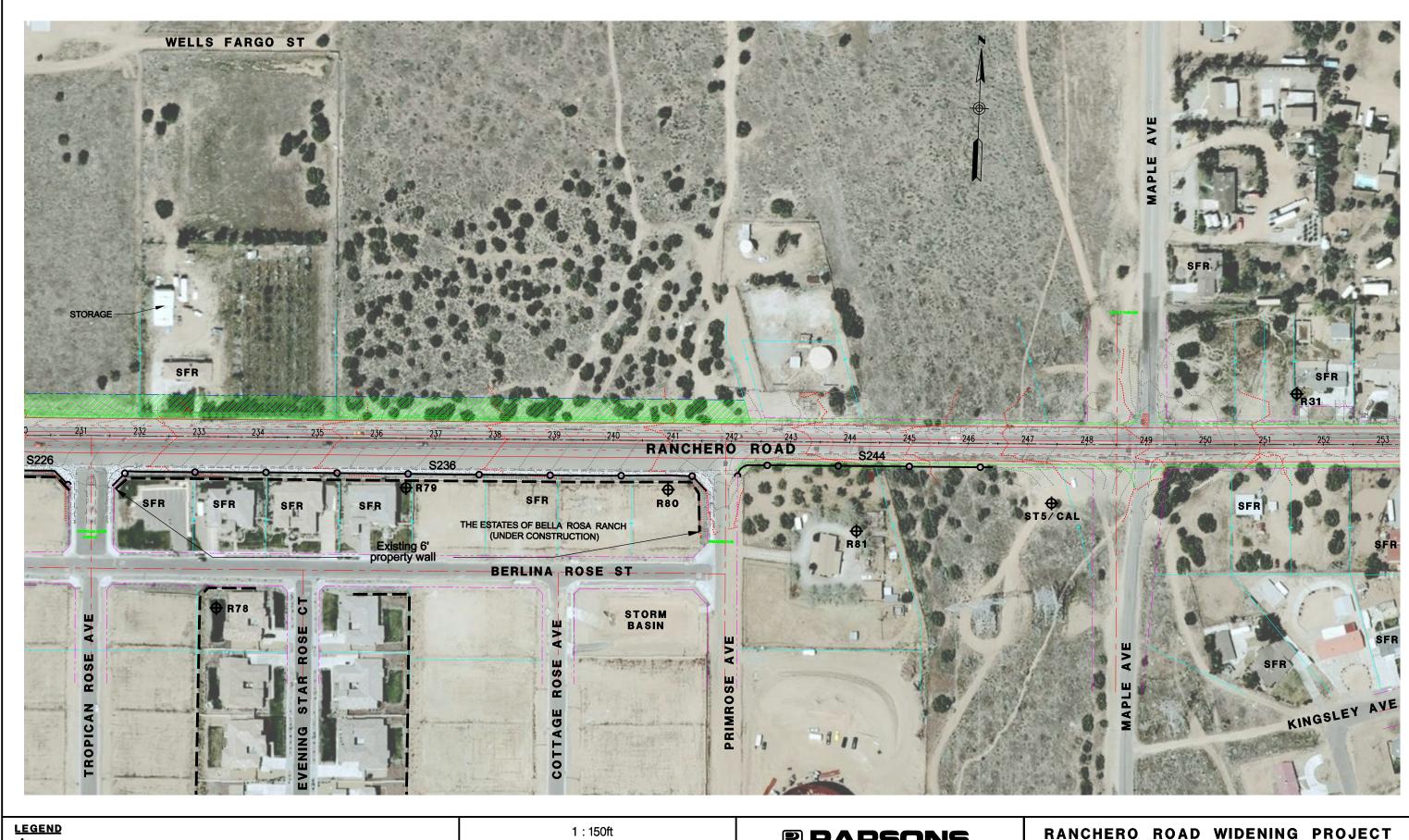
COMM - COMMERCIAL - · - EXISTING WALL - SOUNDWALL



## **PARSONS**

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### RANCHERO ROAD WIDENING PROJECT NOISE RECEIVERS AND **BARRIER LOCATIONS**



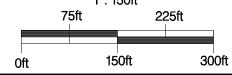
⊕ST - SHORTERM MEASUREMENT

**+LT** - LONGTERM MEASUREMENT

SFR - SINGLE FAMILY RESIDENTIAL COMM - COMMERCIAL

- · - EXISTING WALL

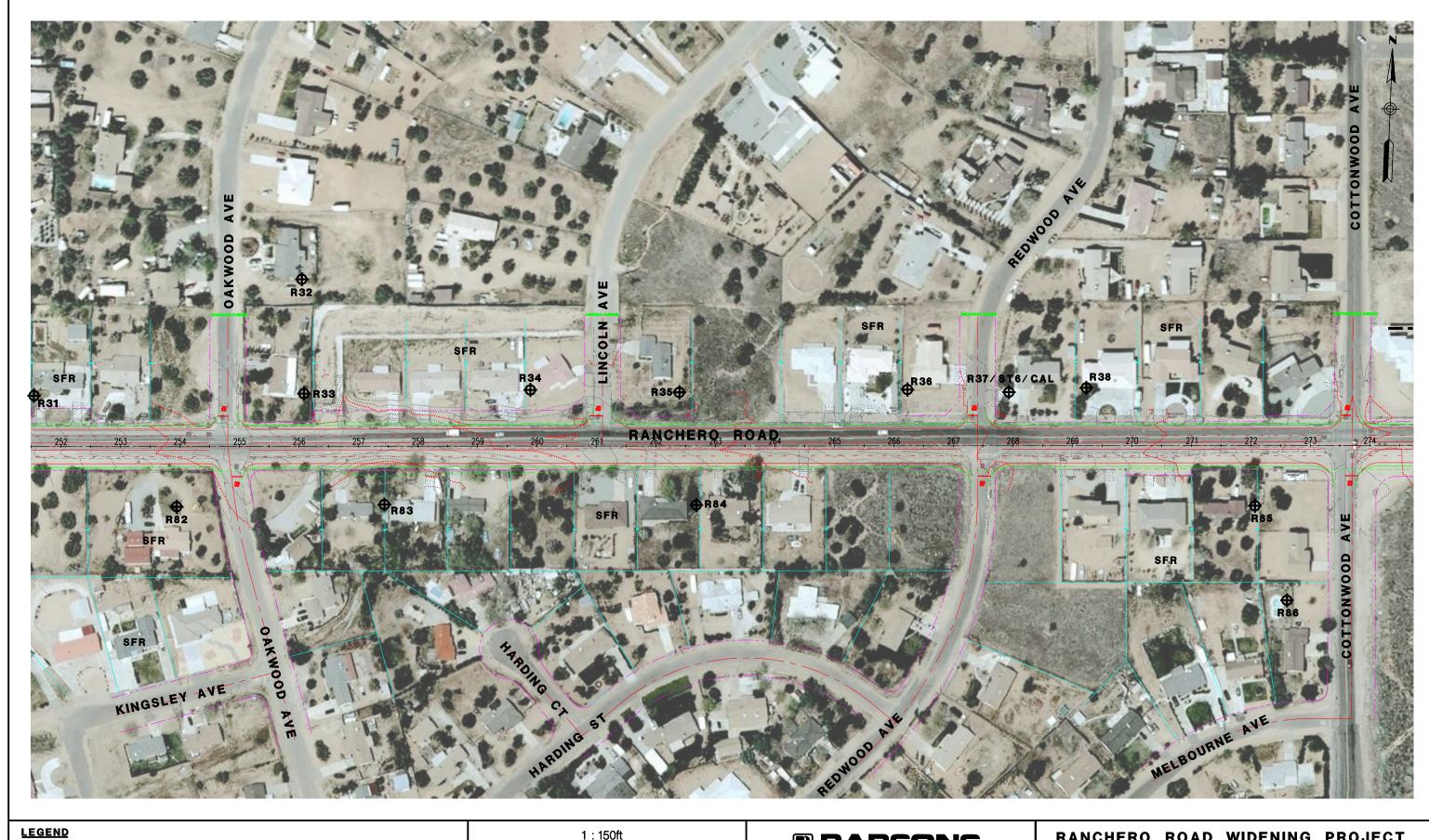
— - SOUNDWALL



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### NOISE RECEIVERS AND **BARRIER LOCATIONS**

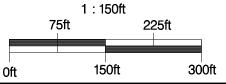


+ ST - SHORTERM MEASUREMENT

**+ LT** - LONGTERM MEASUREMENT

SFR - SINGLE FAMILY RESIDENTIAL COMM - COMMERCIAL - - - EXISTING WALL

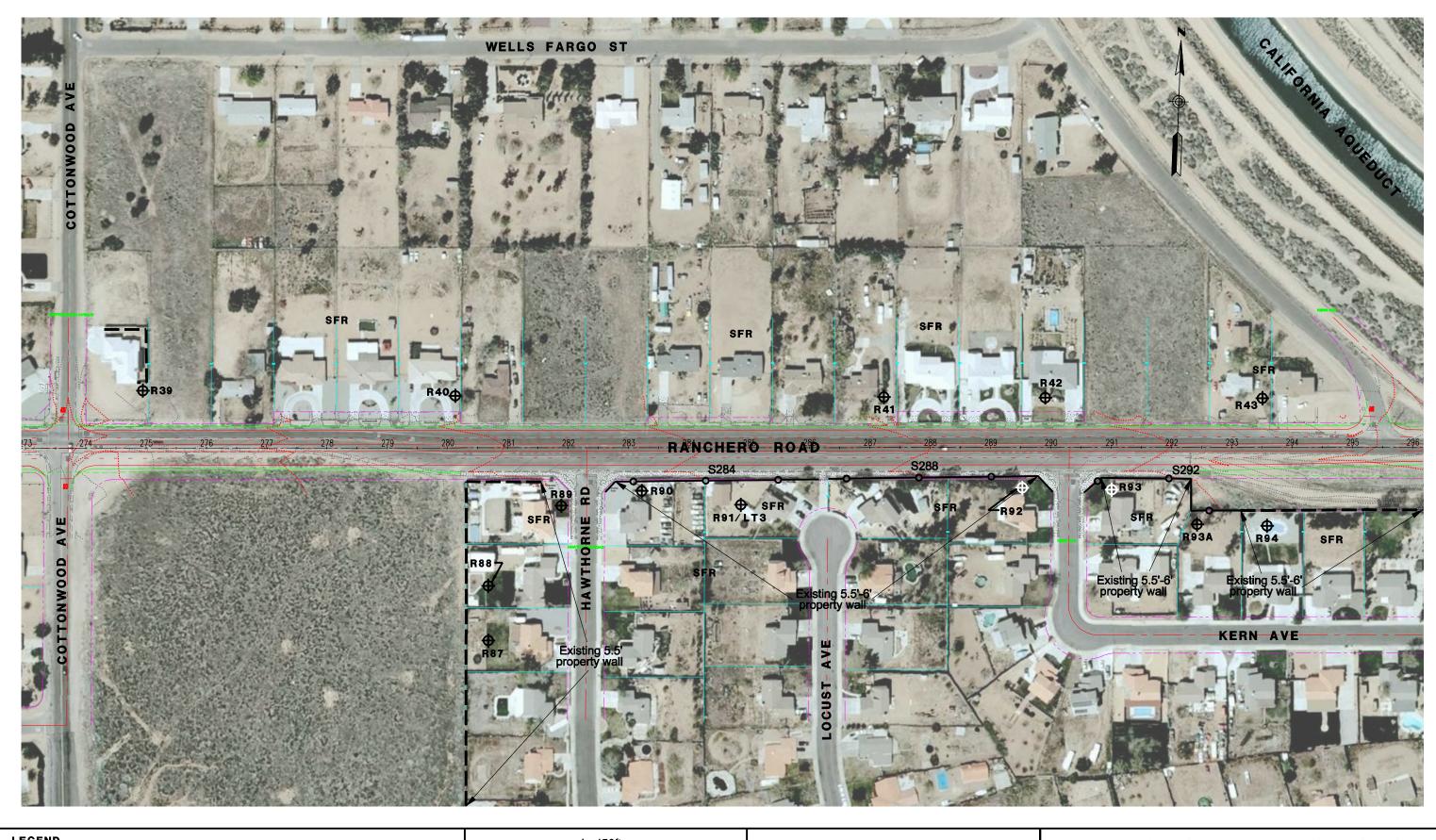
— - SOUNDWALL



## P PARSONS

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### RANCHERO ROAD WIDENING PROJECT NOISE RECEIVERS AND **BARRIER LOCATIONS**



**LEGEND** 

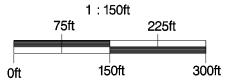
⊕RXX - NOISE RECEIVERS SITE

**♦ ST** - SHORTERM MEASUREMENT

**⊕LT** - LONGTERM MEASUREMENT

SFR - SINGLE FAMILY RESIDENTIAL COMM - COMMERCIAL

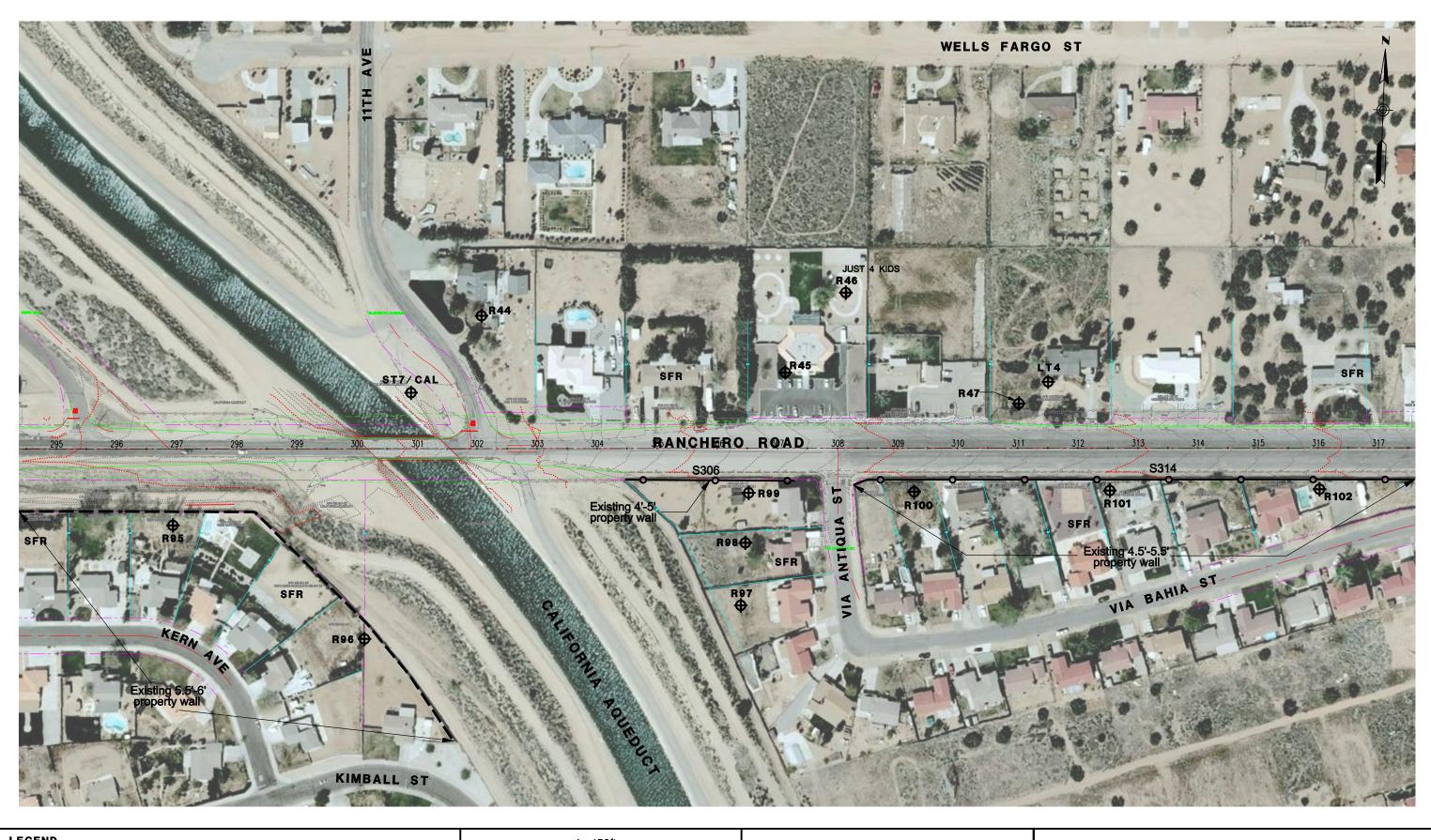
- - EXISTING WALL - SOUNDWALL



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RANCHERO ROAD WIDENING PROJECT NOISE RECEIVERS AND **BARRIER LOCATIONS** 





+ ST - SHORTERM MEASUREMENT

⊕LT - LONGTERM MEASUREMENT

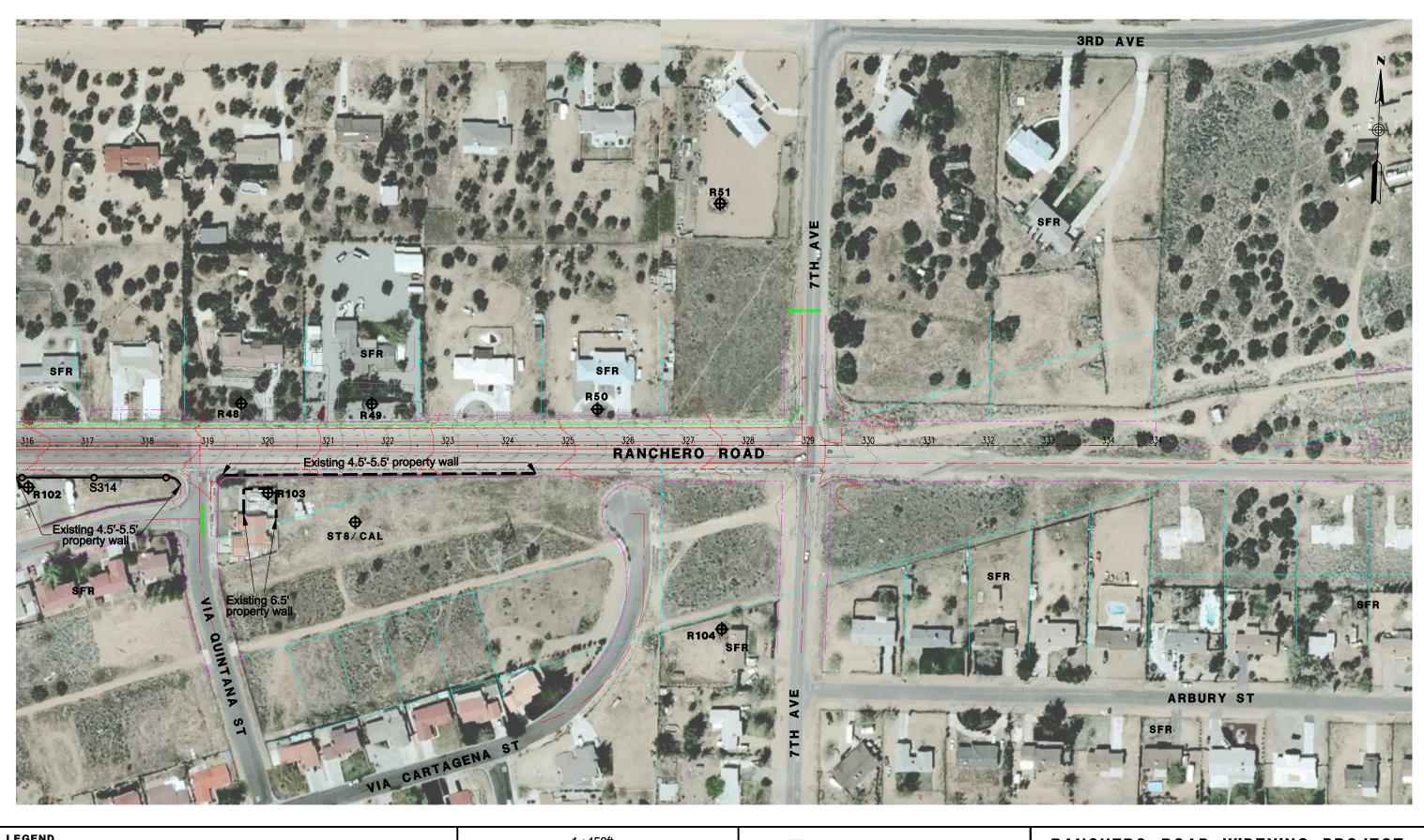
SFR - SINGLE FAMILY RESIDENTIAL
COMM - COMMERCIAL
- - - - - - EXISTING WALL
- SOUNDWALL



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### RANCHERO ROAD WIDENING PROJECT NOISE RECEIVERS AND BARRIER LOCATIONS





⊕ST - SHORTERM MEASUREMENT

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## **PARSONS**

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### RANCHERO ROAD WIDENING PROJECT NOISE RECEIVERS AND **BARRIER LOCATIONS**

# **Appendix J** Noise Analysis Tables

							Fu	ture Noise	Levels in	Outdoor	Activity	Areas							rior
						ar Without ject	Design	ı Year With										Façades er), dBA	Indoor Level to Avoid Interior
	_		ts						dBA	Impac	t Type	Noise	Pred	ictic	n wit	h Barr	ier <sup>5</sup>	ng F arrie	Avo
	Location		ling Units	Level		Existing L, dBA		Existing L, dBA	uture No	Vith Equals dBA	of 5 dB g in or More	Barri	er Des	ign	Barri	er Des	ign	d Building ithout Barri	다 (g 명)
Receiver I.D. 1	Barrier I.D. and	Land Use <sup>2</sup>	Number of Dwelling	Existing Noise   CNEL, dBA	CNEL, dBA	Difference from Existi Conditions CNEL, dBA	CNEL, dBA	Difference from Existir Conditions CNEL, dBA	Difference from Future No Project Conditions CNEL,	Design Year With Project CNEL Equ or Exceeds 65 dB	Project Increase of 5 or More Resulting in CNEL of 60 dBA or N	Height, ft	CNEL, dBA	I.L., dB	Height, ft	CNEL, dBA	I.L., dB	CNEL at Selected Building Façades With Project (Without Barrier), dBA	Minimum Outdoo Reduction (OILR, Impact <sup>3</sup>
R1 W	S67	SFR	1	49.0	54.6	+5.6	56.1	+7.1	+1.5	No	No	7	56	0	11	55	1	-	
R 2 W	R/W	SFR	1	58.0	63.3	+5.3	65.0	+7.0	+1.7	Yes	No	7	63	2	11	60	5	-	
R3 W	S73	SFR	1	59.6	64.9	+5.3	66.6	+7.0	+1.7	Yes	No	7	64	3	10	60	7	-	-
R4 W	R/W	SFR	3	46.2	52.0	+5.8	53.4	+7.2	+1.4	No	No	7	53		10	52	1	-	
R5 W		SFR	1	58.1	63.4	+5.3	65.1	+7.0	+1.7	Yes	No	7	63	2		60	5	-	-
R6 W	S81	SFR	1	58.4	63.7	+5.3	65.4	+7.0	+1.7	Yes	No	7	63		10	60	5	-	-
R7 W R8 W	R/W	SFR SFR	1	49.1 58.3	55.5 64.4	+6.4 +6.1	56.8 66.0	+7.7 +7.7	+1.3 +1.6	No Yes	No No	7 <b>7</b>	57 <b>64</b>	2	10 <b>10</b>	56 60	1 6	_	
R9 W		SFR	1	56.0	63.2	+7.2	61.7	+5.7	-1.5	No	No			-					
R 9A LT1/CAL		SFR	1	54.2	60.6	+6.4	60.4	+6.2	-0.2	No	No					-			
R 10		SFR	1	52.0	58.0	+6.0	59.1	+7.1	+1.1	No	No								
R 11 W		SFR	1	50.7	56.5	+5.8	58.0	+7.3	+1.5	No	No								
R 12 W		SFR	2	50.3	56.0	+5.7	57.7	+7.4	+1.7	No	No		-	-				-	

- 1 STxx or LTxx measurement site number; CAL Calibration site.
- 2 Land Use: SFR single-family residence; CHR Church; SCH School; PLG Playgrounds, recreational/sports fields.
- 3 Noise levels in these columns are reported to a precision of 0.1 dBA to more clearly distinguish whether or not predicted noise levels are expected to increase between Without Project and With Project conditions. The accuracy of the absolute noise level predictions shown here is not as fine as one tenth of a decibel.
- 4 The City's currently-adopted General Plan Noise Element establishes an CNEL of 65 dBA as the exterior noise standard for residential development, the facades of classrooms, and park uses.
- 5 The minimum barrier height considered was 6 feet or 2 feet taller than the existing property wall (if applicable), whichever is higher. The maximum barrier height considered is 12 feet
- 6 Design A was only considered where one or more receivers were predicted to experience a Community Noise Equivalent Level (CNEL) of 65 dBA or higher under Design Year With Project conditions. It represents the minimum height required to reduce outdoor traffic noise exposure to a CNEL below 65 dBA at as many of the receivers exposed to those impacts as possible.
- 7 Design B represents the minimum height required to provide five or more decibels of reduction in traffic noise exposure at all impacted receivers where such reduction is possible.
- 8 In many cases, receivers selected to represent outdoor activity areas are set back a different distance from the roadway than the buildings themselves. Where outdoor impacts have been identified under one or more cruise speed scenarios and where the adequacy of noise reduction could be an issue for one or more of those scenarios, CNEL values predicted at the building facade are presented here. These are the appropriate values to use in computing the minimum OILR.
- 9 It has been assumed that the Ranchero-Rd.-facing facades of buildings will provide at least 25 dB of outdoor to indoor noise level reduction (OILR) for older homes and at least 30 dB of OILR for newer homes. Therefore, values are reported in these columns only if the minimum required OILR is above these assumed levels.
- \* Intervening building structures substantially obstruct line of sight to Ranchero Road.
- @ OILR requirement is assumed to be met.
- .L. Insertion Loss. W Existing private property wall or soundwall.
- X Represented land use depends upon Ranchero Road for vehicular access.
- S These receivers are located within school property. However, abatement is not warranted at these sports fields. The actual school classrooms are set much further back from the Ranchero Road, and would not be exposed to significant noise impacts.
- Y Adjacent/intervening driveways would inhibit feasibility of sound walls within existing/future City right-of-way.
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Table D-1. Predicted Future Noise Levels and Noise Abatement Analysis:
National-Average Pavement Conditions (cont'd)

							Fu	ture Noise	Levels in	Outdoor	Activity	Areas	;					8 A	
					_	ar Without												açades ), dBA	Level d
					Pro	ject	Design	Year With		4								Fag er),	loor Lo Avoid
	_		its						dBA	Impac	t Type	Nois	e Pred	ictic	n wit	h Barr	ier <sup>5</sup>	ing arri	
	l Location		Iling Units	Level		from Existing CNEL, dBA		from Existing CNEL, dBA	Future No ns CNEL, o	Vith Equals dBA <sup>4</sup>	of 5 dB ig in or More	Barri	ier Des	ign	Barri	er Des	sign	ed Building F Vithout Barrier	oor to Ind R, dB) to
Receiver I.D. <sup>1</sup>	Barrier I.D. and	Land Use <sup>2</sup>	Number of Dwelling	Existing Noise Level CNEL, dBA	CNEL, dBA	Difference from Conditions CNEI	CNEL, dBA	Difference from Conditions CNEI	Difference from Future No Project Conditions CNEL,	Design Year With Project CNEL Equ or Exceeds 65 dB	Project Increase of 5 or More Resulting in CNEL of 60 dBA or N	Height, ft	CNEL, dBA	I.L., dB	Height, ft	CNEL, dBA	I.L., dB	CNEL at Selected Building Façades With Project (Without Barrier), dBA	Minimum Outdoor to Reduction (OILR, dB) Interior Impact <sup>9</sup>
R 13 <sup>X</sup>		SFR	1	65.3	70.1	+4.8	72.2	+6.9	+2.1	Yes	No							-	@
R 14		SFR	1	50.8	56.6	+5.8	58.5	+7.7	+1.9	No	No			-				-	
R 15		PLG <sup>S</sup>	1	50.5	55.7	+5.2	57.3	+6.8	+1.6	No	No			-			-		-
R 16	-	PLG <sup>S</sup>	3	56.6	61.7	+5.1	63.3	+6.7	+1.6	No	No			-			l l		
R 17		PLG <sup>S</sup>	8	58.4	63.3	+4.9	64.7	+6.3	+1.4	No	No							-	
R 18	S147	SFR	1	51.4	57.2	+5.8	59.9	+8.5	+2.7	No	No	11	58	2	6	59	1	-	
R 19	R/W	SFR	1	65.0	70.0	+5.0	72.9	+7.9	+2.9	Yes	No	11	64	9	6	68	5	-	
R 20	S151	SCH	1	53.1	58.8	+5.7	62.1	+9.0	+3.3	No	No	6	60	2	10	59	3	-	
R 21	R/W	CHR	1	58.5	63.8	+5.3	67.0	+8.5	+3.2	Yes	No	6	64	3	10	62	5		
R 22 X		SFR	1	67.7	72.6	+4.9	75.9	+8.2	+3.3	Yes	No	6	70	6	10	69	7		
R 23 X		SFR	2	62.2	67.0	+4.8	68.5	+6.3	+1.5	Yes	No						[	-	@
R 24 <sup>Z</sup>	-	SFR	1	48.9	54.4	+5.5	56.4	+7.5	+2.0	No	No			-					
R 25 <sup>X,W</sup>		SFR	1	58.9	64.0	+5.1	66.0	+7.1	+2.0	Yes	No								@

- 1 STxx or LTxx measurement site number; CAL Calibration site.
- 2 Land Use: SFR single-family residence; CHR Church; SCH School; PLG Playgrounds, recreational/sports fields.
- 3 Noise levels in these columns are reported to a precision of 0.1 dBA to more clearly distinguish whether or not predicted noise levels are expected to increase between Without Project and With Project conditions. The accuracy of the absolute noise level predictions shown here is not as fine as one tenth of a decibel.
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- 7 Design B represents the minimum height required to provide five or more decibels of reduction in traffic noise exposure at all impacted receivers where such reduction is possible.
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							Fu	ture Noise	Levels in	Outdoor	Activity	Areas	;					8 A	
					_	ar Without ject		n Year With	Project									Façades er), dBA	Level
	_		ts						dB A	Impac	t Type	Nois	e Pred	ictic	on wit	h Barr	ier <sup>5</sup>	ng F arrier	Indoor Le
	Location		Dwelling Units	Level		Existing L, dBA		from Existing CNEL, dBA	Future No ns CNEL, o	Vith Equals dBA <sup>4</sup>	of 5 dB g in or More	Barri	ier Des	sign	Barri	ier Des	sign	ed Building lithout Barri	5 (g
Receiver I.D. <sup>1</sup>	Barrier I.D. and	Land Use <sup>2</sup>	Number of Dwe	Existing Noise I CNEL, dBA	CNEL, dBA	Difference from E) Conditions CNEL,	CNEL, dBA	Difference from Conditions CNEL	Difference from Future No Project Conditions CNEL,	Design Year With Project CNEL Εqι or Exceeds 65 dB	Project Increase of 5 or More Resulting in CNEL of 60 dBA or M	Height, ft	CNEL, dBA	I.L., dB	Height, ft	CNEL, dBA	I.L., dB	CNEL at Selected Building Façades With Project (Without Barrier), dBA	Minimum Outdoor Reduction (OILR, d Interior Impact <sup>9</sup>
R 26	S197 R/W	SFR	2	62.8	67.7	+4.9	69.1	+6.3	+1.4	Yes	No	6	64	5	6	64	5	_	
R 27 X		SFR	1	63.9	68.7	+4.8	69.3	+5.4	+0.6	Yes	No								@
R 28 X,W	-	SFR	1	61.2	66.2	+5.0	67.7	+6.5	+1.5	Yes	No	-				-			@
R 29 LT2/CAL	S223 R/W	SFR	1	66.5	71.3	+4.8	72.9	+6.4	+1.6	Yes	No	9	64	9	6	67	6	-	
R 30 X		SFR	2	64.1	69.0	+4.9	70.4	+6.3	+1.4	Yes	No							-	@
R 31 <sup>X</sup>		SFR	2	64.0	70.0	+6.0	71.4	+7.4	+1.4	Yes	No	-				-		-	@
R 32 *		SFR	3	53.9	60.1	+6.2	61.3	+7.4	+1.2	No	No			-					
R 33 <sup>Z</sup>		SFR	1	64.3	70.3	+6.0	71.0	+6.7	+0.7	Yes	No								@
R 34 ×	-	SFR	4	63.9	70.0	+6.1	70.4	+6.5	+0.4	Yes	No								@
R 35 Z		SFR	1	64.3	70.4	+6.1	70.8	+6.5	+0.4	Yes	No								@
R 36 Y		SFR	3	63.9	70.0	+6.1	70.2	+6.3	+0.2	Yes	No	-				-		-	@
R 37 X		SFR	1	64.4	70.5	+6.1	71.0	+6.6	+0.5	Yes	No	-				-		-	@
R 38 X		SFR	4	63.9	69.9	+6.0	70.1	+6.2	+0.2	Yes	No								26

- 1 STxx or LTxx measurement site number; CAL Calibration site.
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National-Average Pavement Conditions (cont'd)

							Fu	ture Noise	Levels in	Outdoor	Activity	Areas	;					8 A	
					_	ar Without		n Year With	Project									CNEL at Selected Building Façades With Project (Without Barrier), dBA	Level d
			S.		110	jeci	Design	l rear with	A B	Impac	t Type	Nois	e Predi	ictio	n wit	h Barr	ier <sup>5</sup>	ng Fa	Indoor Lo to Avoid
	Location		Units	_		gu ,		bu /	e No IEL, c									Building out Barri	호
	Loca		Dwelling	Leve		Existing L, dBA		from Existing CNEL, dBA	Future No ns CNEL, o	/ith Equals dBA <sup>4</sup>	of 5 dB g in or More	Багг	ier Des A <sup>6</sup>	agn	Багп	B <sup>7</sup>	agn	ed Bu	- D
- ·	and			oise		from Ey		from I	rom I	. ∃. S	ease sulting dBA							Selected ject (With	Outdoor (OILR, d ipact <sup>9</sup>
er I.I	I.D.	Jse 2	ır of	g Ng dBA	dBA	nce f	dBA	nce f	nce f Con	Year V t CNEL eeds 65	oject Increase of 5 More Resulting in IEL of 60 dBA or N	#	dBA	_	#	dBA	_	at Se rojeo	i in l
Receiver I.D.	Barrier I.D.	Land Use <sup>2</sup>	Number	Existing Noise Level CNEL, dBA	CNEL,	Difference f Conditions (	CNEL,	Difference f	Difference from Future No Project Conditions CNEL,	Design Yea Project CNE or Exceeds	Project Increase of 5 or More Resulting in CNEL of 60 dBA or M	Height,	CNEL,	, dB	Height,	CNEL,	, dB	CNEL With P	Minimum Outdoo Reduction (OILR, Interior Impact <sup>9</sup>
ž	Ä	تْ	ž	щõ	อ	äŏ	ਹ	äŏ	2.5	ه په ت	ក្ខភ	Ĭ	ਹ	르	Ť	ਹ	≓	ວ >	2 % E
R 39 <sup>Z</sup>		SFR	1	64.1	70.2	+6.1	70.4	+6.3	+0.2	Yes	No					-		-	@
R 40 X		SFR	5	63.9	70.0	+6.1	71.2	+7.3	+1.2	Yes	No							71	27
R 41 X		SFR	4	63.9	70.0	+6.1	71.7	+7.8	+1.7	Yes	No							72	28
R 42 X		SFR	3	64.0	70.1	+6.1	71.7	+7.7	+1.6	Yes	No							-	@
R 43 <sup>X</sup>		SFR	1	64.0	70.0	+6.0	72.0	+8.0	+2.0	Yes	No							72	28
R 44 Y		SFR	3	54.7	61.4	+6.7	62.4	+7.7	+1.0	No	No		-						
R 45 X		SCH	1	60.5	66.6	+6.1	67.7	+7.2	+1.1	Yes	No							-	@
R 46 X,*		PLY	1	52.5	58.8	+6.3	60.2	+7.7	+1.4	No	No								
R 47 X		SFR	4	61.5	67.5	+6.0	69.1	+7.6	+1.6	Yes	No							68	@
R 48 <sup>X</sup>		SFR	2	60.6	66.6	+6.0	68.3	+7.7	+1.7	Yes	No	-						68	@
R 49 X		SFR	1	60.2	66.5	+6.3	68.3	+8.1	+1.8	Yes	No							68	@
R 50 X		SFR	2	59.1	67.2	+8.1	69.8	+10.7	+2.6	Yes	No							68	@
R 51 Y		SFR	1	46.9	55.0	+8.1	57.3	+10.4	+2.3	No	No						-		

- 1 STxx or LTxx measurement site number; CAL Calibration site.
- 2 Land Use: SFR single-family residence; CHR Church; SCH School; PLG Playgrounds, recreational/sports fields.
- 3 Noise levels in these columns are reported to a precision of 0.1 dBA to more clearly distinguish whether or not predicted noise levels are expected to increase between Without Project and With Project conditions. The accuracy of the absolute noise level predictions shown here is not as fine as one tenth of a decibel.
- 4 The City's currently-adopted General Plan Noise Element establishes an CNEL of 65 dBA as the exterior noise standard for residential development, the facades of classrooms, and park uses.
- 5 The minimum barrier height considered was 6 feet or 2 feet taller than the existing property wall (if applicable), whichever is higher. The maximum barrier height considered is 12 feet.
- 6 Design A was only considered where one or more receivers were predicted to experience a Community Noise Equivalent Level (CNEL) of 65 dBA or higher under Design Year With Project conditions. It represents the minimum height required to reduce outdoor traffic noise exposure to a CNEL below 65 dBA at as many of the receivers exposed to those impacts as possible.
- 7 Design B represents the minimum height required to provide five or more decibels of reduction in traffic noise exposure at all impacted receivers where such reduction is possible
- 8 In many cases, receivers selected to represent outdoor activity areas are set back a different distance from the roadway than the buildings themselves. Where outdoor impacts have been identified under one or more cruise speed scenarios and where the adequacy of noise reduction could be an issue for one or more of those scenarios, CNEL values predicted at the building facade are presented here. These are the appropriate values to use in computing the minimum OILR.
- 9 It has been assumed that the Ranchero-Rd.-facing facades of buildings will provide at least 25 dB of outdoor to indoor noise level reduction (OILR) for older homes and at least 30 dB of OILR for newer homes. Therefore, values are reported in these columns only if the minimum required OILR is above these assumed levels.
- \* Intervening building structures substantially obstruct line of sight to Ranchero Road.
- @ OILR requirement is assumed to be met.
- nsertion Loss. W Existing private property wall or soundwall. X Represented land use depends upon Ranchero Road for vehicular access.
- S These receivers are located within school property. However, abatement is not warranted at these sports fields. The actual school classrooms are set much further back from the Ranchero Road, and would not be exposed to significant noise impacts.
- Y- Adjacent/intervening driveways would inhibit feasibility of sound walls within existing/future City right-of-way.
- Z To be feasible, a soundwall would need to extend along the boundary of adjacent undeveloped property. However, the undeveloped property would depend upon vehicular access to Ranchero Road to remain viable.

Table D-1. Predicted Future Noise Levels and Noise Abatement Analysis:
National-Average Pavement Conditions (cont'd)

							Fu	ture Noise	Levels in	Outdoor	Activity	Areas	;					8 X	
						ar Without ject		n Year With										Façades er), dBA	r Level oid
	ء		Units						dBA	Impac	t Type	Nois	e Pred	ictic	n wit	h Barı	ier <sup>5</sup>	ing l	Indoor Lo to Avoid
	and Location		Dwelling Un	Level		from Existing CNEL, dBA		from Existing CNEL, dBA	Future No	Vith Equals dBA <sup>4</sup>	of 5 dB g in or More	Barr	ier Des	ign	Barri	ier Des	sign	ed Building ithout Barri	or to
Receiver I.D. <sup>1</sup>	Barrier I.D. and	Land Use <sup>2</sup>	Number of Dwe	Existing Noise Level CNEL, dBA	CNEL, dBA	Difference from Conditions CNEI	CNEL, dBA	Difference from Conditions CNEI	Difference from Future No Project Conditions CNEL, o	Design Year With Project CNEL Equ or Exceeds 65 dB	Project Increase of 5 or More Resulting in CNEL of 60 dBA or N	Height, ft	CNEL, dBA	I.L., dB	Height, ft	CNEL, dBA	I.L., dB	CNEL at Selected Building Façades With Project (Without Barrier), dBA	Minimum Outdoor Reduction (OILR, d Interior Impact <sup>9</sup>
R 52 X		SFR	1	60.4	65.4	+5.0	67.7	+7.3	+2.3	Yes	No							-	@
R 53	S74 R/W	SFR	1	63.0	67.8	+4.8	68.3	+5.3	+0.5	Yes	No	6	63	5	6	63	5	-	
R 54		SFR	1	62.8	67.6	+4.8	68.0	+5.2	+0.4	Yes	No	6	64	4	6	63	5		
R 55	S80 R/W	SFR	1	50.7	56.2	+5.5	57.6	+6.9	+1.4	No	No	6	55	3	6	55	3		
R 56		SFR	- <sup>10</sup>	62.3	67.4	+5.1	68.9	+6.6	+1.5	Yes	No	6	63	6	6	62	7	-	
R 57 X		SFR	1	65.2	70.0	+4.8	71.5	+6.3	+1.5	Yes	No							-	@
10 30		SFR	1	52.0	57.7	+5.7	60.0	+8.0	+2.3	No	No							-	
R 59	S114 R/W	SFR	1	65.2	70.1	+4.9	71.9	+6.7	+1.8	Yes	No	12	66	6	9	67	5	-	-
R 60 Y		SFR SFR	1	54.7 51.6	60.2 57.3	+5.5 +5.7	62.8 59.5	+8.1 +7.9	+2.6 +2.2	No	No No		-	-					-
R 62		SFR	1	53.7	57.3	+5.7	60.9	+7.9	+2.2	No No	No No	6	60	1	 12	 59	2		
R 63	S122 R/W	SFR		60.6	65.6	+5.0	66.7	+6.1	+1.1	Yes	No	6	65	2	12	63	4	_	
R 64 W	S126 R/W	SFR	1	60.9	66.1	+5.2	67.3	+6.4	+1.2	Yes	No	11	64	3	12	63	4		
R 65 Z		SFR	6	52.6	58.3	+5.7	60.6	+8.0	+2.3	No	No			۳,				_	-

- 1 STxx or LTxx measurement site number; CAL Calibration site.
- 2 Land Use: SFR single-family residence; CHR Church; SCH School; PLG Playgrounds, recreational/sports fields.
- 3 Noise levels in these columns are reported to a precision of 0.1 dBA to more clearly distinguish whether or not predicted noise levels are expected to increase between Without Project and With Project conditions. The accuracy of the absolute noise level predictions shown here is not as fine as one tenth of a decibel.
- 4 The City's currently-adopted General Plan Noise Element establishes an CNEL of 65 dBA as the exterior noise standard for residential development, the facades of classrooms, and park uses.
- 5 The minimum barrier height considered was 6 feet or 2 feet taller than the existing property wall (if applicable), whichever is higher. The maximum barrier height considered is 12 feet.
- 6 Design A was only considered where one or more receivers were predicted to experience a Community Noise Equivalent Level (CNEL) of 65 dBA or higher under Design Year With Project conditions. It represents the minimum height required to reduce outdoor traffic noise exposure to a CNEL below 65 dBA at as many of the receivers exposed to those impacts as possible.
- 7 Design B represents the minimum height required to provide five or more decibels of reduction in traffic noise exposure at all impacted receivers where such reduction is possible
- 8 In many cases, receivers selected to represent outdoor activity areas are set back a different distance from the roadway than the buildings themselves. Where outdoor impacts have been identified under one or more cruise speed scenarios and where the adequacy of noise reduction could be an issue for one or more of those scenarios, CNEL values predicted at the building facade are presented here. These are the appropriate values to use in computing the minimum OILR.
- 9 It has been assumed that the Ranchero-Rd.-facing facades of buildings will provide at least 25 dB of outdoor to indoor noise level reduction (OILR) for older homes and at least 30 dB of OILR for newer homes. Therefore, values are reported in these columns only if the minimum required OILR is above these assumed levels.
- 10 R56 represents the same residential unit as R54. The applicable dwelling unit is accounted for with R54.
- \* Intervening building structures substantially obstruct line of sight to Ranchero Road. @ OILR requirement is a
- I.L. Insertion Loss. W Existing private property wall or soundwall.
- OILR requirement is assumed to be met.

  X Represented land use depends upon Ranchero Road for vehicular access.
- S These receivers are located within school property. However, abatement is not warranted at these sports fields. The actual school classrooms are set much further back from the Ranchero Road, and would not be exposed to significant noise impacts.
- Y Adjacent/intervening driveways would inhibit feasibility of sound walls within existing/future City right-of-way.
- Z To be feasible, a soundwall would need to extend along the boundary of adjacent undeveloped property. However, the undeveloped property would depend upon vehicular access to Ranchero Road to remain viable.

Table D-1. Predicted Future Noise Levels and Noise Abatement Analysis:
National-Average Pavement Conditions (cont'd)

							Fu	ture Noise	Levels in	Outdoor	Activity	Areas						8 A	
					Design Ye	ar Without ject		ı Year With										Façades er), dBA	Indoor Level to Avoid
	ا ۔		ts						dBA	Impac	t Type	Noise	Predi	ictic	n wit	h Barr	ier <sup>5</sup>	ng l	door Lo
	Location		Dwelling Units	Level		Existing L, dBA		Existing L, dBA	Future No ns CNEL, c	/ith Equals dBA <sup>4</sup>	of 5 dB ig in or More	Barri	er Des	ign	Barri	er Des	ign	ed Building /ithout Barri	oor to R, dB)
Receiver I.D. <sup>1</sup>	Barrier I.D. and	Land Use <sup>2</sup>	Number of Dwe	Existing Noise CNEL, dBA	CNEL, dBA	Difference from Ex Conditions CNEL,	CNEL, dBA	Difference from Ex Conditions CNEL,	Difference from Future No Project Conditions CNEL,	Design Year With Project CNEL Εqι or Exceeds 65 dB	Project Increase of 5 or More Resulting in CNEL of 60 dBA or M	Height, ft	CNEL, dBA	I.L., dB	Height, ft	CNEL, dBA	I.L., dB	CNEL at Selected Building Façades With Project (Without Barrier), dBA	Minimum Outdoo Reduction (OILR, Interior Impact <sup>9</sup>
R 66 W	S148 R/W	SFR	1	62.0	67.1	+5.1	69.7	+7.7	+2.6	Yes	No	10	64	6	9	65	5		
R 67 X		SFR	1	62.9	67.9	+5.0	70.6	+7.7	+2.7	Yes	No								@
R 68 Z		SFR	1	63.6	68.5	+4.9	70.5	+6.9	+2.0	Yes	No						-		@
R 69	S198 R/W	SFR	1	61.4	66.3	+4.9	67.1	+5.7	+0.8	Yes	No	6	63	4	8	62	5	-	-
R 70		SFR	1	57.2	62.4	+5.2	63.7	+6.5	+1.3	No	No			-					
R 71	S208 R/W	SFR	2	64.7	69.6	+4.9	70.2	+5.5	+0.6	Yes	No	9	64	6	8	65	5		
R 72		SFR	2	53.9	59.3	+5.4	61.3	+7.4	+2.0	No	No	-		-		-		-	
R 73 W		SFR	3	59.6	64.8	+5.2	66.1	+6.5	+1.3	Yes	No	9	63		12	62	4		
R 74 W	S226	SFR	1	53.4	58.9	+5.5	59.5	+6.1	+0.6	No	No	9	60		12	60	0		
10.75	R/W	SFR	2	46.7	52.6	+5.9	53.5	+6.8	+0.9	No	No	9	54		12	54	0		
R 76 W		SFR	13	52.1	57.6	+5.5	59.0	+6.9	+1.4	No	No	9	58		12	58	1	-	
R 77 W		SFR	5	59.6	64.9	+5.3	66.6	+7.0	+1.7	Yes	No	9	63	4	12	62	5	-	-

- 1 STxx or LTxx measurement site number: CAL Calibration site.
- 2 Land Use: SFR single-family residence; CHR Church; SCH School; PLG Playgrounds, recreational/sports fields.
- 3 Noise levels in these columns are reported to a precision of 0.1 dBA to more clearly distinguish whether or not predicted noise levels are expected to increase between Without Project and With Project conditions. The accuracy of the absolute noise level predictions shown here is not as fine as one tenth of a decibel.
- 4 The City's currently-adopted General Plan Noise Element establishes an CNEL of 65 dBA as the exterior noise standard for residential development, the facades of classrooms, and park uses.
- 5 The minimum barrier height considered was 6 feet or 2 feet taller than the existing property wall (if applicable), whichever is higher. The maximum barrier height considered is 12 feet.
- 6 Design A was only considered where one or more receivers were predicted to experience a Community Noise Equivalent Level (CNEL) of 65 dBA or higher under Design Year With Project conditions. It represents the minimum height required to reduce outdoor traffic noise exposure to a CNEL below 65 dBA at as many of the receivers exposed to those impacts as possible.
- 7 Design B represents the minimum height required to provide five or more decibels of reduction in traffic noise exposure at all impacted receivers where such reduction is possible.
- 8 In many cases, receivers selected to represent outdoor activity areas are set back a different distance from the roadway than the buildings themselves. Where outdoor impacts have been identified under one or more cruise speed scenarios and where the adequacy of noise reduction could be an issue for one or more of those scenarios, CNEL values predicted at the building facade are presented here. These are the appropriate values to use in computing the minimum OILR.
- 9 It has been assumed that the Ranchero-Rd.-facing facades of buildings will provide at least 25 dB of outdoor to indoor noise level reduction (OlLR) for older homes and at least 30 dB of OlLR for newer homes. Therefore, values are reported in these columns only if the minimum required OlLR is above these assumed levels.
- \* Intervening building structures substantially obstruct line of sight to Ranchero Road.
- @ OILR requirement is assumed to be met.

- I.L. Insertion Loss.
- W Existing private property wall or soundwall.
- X Represented land use depends upon Ranchero Road for vehicular access.
- S These receivers are located within school property. However, abatement is not warranted at these sports fields. The actual school classrooms are set much further back from the Ranchero Road, and would not be exposed to significant noise impacts.
- Y Adjacent/intervening driveways would inhibit feasibility of sound walls within existing/future City right-of-way.
- Z To be feasible, a soundwall would need to extend along the boundary of adjacent undeveloped property. However, the undeveloped property would depend upon vehicular access to Ranchero Road to remain viable.

Table D-1. Predicted Future Noise Levels and Noise Abatement Analysis:
National-Average Pavement Conditions (cont'd)

							Fu	ture Noise	Levels in	Outdoor	Activity	Areas	;					s 4	
			Ш		Design Ye	ar Without		Year With	Dueleet									Façades er), dBA	Level d
			ΙI		Pro	jeci	Design	rear with		ł								J Fa	
	5		Units						No Fr, dB	Impac	t Type	Nois	e Predi	ctio	n wit	h Barr	ier <sup>5</sup>	arr Sarr	Indoor to Avoi
	Location		lling Ur	Level		Existing L, dBA		from Existing CNEL, dBA	Future N	Vith Equals dBA <sup>4</sup>	of 5 dB g in or More	Barr	ier Des A <sup>6</sup>	ign	Barri	ier Des	ign	ed Building ithout Barri	or to , dB)
Receiver I.D. <sup>1</sup>	Barrier I.D. and	Land Use <sup>2</sup>	Number of Dwelling	Existing Noise CNEL, dBA	CNEL, dBA	Difference from Ex Conditions CNEL,	CNEL, dBA	Difference from Conditions CNEI	Difference from Future No Project Conditions CNEL, dB.	Design Year With Project CNEL Εqι or Exceeds 65 dB	Project Increase of 5 or More Resulting in CNEL of 60 dBA or N	Height, ft	CNEL, dBA	I.L., dB	Height, ft	CNEL, dBA	I.L., dB	CNEL at Selected Building Façades With Project (Without Barrier), dBA	Minimum Outdoo Reduction (OILR, Interior Impact <sup>9</sup>
R 78 W,*		SFR	4	47.9	53.9	+6.0	55.1	+7.2	+1.2	No	No	9	55 <sup>10</sup>	0	12	55 <sup>10</sup>	0	_	
R 79 W		SFR	5	58.1	63.9	+5.8	65.8	+7.7	+1.9	Yes	No	9	63	3	12	61	5	-	-
R 80 W		SFR	3	57.5	63.7	+6.2	65.4	+7.9	+1.7	Yes	No	9	64	1	12	62	3		
R 81	S244/R/W	SFR	1	58.0	65.7	+7.7	65.7	+7.7	0.0	Yes	No	6	63	3	12	61	5	-	
R 82 X		SFR	2	61.4	67.5	+6.1	69.7	+8.3	+2.2	Yes	No								@
R 83 X		SFR	4	61.5	67.6	+6.1	70.4	+8.9	+2.8	Yes	No							71	27
R 84 X		SFR	4	61.4	67.6	+6.2	69.8	+8.4	+2.2	Yes	No	-				-		-	@
R 85 X		SFR	4	61.1	67.3	+6.2	69.6	+8.5	+2.3	Yes	No					-		-	@
R 86 Y,*		SFR	3	52.2	58.6	+6.4	60.5	+8.3	+1.9	No	No			-		-			
R 87 W,*		SFR	1	51.0	57.5	+6.5	59.1	+8.1	+1.6	No	No			-		-			
R 88 W,*		SFR	1	53.6	60.1	+6.5	61.5	+7.9	+1.4	No	No		-	-		-		-	-
R 89 X		SFR	1	62.3	68.4	+6.1	70.2	+7.9	+1.8	Yes	No					-		-	@

- 1 STxx or LTxx measurement site number: CAL Calibration site.
- 2 Land Use: SFR single-family residence; CHR Church; SCH School; PLG Playgrounds, recreational/sports fields.
- 3 Noise levels in these columns are reported to a precision of 0.1 dBA to more clearly distinguish whether or not predicted noise levels are expected to increase between Without Project and With Project conditions. The accuracy of the absolute noise level predictions shown here is not as fine as one tenth of a decibel.
- 4 The City's currently-adopted General Plan Noise Element establishes an CNEL of 65 dBA as the exterior noise standard for residential development, the facades of classrooms, and park uses.
- 5 The minimum barrier height considered was 6 feet or 2 feet taller than the existing property wall (if applicable), whichever is higher. The maximum barrier height considered is 12 feet
- 6 Design A was only considered where one or more receivers were predicted to experience a Community Noise Equivalent Level (CNEL) of 65 dBA or higher under Design Year With Project conditions. It represents the minimum height required to reduce outdoor traffic noise exposure to a CNEL below 65 dBA at as many of the receivers exposed to those impacts as possible.
- 7 Design B represents the minimum height required to provide five or more decibels of reduction in traffic noise exposure at all impacted receivers where such reduction is possible.
- 8 In many cases, receivers selected to represent outdoor activity areas are set back a different distance from the roadway than the buildings themselves. Where outdoor impacts have been identified under one or more cruise speed scenarios and where the adequacy of noise reduction could be an issue for one or more of those scenarios, CNEL values predicted at the building facade are presented here. These are the appropriate values to use in computing the minimum OILR.
- 9 It has been assumed that the Ranchero-Rd.-facing facades of buildings will provide at least 25 dB of outdoor to indoor noise level reduction (OILR) for older homes and at least 30 dB of OILR for newer homes. Therefore, values are reported in these columns only if the minimum required OILR is above these assumed levels.
- 10 Noise levels predicted by TNM are not reliable due to issues with procedures used in TNM to calculate noise levels when two parallel walls intervene between source and receiver. Accordingly, these noise levels have been set to be equal noise levels predicted without abatement. This is deemed to be relatively conservative corrected values.
- \* Intervening building structures substantially obstruct line of sight to Ranchero Road.
- @ OILR requirement is assumed to be met.
- I.L. Insertion Loss. W Existing private property wall or soundwall.
- X- Represented land use depends upon Ranchero Road for vehicular access.
- S These receivers are located within school property. However, abatement is not warranted at these sports fields. The actual school classrooms are set much further back from the Ranchero Road, and would not be exposed to significant noise impacts.
- Y Adjacent/intervening driveways would inhibit feasibility of sound walls within existing/future Cityright-of-way.
- Z To be feasible, a soundwall would need to extend along the boundary of adjacent undeveloped property. However, the undeveloped property would depend upon vehicular access to Ranchero Road to remain viable.

Table D-1. Predicted Future Noise Levels and Noise Abatement Analysis: National-Average Pavement Conditions (cont'd)

							Fu	ture Noise	Levels in	Outdoor	Activity	Areas	;					8 A	
						ar Without ject		ı Year With										Façades er), dBA	door Level Avoid
	tion		Units			Bu		Bi.	No EL, dBA	Impac	-		e Pred					Building out Barri	후
	and Location		Dwelling	Level		from Existing CNEL, dBA		from Existing CNEL, dBA	Future 18 CN	Vith Equals dBA	of 5 dB gin or More	Barr	ier Des A <sup>6</sup>	ign	Barri	ier Des B <sup>7</sup>	sign	ed Bu	Outdoor to (OILR, dB) ipact <sup>9</sup>
Receiver I.D. <sup>1</sup>	Barrier I.D. and	Land Use <sup>2</sup>	Number of Dwe	Existing Noise Level CNEL, dBA	CNEL, dBA	Difference from Existi Conditions CNEL, dBA	CNEL, dBA	Difference from Existin Conditions CNEL, dBA	Difference from Future No Project Conditions CNEL, c	Design Year With Project CNEL Equa or Exceeds 65 dBA	Project Increase of 5 dB or More Resulting in CNEL of 60 dBA or More	Height, ft	CNEL, dBA	I.L., dB	Height, ft	CNEL, dBA	I.L., dB	CNEL at Selected Building Façades With Project (Without Barrier), dBA	Minimum Outdoo Reduction (OILR, Interior Impact <sup>9</sup>
R 90 W	S284	SFR	1	61.8	68.0	+6.2	70.6	+8.8	+2.6	Yes	No	10	63	8	10	63	8	-	
R 91 W,LT3/CAL	R/W	SFR	2	60.2	66.5	+6.3	68.7	+8.5	+2.2	Yes	No	10	64	5	10	64	5	-	
R 92 W	S288 R/W	SFR	1	64.0	70.1	+6.1	72.9	+8.9	+2.8	Yes	No	10	64	9	7	68	5		
R 93 W	S292	SFR	1	63.5	69.6	+6.1	72.4	+8.9	+2.8	Yes	No	12	64	8	8	67	5		
R 93A W	R/W	SFR	2	60.1	66.2	+6.1	68.0	+7.9	+1.8	Yes	No	12	60	8	8	62	6	-	
R 94 W		SFR	4	57.2	63.5	+6.3	64.8	+7.6	+1.3	No	No	-	-		-		-	-	-
R 95 W		SFR	4	56.5	62.9	+6.4	63.8	+7.3	+0.9	No	No	-	-		-	-			
10 30		SFR	3	46.6	53.4	+6.8	54.5	+7.9	+1.1	No	No			-				_	-
R 97 W R 98 W	S306	SFR SFR	1	50.8 55.1	57.3 61.4	+6.5 +6.3	58.2 62.2	+7.4 +7.1	+0.9 +0.8	No No	No No	8	57 60	1 2	8	57 60	1	-	
R 99 W	R/W	SFR	1	61.2	67.3	+6.3	69.1	+7.1	+1.8	Yes	No	8	<b>64</b>	5	8	64	2 <b>5</b>	_	
R 100 W		SFR	4	60.0	66.2	+6.2	67.5	+7.5	+1.3	Yes	No	8	64	4	10	61	7		
R 101 W	S314	SFR	3	59.9	66.1	+6.2	67.2	+7.3	+1.1	Yes	No	8	64	3	10	62	5		
R 102 W	R/W	SFR	ĭ	60.0	66.1	+6.1	67.3	+7.3	+1.2	Yes	No	8	64	3	10	62	5	_	
R 103 W		SFR	1	57.0	63.2	+6.2	64.3	+7.3	+1.1	No	No			l-		-			
R 104		SFR	1	49.3	57.0	+7.7	58.6	+9.3	+1.6	No	No			-				_	

- 1 STxx or LTxx measurement site number; CAL Calibration site.
- 2 Land Use: SFR single-family residence; CHR Church; SCH School; PLG Playgrounds, recreational/sports fields.
- 3 Noise levels in these columns are reported to a precision of 0.1 dBA to more clearly distinguish whether or not predicted noise levels are expected to increase between Without Project and With Project conditions. The accuracy of the absolute noise level predictions shown here is not as fine as one tenth of a decibel.
- 4 The City's currently-adopted General Plan Noise Element establishes an CNEL of 65 dBA as the exterior noise standard for residential development, the facades of classrooms, and park uses.
- 5 The minimum barrier height considered was 6 feet or 2 feet taller than the existing property wall (if applicable), whichever is higher. The maximum barrier height considered
- 6 Design A was only considered where one or more receivers were predicted to experience a Community Noise Equivalent Level (CNEL) of 65 dBA or higher under Design Year With Project conditions. It represents the minimum height required to reduce outdoor traffic noise exposure to a CNEL below 65 dBA at as many of the receivers exposed to
- 7 Design B represents the minimum height required to provide five or more decibels of reduction in traffic noise exposure at all impacted receivers where such reduction
- 8 In many cases, receivers selected to represent outdoor activity areas are set back a different distance from the roadway than the buildings themselves. Where outdoor impacts have been identified under one or more cruise speed scenarios and where the adequacy of noise reduction could be an issue for one or more of those scenarios, CNEL values predicted at the building facade are presented here. These are the appropriate values to use in computing the minimum OILR.
- 9 It has been assumed that the Ranchero-Rd.-facing facades of buildings will provide at least 25 dB of outdoor to indoor noise level reduction (OILR) for older homes and at least 30 dB of OILR for newer homes. Therefore, values are reported in these columns only if the minimum required OILR is above these assumed levels.
- \* Intervening building structures substantially obstruct line of sight to Ranchero Road. @ OILR requirement is assumed to be met.
- W Existing private property wall or soundwall.
- X Represented land use depends upon Ranchero Road for vehicular access.
- S These receivers are located within school property. However, abatement is not warranted at these sports fields. The actual school classrooms are set much further back from the Ranchero Road, and would not be exposed to significant noise impacts.
- Y Adjacent/intervening driveways would inhibit feasibility of sound walls within existing/future City right-of-way.
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Table D-2. Predicted Future Noise Levels and Noise Abatement Analysis: National-Average Pavement Conditions: OGAC Pavement

							Fu	ture Noise	Levels in	Outdoor	Activity	Areas	i						rior
						ar Without ject		n Year With	Project									açadee r), dBA	Indoor Level to Avoid Interior
	_		ts						dBA	Impac	t Type	Nois	e Pred	ictic	n wit	h Barr	ier <sup>5</sup>	ng F arrie	Avo
	and Location		Dwelling Units	Level		from Existing CNEL, dBA		from Existing CNEL, dBA	Future No	r With IL Equals 65 dBA <sup>4</sup>	of 5 dB g in or More	Barri	ier Des	ign	Barri	er Des	sign	Selected Building Façades ject (Without Barrier), dBA	5 원
Receiver I.D. 1	Barrier I.D. and	Land Use <sup>2</sup>	Number of Dwe	Existing Noise I CNEL, dBA	CNEL, dBA	Difference from I Conditions CNEL	CNEL, dBA	Difference from I Conditions CNEL	Difference from Future No Project Conditions CNEL, dBA	Design Year With Project CNEL Equ or Exceeds 65 dB	Project Increase of 5 or More Resulting in CNEL of 60 dBA or M	Height, ft	CNEL, dBA	I.L., dB	Height, ft	CNEL, dBA	I.L., dB	CNEL at Selected Building Façades With Project (Without Barrier), dBA	Minimum Outdoo Reduction (OILR, Impact <sup>9</sup>
R1 W		SFR	1	49.0	54.6	+5.6	54.6	+5.6	0.0	No	No			-				-	
R 2 W		SFR	1	58.0	63.3	+5.3	63.5	+5.5	+0.2	No	No	-	-		-			-	
R3 W	S73	SFR	1	59.6	64.9	+5.3	65.1	+5.5	+0.2	Yes	No	7	63	2	10	60	5	-	
R4 W	R/W	SFR	3	46.2	52.0	+5.8	51.9	+5.7	-0.1	No	No	7	52	0	10	51	1	-	
R5 W		SFR	1	58.1	63.4	+5.3	63.6	+5.5	+0.2	No	No	7	63	1	10	59	5	-	
R6 W		SFR	1	58.4	63.7	+5.3	63.9	+5.5	+0.2	No	No	-	-					-	
R 7 W	-	SFR	1	49.1	55.5	+6.4	55.3	+6.2	-0.2	No	No							-	
R 8 W		SFR	1	58.3	64.4	+6.1	64.5	+6.2	+0.1	No	No	-	-				듸		
13		SFR	1	56.0	63.2	+7.2	60.2	+4.2	-3.0	No	No			<u> -</u>			-	-	
R 9A LT1/CAL	l	SFR	1	54.2	60.6	+6.4	58.9	+4.7	-1.7	No	No		-			-		-	
R 10	_	SFR	1	52.0	58.0	+6.0	57.6	+5.6	-0.4	No	No		-			-		-	
R 11 W R 12 W		SFR SFR	1 2	50.7 50.3	56.5 56.0	+5.8 +5.7	56.5 56.2	+5.8 +5.9	0.0 +0.2	No No	No No	-	-	-				-	

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- 4 The City's currently-adopted General Plan Noise Element establishes a CNEL of 65 dBA as the exterior noise standard for residential development, the facades of classrooms, and park uses.
- 5 The minimum barrier height considered was 6 feet or 2 feet taller than the existing property wall (if applicable), whichever is higher. The maximum barrier height considered is 12 feet.
- 6 Design A was only considered where one or more receivers were predicted to experience a Community Noise Equivalent Level (CNEL) of 65 dBA or higher under Design Year With Project conditions. It represents the minimum height required to reduce outdoor traffic noise exposure to a CNEL below 65 dBA at as many of the receivers exposed to those impacts as possible.
- 7 Design B represents the minimum height required to provide five or more decibels of reduction in traffic noise exposure at all impacted receivers where such reduction is possible
- 8 In many cases, receivers selected to represent outdoor activity areas are set back a different distance from the roadway than the buildings themselves. Where outdoor impacts have been identified under one or more cruise speed scenarios and where the adequacy of noise reduction could be an issue for one or more of those scenarios, CNEL values predicted at the building facade are presented here. These are the appropriate values to use in computing the minimum OILR.
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							Fu	ture Noise	Levels in	Outdoor	Activity	Areas	;					8 A	
						ar Without ject	Design	n Year With	Project									Façades er), dBA	r Level
	_		its						dBA	Impac	t Type	Nois	e Predi	ictic	n wit	h Barr	ier <sup>5</sup>	ing F arrie	Indoor Le to Avoid
	and Location		Dwelling Units	Level		Existing L, dBA		from Existing CNEL, dBA	Future No	Vith Equals dBA	of 5 dB g in or More	Barri	ier Des	ign	Barri	er Des	ign	ed Building Ithout Barri	우 <u>@</u>
Receiver I.D. <sup>1</sup>	Barrier I.D. and	Land Use <sup>2</sup>	Number of Dwe	Existing Noise I CNEL, dBA	CNEL, dBA	Difference from Ex Conditions CNEL,	CNEL, dBA	Difference from I Conditions CNEL	Difference from Future No Project Conditions CNEL, dBA	Design Year With Project CNEL Equ or Exceeds 65 dB	Project Increase of 5 dB or More Resulting in CNEL of 60 dBA or More	Height, ft	CNEL, dBA	I.L., dB	Height, ft	CNEL, dBA	I.L., dB	CNEL at Selected Building Façades With Project (Without Barrier), dBA	Minimum Outdoor Reduction (OILR, o Interior Impact <sup>9</sup>
R 13 <sup>X</sup>		SFR	1	65.3	70.1	+4.8	70.7	+5.4	+0.6	Yes	No	-			_	-		_	@
R 14		SFR	1	50.8	56.6	+5.8	57.0	+6.2	+0.4	No	No							-	-
R 15		PLG <sup>S</sup>	1	50.5	55.7	+5.2	55.8	+5.3	+0.1	No	No					-		-	-
R 16	-	PLG <sup>S</sup>	3	56.6	61.7	+5.1	61.8	+5.2	+0.1	No	No								
R 17		PLG <sup>S</sup>	8	58.4	63.3	+4.9	63.2	+4.8	-0.1	No	No							-	-
R 18	S147	SFR	1	51.4	57.2	+5.8	58.4	+7.0	+1.2	No	No	9	57	1	6	57	1		
R 19	R/W	SFR	1	65.0	70.0	+5.0	71.4	+6.4	+1.4	Yes	No	9	64	7	6	66	5		
R 20	S151	SCH	1	53.1	58.8	+5.7	60.6	+7.5	+1.8	No	No	6	58	3	9	58	3		
R 21	R/W	CHR	1	58.5	63.8	+5.3	65.5	+7.0	+1.7	Yes	No	6	62	4	9	61	5		-
R 22 X		SFR	1	67.7	72.6	+4.9	74.4	+6.7	+1.8	Yes	No	6	69	5	9	68	6	-	
R 23 X		SFR	2	62.2	67.0	+4.8	67.0	+4.8	0.0	Yes	No						-	-	@
R 24 <sup>Z</sup>	-	SFR	1	48.9	54.4	+5.5	54.9	+6.0	+0.5	No	No						-	-	
R 25 <sup>X,W</sup>		SFR	1	58.9	64.0	+5.1	64.5	+5.6	+0.5	No	No								@

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- 2 Land Use: SFR single-family residence; CHR Church; SCH School; PLG Playgrounds, recreational/sports fields.
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- 4 The Citys currently-adopted General Plan Noise Element establishes a CNEL of 65 dBA as the exterior noise standard for residential development, the facades of classrooms, and park uses.
- 5 The minimum barrier height considered was 6 feet or 2 feet taller than the existing property wall (if applicable), whichever is higher. The maximum barrier height considered is 12 feet.
- 6 Design A was only considered where one or more receivers were predicted to experience a Community Noise Equivalent Level (CNEL) of 65 dBA or higher under Design Year With Project conditions. It represents the minimum height required to reduce outdoor traffic noise exposure to a CNEL below 65 dBA at as many of the receivers exposed to those impacts as possible.
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							Fu	ture Noise	Levels in	Outdoor	Activity	Areas	;					s 4	
					Design Ye	ar Without ject		n Year With										Façades er), dBA	r Level oid
	c		its						dBA	Impac	t Type	Nois	e Pred	ictic	n wit	th Barr	ier <sup>5</sup>	ing l	Indoor Lo
	and Location		Dwelling Units	Level		Existing L, dBA		Existing L, dBA	Future No 1S CNEL, o	With L Equals 55 dBA <sup>4</sup>	of 5 dB g in or More	Barr	ier Des	sign	Barri	ier Des	sign	ed Building lithout Barri	dB)
Receiver I.D. <sup>1</sup>	Barrier I.D. and	Land Use <sup>2</sup>	Number of Dwe	Existing Noise Level CNEL, dBA	CNEL, dBA	Difference from E) Conditions CNEL,	CNEL, dBA	Difference from Ex Conditions CNEL,	Difference from Future No Project Conditions CNEL,	Design Year Wi Project CNEL E or Exceeds 65 o	Project Increase of 5 or More Resulting in CNEL of 60 dBA or M	Height, ft	CNEL, dBA	I.L., dB	Height, ft	CNEL, dBA	I.L., dB	CNEL at Selected Building Faç With Project (Without Barrier),	Minimum Outdoo Reduction (OILR, Interior Impact <sup>9</sup>
R 26		SFR	2	62.8	67.7	+4.9	67.6	+4.8	-0.1	Yes	No								
R 27 X		SFR	1	63.9	68.7	+4.8	67.8	+3.9	-0.9	Yes	No				-	-			@
R 28 <sup>X,W</sup>		SFR	1	61.2	66.2	+5.0	66.2	+5.0	0.0	Yes	No				-	-		-	@
R 29 LT2/CAL	S223 R/W	SFR	1	66.5	71.3	+4.8	71.4	+4.9	+0.1	Yes	No	8	63	8	6	65	6		
R 30 X		SFR	2	64.1	69.0	+4.9	68.9	+4.8	-0.1	Yes	No	-	-		-	-		-	@
R 31 <sup>X</sup>		SFR	2	64.0	70.0	+6.0	69.9	+5.9	-0.1	Yes	No	-	-		-	-			@
K 32		SFR	3	53.9	60.1	+6.2	59.8	+5.9	-0.3	No	No			-				-	-
10 33		SFR	1	64.3	70.3	+6.0	69.5	+5.2	-0.8	Yes	No	-	-		-	-			@
R 34 <sup>X</sup> R 35 <sup>Z</sup>		SFR SFR	1	63.9 64.3	70.0 70.4	+6.1 +6.1	68.9 69.3	+5.0 +5.0	-1.1 -1.1	Yes Yes	No No	_	-		-	-			@
R 36 Y		SFR	3	63.9	70.4	+6.1	68.7	+5.0	-1.1	Yes	No	_	_		_	_	-		@
R 37 ×		SFR	1	64.4	70.0	+6.1	69.5	+5.1	-1.0	Yes	No No	_			_				@
R 38 ×		SFR	4	63.9	69.9	+6.0	68.6	+4.7	-1.3	Yes	No							_	26

- 1 STxx or LTxx measurement site number; CAL Calibration site.
- $2-Land\ Use: SFR-single-family\ residence;\ CHR-Church;\ SCH-School;\ PLG-Playgrounds,\ recreational/sports\ fields.$
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- 5 The minimum barrier height considered was 6 feet or 2 feet taller than the existing property wall (if applicable), whichever is higher. The maximum barrier height considered is 12 feet
- 6 Design A was only considered where one or more receivers were predicted to experience a Community Noise Equivalent Level (CNEL) of 65 dBA or higher under Design Year With Project conditions. It represents the minimum height required to reduce outdoor traffic noise exposure to a CNEL below 65 dBA at as many of the receivers exposed to those impacts as possible.
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- I.L. Insertion Loss. W Existing private property wall or soundwall. X Represented land use depends upon Ranchero Road for vehicular access.
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							Fu	ture Noise	Levels in	Outdoor	Activity	Areas						8 A	
						ar Without ject	Design	n Year With	Project									Façades er), dBA	r Level
	_		ts						dBA	Impac	t Type	Nois	Pred	ictic	n wit	h Barri	ier <sup>5</sup>	ing F arrie	Indoor Lo to Avoid
	and Location		of Dwelling Units	Level		Existing L, dBA		Existing L, dBA	Future No	Vith Equals dBA	of 5 dB g in or More	Barri	er Des	ign	Barri	er Des	ign	ed Building Ithout Barri	우 <u>@</u>
Receiver I.D. <sup>1</sup>	Barrier I.D. and	Land Use <sup>2</sup>	Number of Dwe	Existing Noise I CNEL, dBA	CNEL, dBA	Difference from E) Conditions CNEL,	CNEL, dBA	Difference from E) Conditions CNEL,	Difference from Future No Project Conditions CNEL, dB	Design Year With Project CNEL Equ or Exceeds 65 dB	Project Increase of 5 dB or More Resulting in CNEL of 60 dBA or More	Height, ft	CNEL, dBA	I.L., dB	Height, ft	CNEL, dBA	I.L., dB	CNEL at Selected Building Façades With Project (Without Barrier), dBA	Minimum Outdoor Reduction (OILR, o Interior Impact <sup>9</sup>
R 39 <sup>Z</sup>		SFR	1	64.1	70.2	+6.1	68.9	+4.8	-1.3	Yes	No	_	_		_		-		@
R 40 ×		SFR	5	63.9	70.0	+6.1	69.7	+5.8	-0.3	Yes	No				-	-		71	27
R 41 X		SFR	4	63.9	70.0	+6.1	70.2	+6.3	+0.2	Yes	No							72	28
R 42 <sup>X</sup>		SFR	3	64.0	70.1	+6.1	70.2	+6.2	+0.1	Yes	No	-			-	-			@
R 43 <sup>X</sup>		SFR	1	64.0	70.0	+6.0	70.5	+6.5	+0.5	Yes	No							72	28
R 44 Y		SFR	3	54.7	61.4	+6.7	60.9	+6.2	-0.5	No	No			-		-		-	
R 45 X	-	SCH	1	60.5	66.6	+6.1	66.2	+5.7	-0.4	Yes	No				-				@
R 46 X,*		PLY	1	52.5	58.8	+6.3	58.7	+6.2	-0.1	No	No								
R 47 X		SFR	4	61.5	67.5	+6.0	67.6	+6.1	+0.1	Yes	No							68	@
R 48 X		SFR	2	60.6	66.6	+6.0	66.8	+6.2	+0.2	Yes	No	-			-	-		68	@
R 49 X		SFR	1	60.2	66.5	+6.3	66.8	+6.6	+0.3	Yes	No	-			-	-		68	@
R 50 X		SFR	2	59.1	67.2	+8.1	68.3	+9.2	+1.1	Yes	No				-	-		68	@
R 51 Y		SFR	1	46.9	55.0	+8.1	55.8	+8.9	+0.8	No	No								

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							Fu	ture Noise	Levels in	Outdoor	Activity	Areas	3					8 8	
						ar Without ject		n Year With										Façades er), dBA	r Level oid
	_		its						dBA	Impac	t Type	Nois	e Pred	ictic	n wit	h Barr	ier <sup>5</sup>	ing F arrie	Indoor Lo to Avoid
	and Location		Dwelling Units	Level		Existing L, dBA		from Existing CNEL, dBA	Future No	r With EL Equals 65 dBA <sup>4</sup>	of 5 dB g in or More	Barr	ier Des	ign	Barri	ier Des	sign	ed Building lithout Barri	dB (B
Receiver I.D. <sup>1</sup>	Barrier I.D. and	Land Use <sup>2</sup>	Number of Dwe	Existing Noise Level CNEL, dBA	CNEL, dBA	Difference from E) Conditions CNEL,	CNEL, dBA	Difference from Conditions CNEI	Difference from Future No Project Conditions CNEL,	Design Year With Project CNEL Equ or Exceeds 65 dB	Project Increase of 5 dB or More Resulting in CNEL of 60 dBA or More	Height, ft	CNEL, dBA	I.L., dB	Height, ft	CNEL, dBA	I.L., dB	CNEL at Selected Building Façades With Project (Without Barrier), dBA	Minimum Outdoo Reduction (OILR, Interior Impact <sup>9</sup>
R 52 X		SFR	1	60.4	65.4	+5.0	66.2	+5.8	+0.8	Yes	No				-	-		_	@
R 53		SFR	1	63.0	67.8	+4.8	66.8	+3.8	-1.0	Yes	No				-			-	
R 54		SFR	1	62.8	67.6	+4.8	66.5	+3.7	-1.1	Yes	No	6	62	5	6	62	5	-	
	S80 R/W	SFR	1	50.7	56.2	+5.5	56.1	+5.4	-0.1	No	No	6	54	2	6	54	2	-	
R 56		SFR	- <sup>10</sup>		67.4	+5.1	67.4	+5.1	0.0	Yes	No	6	61	6	6	61	6	-	-
R 57 X		SFR	1	65.2	70.0	+4.8	70.0	+4.8	0.0	Yes	No					-		-	@
17.50		SFR	1	52.0	57.7	+5.7	58.5	+6.5	+0.8	No	No			-			-		
R 59	S114 R/W	SFR	1	65.2	70.1	+4.9	70.4	+5.2	+0.3	Yes	No	12	64	6	9	65	5		
R 60 <sup>Y</sup> R 61 <sup>Y</sup>		SFR SFR	1	54.7 51.6	60.2 57.3	+5.5 +5.7	61.3 58.0	+6.6 +6.4	+1.1 +0.7	No No	No No					-			
R 62		SFR	1	53.7	59.2	+5.7	59.4	+5.7	+0.7	No	No				=				
R 63		SFR		60.6	65.6	+5.0	65.2	+4.6	-0.4	Yes	No No				_			_	
R 64 W		SFR	1	60.9	66.1	+5.2	65.8	+4.9	-0.4	Yes	No			1	=	-	1		
R 65 Z		SFR	6	52.6	58.3	+5.7	59.1	+6.5	+0.8	No	No	-	-	<del>  -</del>	=				

- 1 STxx or LTxx measurement site number: CAL Calibration site.
- $2-Land\ Use: SFR-single-family\ residence;\ CHR-Church;\ SCH-School;\ PLG-Playgrounds,\ recreational/sports\ fields.$
- 3 Noise levels in these columns are reported to a precision of 0.1 dBA to more clearly distinguish whether or not predicted noise levels are expected to increase between Without Project and With Project conditions. The accuracy of the absolute noise level predictions shown here is not as fine as one tenth of a decibel.
- 4 The City's currently-adopted General Plan Noise Element establishes a CNEL of 65 dBA as the exterior noise standard for residential development, the facades of classrooms, and park uses.
- 5 The minimum barrier height considered was 6 feet or 2 feet taller than the existing property wall (if applicable), whichever is higher. The maximum barrier height considered is 12 feet
- 6 Design A was only considered where one or more receivers were predicted to experience a Community Noise Equivalent Level (CNEL) of 65 dBA or higher under Design Year With Project conditions. It represents the minimum height required to reduce outdoor traffic noise exposure to a CNEL below 65 dBA at as many of the receivers exposed to those impacts as possible.
- 7 Design B represents the minimum height required to provide five or more decibels of reduction in traffic noise exposure at all impacted receivers where such reduction is possible.
- 8 In many cases, receivers selected to represent outdoor activity areas are set back a different distance from the roadway than the buildings themselves. Where outdoor impacts have been identified under one or more cruise speed scenarios and where the adequacy of noise reduction could be an issue for one or more of those scenarios, CNEL values predicted at the building facade are presented here. These are the appropriate values to use in computing the minimum OILR.
- 9 It has been assumed that the Ranchero-Rd.-facing facades of buildings will provide at least 25 dB of outdoor to indoor noise level reduction (OILR) for older homes and at least 30 dB of OILR for newer homes. Therefore, values are reported in these columns only if the minimum required OILR is above these assumed levels.
- 10 R56 represents the same residential unit as R54. The applicable dwelling unit is accounted for with R54.
- \* Intervening building structures substantially obstruct line of sight to Ranchero Road.
- @ OILR requirement is assumed to be met.
- I.L. Insertion Loss. W Existing private property wall or soundwall. X Represented land use depends upon Ranchero Road for vehicular access.
- S These receivers are located within school property. However, abatement is not warranted at these sports fields. The actual school classrooms are set much further back from the Ranchero Road, and would not be exposed to significant noise impacts.
- Y Adjacent/intervening driveways would inhibit feasibility of sound walls within existing/future City right-of-way.
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							Fu	ture Noise	Levels in	Outdoor	Activity	Areas						8 A	
					Design Ye	ar Without ject	Design	Year With	Project									Façades er), dBA	Indoor Level to Avoid
	_		ts						dBA	Impac	t Type	Noise	e Predi	ictio	n wit	h Barri	er <sup>5</sup>	ing l arrie	door Lo
	and Location		Dwelling Units	Level		Existing L, dBA		Existing L, dBA	Future No ns CNEL, d	With L Equals 55 dBA <sup>4</sup>	of 5 dB ig in or More	Barri	er Des	ign	Barri	ier Des	ign	ed Building Vithout Barri	
Receiver I.D. <sup>1</sup>	Barrier I.D. and	Land Use <sup>2</sup>	Number of Dwe	Existing Noise CNEL, dBA	CNEL, dBA	Difference from Ex Conditions CNEL,	CNEL, dBA	Difference from E Conditions CNEL,	Difference from Future No Project Conditions CNEL,	Design Year W Project CNEL E or Exceeds 65	Project Increase of 5 or More Resulting in CNEL of 60 dBA or №	Height, ft	CNEL, dBA	I.L., dB	Height, ft	CNEL, dBA	I.L., dB	CNEL at Selected Building Façades With Project (Without Barrier), dBA	Minimum Outdoor to Reduction (OILR, dB) Interior Impact <sup>9</sup>
R 66 W	S148 R/W	SFR	1	62.0	67.1	+5.1	68.2	+6.2	+1.1	Yes	No	8	64	4	9	63	5	-	
R 67 X		SFR	1	62.9	67.9	+5.0	69.1	+6.2	+1.2	Yes	No	-	-		-	-	-	-	@
R 68 <sup>Z</sup>		SFR	1	63.6	68.5	+4.9	69.0	+5.4	+0.5	Yes	No	-			-		-	-	@
R 69		SFR	1	61.4	66.3	+4.9	65.6	+4.2	-0.7	Yes	No	-			-			-	-
R 70		SFR	1	57.2	62.4	+5.2	62.2	+5.0	-0.2	No	No			-			듸	-	
R 71		SFR	2	64.7	69.6	+4.9	68.7	+4.0	-0.9	Yes	No	-			_			-	-
R 72		SFR	2	53.9	59.3	+5.4	59.8	+5.9	+0.5	No	No					-		-	-
R 73 W		SFR	3	59.6	64.8	+5.2	64.6	+5.0	-0.2	No	No	8	63	2	12	61	4	-	- 1
R 74 W	S226	SFR	1	53.4	58.9	+5.5	58.0	+4.6	-0.9	No	No	8	58	0	12	58	0	-	-
R 75 W	R/W	SFR	2	46.7	52.6	+5.9	52.0	+5.3	-0.6	No	No	8	52 <sup>10</sup>		12	52 <sup>10</sup>	0	-	-
R 76 W		SFR	13	52.1	57.6	+5.5	57.5	+5.4	-0.1	No	No	8	58	0	12	57	1	-	-
R 77 W		SFR	5	59.6	64.9	+5.3	65.1	+5.5	+0.2	Yes	No	8	63	2	12	60	5	-	

- 1 STxx or LTxx measurement site number; CAL Calibration site.
- 2 Land Use: SFR single-family residence; CHR Church; SCH School; PLG Playgrounds, recreational/sports fields.
- 3 Noise levels in these columns are reported to a precision of 0.1 dBA to more clearly distinguish whether or not predicted noise levels are expected to increase between Without Project and With Project conditions. The accuracy of the absolute noise level predictions shown here is not as fine as one tenth of a decibel.
- 4 The City's currently-adopted General Plan Noise Element establishes a CNEL of 65 dBA as the exterior noise standard for residential development, the facades of classrooms, and park uses.
- 5 The minimum barrier height considered was 6 feet or 2 feet taller than the existing property wall (if applicable), whichever is higher. The maximum barrier height considered is 12 feet
- 6 Design A was only considered where one or more receivers were predicted to experience a Community Noise Equivalent Level (CNEL) of 65 dBA or higher under Design Year With Project conditions. It represents the minimum height required to reduce outdoor traffic noise exposure to a CNEL below 65 dBA at as many of the receivers exposed to those impacts as possible
- 7 Design B represents the minimum height required to provide five or more decibels of reduction in traffic noise exposure at all impacted receivers where such reduction is possible.
- 8 In many cases, receivers selected to represent outdoor activity areas are set back a different distance from the roadway than the buildings themselves. Where outdoor impacts have been identified under one or more cruise speed scenarios and where the adequacy of noise reduction could be an issue for one or more of those scenarios, CNEL values predicted at the building facade are presented here. These are the appropriate values to use in computing the minimum OILR.
- 9 It has been assumed that the Ranchero-Rd.-facing facades of buildings will provide at least 25 dB of outdoor to indoor noise level reduction (OILR) for older homes and at least 30 dB of OILR for newer homes. Therefore, values are reported in these columns only if the minimum required OILR is above these assumed levels.
- 10 Noise levels predicted by TNM are not reliable due to issues with procedures used in TNM to calculate noise levels when two parallel walls intervene between source and receiver. Accordingly, these noise levels have been set to be equal noise levels predicted without abatement. This is deemed to be relatively conservative corrected values.
- \* Intervening building structures substantially obstruct line of sight to Ranchero Road.
- @ OILR requirement is assumed to be met.
- .L.- Insertion Loss. W Existing private property wall or soundwall.
- X Represented land use depends upon Ranchero Road for vehicular access.
- S These receivers are located within school property. However, abatement is not warranted at these sports fields. The actual school classrooms are set much further back from the Ranchero Road, and would not be exposed to significant noise impacts.
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							Fu	ture Noise	Levels in	Outdoor	Activity	Areas	;					8 A	
					Design Ye	ar Without ject		n Year With	Project									Façades er), dBA	Level
	_		its						dB A	Impac	t Type	Nois	e Pred	ictic	n wit	h Barr	ier <sup>5</sup>	ing F arrie	Indoor Lo to Avoid
	and Location		Dwelling Units	Level		Existing L, dBA		Existing L, dBA	Future No ns CNEL, d	With L Equals 55 dBA <sup>4</sup>	of 5 dB g in or More	Barri	ier Des	ign	Barri	er Des	ign	ed Building //thout Barri	
Receiver I.D. <sup>1</sup>	Barrier I.D. and	Land Use <sup>2</sup>	Number of Dwe	Existing Noise CNEL, dBA	CNEL, dBA	Difference from Ex Conditions CNEL,	CNEL, dBA	Difference from E) Conditions CNEL,	Difference from Future No Project Conditions CNEL,	Design Year Wi Project CNEL E	Project Increase of 5 or More Resulting in CNEL of 60 dBA or N	Height, ft	CNEL, dBA	I.L., dB	Height, ft	CNEL, dBA	I.L., dB	CNEL at Selected Building Façades With Project (Without Barrier), dBA	Minimum Outdoor to Reduction (OILR, dB) Interior Impact <sup>9</sup>
R 78 W,*		SFR	4	47.9	53.9	+6.0	53.6	+5.7	-0.3	No	No		-	-		-			
R 79 W		SFR	5	58.1	63.9	+5.8	64.3	+6.2	+0.4	No	No	-	-		-	-			@
R 80 W		SFR	3	57.5	63.7	+6.2	63.9	+6.4	+0.2	No	No	-	-		-		-	-	@
R 81		SFR	1	58.0	65.7	+7.7	64.2	+6.2	-1.5	No	No	_	-		_	-	-	-	-
11 02		SFR SFR	2	61.4	67.5 67.6	+6.1 +6.1	68.2 68.9	+6.8 +7.4	+0.7 +1.3	Yes	No				-			 71	@ 27
R 83 <sup>X</sup> R 84 <sup>X</sup>		SFR	4	61.5 61.4	67.6	+6.1	68.3	+7.4	+0.7	Yes Yes	No No				_	_			
R 85 X		SFR	4	61.1	67.3	+6.2	68.1	+7.0	+0.7	Yes	No				_	_		_	@
R 86 Y.*		SFR	3	52.2	58.6	+6.4	59.0	+6.8	+0.4	No	No							_	
R 87 W,*		SFR	1	51.0	57.5	+6.5	57.6	+6.6	+0.1	No	No								
R 88 W,*		SFR	1	53.6	60.1	+6.5	60.0	+6.4	-0.1	No	No								
R 89 X		SFR	1	62.3	68.4	+6.1	68.7	+6.4	+0.3	Yes	No							-	@

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- 3 Noise levels in these columns are reported to a precision of 0.1 dBA to more clearly distinguish whether or not predicted noise levels are expected to increase between Without Project and With Project conditions. The accuracy of the absolute noise level predictions shown here is not as fine as one tenth of a decibel.
- 4 The City's currently-adopted General Plan Noise Element establishes a CNEL of 65 dBA as the exterior noise standard for residential development, the facades of classrooms, and park uses.
- 5 The minimum barrier height considered was 6 feet or 2 feet taller than the existing property wall (if applicable), whichever is higher. The maximum barrier height considered is 12 feet
- 6 Design A was only considered where one or more receivers were predicted to experience a Community Noise Equivalent Level (CNEL) of 65 dBA or higher under Design Year With Project conditions. It represents the minimum height required to reduce outdoor traffic noise exposure to a CNEL below 65 dBA at as many of the receivers exposed to those impacts as possible
- 7 Design B represents the minimum height required to provide five or more decibels of reduction in traffic noise exposure at all impacted receivers where such reduction is possible.
- 8 In many cases, receivers selected to represent outdoor activity areas are set back a different distance from the roadway than the buildings themselves. Where outdoor impacts have been identified under one or more cruise speed scenarios and where the adequacy of noise reduction could be an issue for one or more of those scenarios, CNEL values predicted at the building facade are presented here. These are the appropriate values to use in computing the minimum OILR.
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							Fu	ture Noise	Levels in	Outdoor	Activity	Areas	;					8 A	
						ar Without ject	Desig	n Year With										Façades er), dBA	door Level Avoid
	and Location		ng Units	svel		isting		isting	ture No CNEL, dBA	Vith Equals admi dBA 4			e Predi ier Des A <sup>6</sup>			er Des		Building Façades hout Barrier), dBA	r to Inc dB) to
Receiver I.D. <sup>1</sup>	Barrier I.D. and L	Land Use <sup>2</sup>	Number of Dwelling	Existing Noise Level CNEL, dBA	CNEL, dBA	Difference from Existing Conditions CNEL, dBA	CNEL, dBA	Difference from Existing Conditions CNEL, dBA	Difference from Future No Project Conditions CNEL, c	Design Year With Project CNEL Equa or Exceeds 65 dBA	Project Increase of 5 dB or More Resulting in CNEL of 60 dBA or More	Height, ft	CNEL, dBA	I.L., dB	Height, ft	CNEL, dBA	I.L., dB	CNEL at Selected Building Faç With Project (Without Barrier),	Minimum Outdoor to Reduction (OILR, dB) Interior Impact <sup>9</sup>
R 90 W	S284	SFR	1	61.8	68.0	+6.2	69.1	+7.3	+1.1	Yes	No	9	63	6	10	62	7	-	
R 91 W,LT3/CAL	R/W	SFR	2	60.2	66.5	+6.3	67.2	+7.0	+0.7	Yes	No	9	63	4	10	62	5	-	
R 92 W	S288 R/W	SFR	1	64.0	70.1	+6.1	71.4	+7.4	+1.3	Yes	No	10	63	8	8	66	5	-	
11 33	S292 R/W	SFR	1	63.5	69.6	+6.1	70.9	+7.4	+1.3	Yes	No	10	64	7	8	66	5	-	- 1
R 93A W	FV/VV	SFR	2	60.1	66.2	+6.1	66.5 63.3	+6.4	+0.3	Yes	No	10	60	7	8	61	6	-	
R 94 W R 95 W		SFR SFR	4	57.2 56.5	63.5 62.9	+6.3 +6.4	62.3	+6.1 +5.8	-0.2	No No	No No	-	-		-	-			-
R 96 W		SFR	3	46.6	53.4	+6.8	53.0	+6.4	-0.6	No	No No		-		_			_	
R 97 W		SFR	1	50.8	57.3	+6.5	56.7	+5.9	-0.4	No	No	7	56	1	8	55	2		
R 98 W	S306	SFR	1	55.1	61.4	+6.3	60.7	+5.6	-0.7	No	No	7	59	2	8	59	2		
R 99 W	R/W	SFR	1	61.2	67.3	+6.1	67.6	+6.4	+0.3	Yes	No	7	64	4	8	63	5	-	
R 100 W		SFR	4	60.0	66.2	+6.2	66.0	+6.0	-0.2	Yes	No	-	-		-	-			
R 101 W		SFR	3	59.9	66.1	+6.2	65.7	+5.8	-0.4	Yes	No	-	-		-			-	
R 102 W		SFR	1	60.0	66.1	+6.1	65.8	+5.8	-0.3	Yes	No							-	
R 103 W		SFR	1	57.0	63.2	+6.2	62.8	+5.8	-0.4	No	No							-	
R 104		SFR	1	49.3	57.0	+7.7	57.1	+7.8	+0.1	No	No			-	-			-	

- 1 STxx or LTxx measurement site number; CAL Calibration site.
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- 4 The Citys currently-adopted General Plan Noise Element establishes a CNEL of 65 dBA as the exterior noise standard for residential development, the facades of classrooms, and park uses.
- 5 The minimum barrier height considered was 6 feet or 2 feet taller than the existing property wall (if applicable), whichever is higher. The maximum barrier height considered is 12 feet.
- 6 Design A was only considered where one or more receivers were predicted to experience a Community Noise Equivalent Level (CNEL) of 65 dBA or higher under Design Year With Project conditions. It represents the minimum height required to reduce outdoor traffic noise exposure to a CNEL below 65 dBA at as many of the receivers exposed to those impacts as possible.
- 7 Design B represents the minimum height required to provide five or more decibels of reduction in traffic noise exposure at all impacted receivers where such reduction is nossible
- 8 In many cases, receivers selected to represent outdoor activity areas are set back a different distance from the roadway than the buildings themselves. Where outdoor impacts have been identified under one or more cruise speed scenarios and where the adequacy of noise reduction could be an issue for one or more of those scenarios, CNEL values predicted at the building facade are presented here. These are the appropriate values to use in computing the minimum OILR.
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- \* Intervening building structures substantially obstruct line of sight to Ranchero Road.
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- L. Insertion Loss. W Existing private property wall or soundwall.
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- $Y-Adjacent/intervening\ driveways\ would\ inhibit\ feasibility\ of\ sound\ walls\ within\ existing/future\ City\ right-of-way.$
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Table D-3. Noise Abatement Analysis for Different Cruise Speeds: National-Average Pavement Conditions

	on		Units	Project <sup>3</sup>								No	ise Le	vels li	n Outo	door A	ctivit	/ Area	as Wit	th Pro	ject								_	NEL			linimu	
	ocati		ng U	# Pro													Nois	se Pre	dictio	on wit	h Barı	rier <sup>5</sup>								electe uildir		1 -	utdoor loor Le	
_	Ā Ļ		of Dwelling	Without					rence					Barrie	r Des	ign A <sup>6</sup>	i						Barrie	r Des	ign B <sup>7</sup>					ades		1	eduction	
ä	. an	8	Ď	ear W	CN	EL Wit	hout		e No P litions	roject							Inco	rtion I	000							Inco	rtion L	000		Projec Vitho			R) to A	
er I	r I.D	Use <sup>2</sup>	er o			rrier, d		Cond	dBA <sup>3</sup>	CIVEL,	н	eight,	ft	CN	IEL, d	ва	mse	dB	LUSS,	н	eight,	ft	CN	IEL, di	ва	msei	dB	_055,	,	ier), (			dB <sup>9</sup>	pa ou,
scei	ırrie	and	Number	esign	50	45	40	50	45	40	50	45	40	50	45	40	50	45	40	50	45	40	50	45	40	50	45	40	50	45	40	50	45	40
8	Ва	La	ž	å	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph
R1 W	S67	SFR	1	54.6	56.1	54.9	53.7	+1.5	+0.3	-0.9	7			56	-	-	0	-	-	11	-	-	55	-	-	1	-				-	-	-	-
R 2 W	R/W	SFR	1			63.7					7			63			2			11			60			5								-
R3 W	S73	SFR	1	64.9	66.6	65.2	64.0	+1.7	+0.3	-0.9	7	7		64	63	-	3	2	-	10	10	-	60	60	-	7	5					-	-	-
R4 W	R/W	SFR	3	52.0	53.4	52.4	51.3	+1.4	+0.4	-0.7	7	7	-	53	52	-	0	0	-	10	10	-	52	52	-	1	0	-		-		-	-	-
R5 W		SFR	1			64.3					7	7		63	63		2	1		10	10		60	60		5	4							_
R6 W	S81	SFR	1			64.6				1	7	7		63	63	-	2	2	-	10	10	-	60	59	-	5	6				-		-	-
R7 W	R/W	SFR	1			56.1			1	1	7	7		57	56	-	0	1	-	10	10	-	56	55	-	1	1						-	-
R8 W		SFR	1			65.1	_		_	-0.9	7	7		64	63	-	2	3	-	10	10	-	60	60		6	5						-	-
R9 W		SFR	1	_	_	60.9	_		_	_										-														-
R 9A LT1/CAL		SFR	1			59.5	i .		1	-2.5						-			-	-	-	-			-	-	-						-	-
R 10	_	SFR	1			58.2					-	-	-			-		-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-
R 11 W		SFR	1			57.2					-	-		-		-			-	-	-	-	-		-	-	-			-			-	-
R 12 W		SFR	2	56.0	57.7	57.0	55.7	+1.7	+1.0	-0.3												-				-								-

- 1 STxx or LTxx measurement site number; CAL Calibration site.
- 2 Land Use: SFR single-family residence; CHR Church; SCH School; PLG Playgrounds, recreational/sports fields.
- 3 Noise levels in these columns are reported to a precision of 0.1 dBA to more clearly distinguish whether or not predicted noise levels are expected to increase between Without Project and With Project conditions. The accuracy of the absolute noise level predictions shown here is not as fine as one tenth of a decibel.
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- 7 Design B represents the minimum height required to provide five or more decibels of reduction in traffic noise exposure at all impacted receivers where such reduction is possible.
- 8 In many cases, receivers selected to represent outdoor activity areas are set back a different distance from the roadway than the buildings themselves. Where outdoor impacts have been identified under one or more cruise speed scenarios and where the adequacy of noise reduction could be an issue for one or more of those scenarios, CNEL values predicted at the building facade are presented here. These are the appropriate values to use in computing the minimum OILR.
- 9 It has been assumed that the Ranchero-Rd.-facing facades of buildings will provide at least 25 dB of outdoor to indoor noise level reduction (OlLR) for older homes and at least 30 dB of OlLR for newer homes. Therefore, values are reported in these columns only if the minimum required OlLR is above these assumed levels.
- \* Intervening building structures substantially obstruct line of sight to Ranchero Road.
- @ OILR requirement is assumed to be met.
- I.L. Insertion Loss. W Existing private property wall or soundwall. X Represented land use depends upon Ranchero Road for vehicular access.
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Table D-3. Noise Abatement Analysis for Different Cruise Speeds: National-Average Pavement Conditions (cont'd)

	L.		Units	Project <sup>3</sup>								No	ise Le	vels l	n Outo	loor A	ctivit	y Area	ıs Wit	th Pro	ject								c	CNEL a	at	М	inimu	m
	ocation			ut Pro													Noi	se Pre	dictio	on wit	h Barı	rier <sup>5</sup>							В	electe Buildin	ng	Ind	ıtdoor oor Le	evel
-	and L		welling	Without					rence					Barrie	r Des	gn A <sup>e</sup>							Barrie	r Des	ign B <sup>7</sup>					ades \			ducti	
₫.		2	of Dv	ar 🛚	CNE	EL Wit	hout		e No P								Inco	rtion L	066							Inco	rtion	l nee		Projec Withou		`	R) to A ior Im	
, er	rl.D	Use		, e		rier, d			dBA <sup>3</sup>	,	Н	eight,	ft	CN	IEL, di	ВА	11130	dB	_033,	Н	eight,	ft	CN	IEL, d	ва	111301	dB	LU33,	٠,	rier), d			dB <sup>9</sup>	,
Receiv	Barrier	Land I	Number	sign	50	45	40	50	45	40	50	45	40	50	45	40	50	45	40	50	45	40	50	45	40	50	45	40	50	45	40	50	45	40
8	å	La	ž	De	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph
R 13 <sup>X</sup>		SFR	1	70.1	72.2	71.1	70.0	+2.1	+1.0	-0.1		-			-						-	-	-	-	-		-	-	-	-		@	@	
R 14		SFR	1						+1.1			-			-									-		-		-		-	-		-	
R 15		PLG <sup>S</sup>	1	55.7	57.3	56.2	55.2	+1.6	+0.5	-0.5		-			-					-				-			-	-					-	
R 16		PLG <sup>S</sup>					1		+0.5	-0.6		-			-					-				-	-	-	-	-		-	-		-	-
R 17		PLG <sup>S</sup>					62.3			-1.0					-							<u> </u>		-		-					ļ			
R 18	S147	SFR					1		+1.5			9	6	58	57		2	2	1	6	6		59	58	1	1	1	1			-		-	
R 19	R/W	SFR							+1.5			9		64	64	63	9	8	7	6	6		68	66		5	6	5	_	-				
R 20	S151	SCH					1		+2.0			6	6	60	59		2	2	2	10	10		59	58		3	3	2	-		-		-	-
R 21	R/W	CHR							+1.8			6	6	64	62		3	4	4	10	10		62	61	61	5	5	4	-		-		-	
R 22 X		SFR	_	_	_	_	_	_	+1.8	_	_	6	6	70	69	68	6	5	5	10	10	6	69	68	68	7	6	5	-				-	
R 23 X		SFR	1				1		+0.1			-			-					-				-	-	-	-	-		-	-	@	@	
R 24 <sup>Z</sup>		SFR	1				1		+0.9			-			-					-				-	-	-	-	-		-	-		-	
R 25 <sup>X,W</sup>		SFR	1	64.0	66.0	64.6	63.5	+2.0	+0.6	-0.5		-			-					-				-		-		-				@		

- 1 STxx or LTxx measurement site number; CAL Calibration site.
- 2 Land Use: SFR single-family residence; CHR Church; SCH School; PLG Playgrounds, recreational/sports fields.
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- 8 In many cases, receivers selected to represent outdoor activity areas are set back a different distance from the roadway than the buildings themselves. Where outdoor impacts have been identified under one or more cruise speed scenarios and where the adequacy of noise reduction could be an issue for one or more of those scenarios, CNEL values predicted at the building facade are presented here. These are the appropriate values to use in computing the minimum OlLR.
- 9 It has been assumed that the Ranchero-Rd.-facing facades of buildings will provide at least 25 dB of outdoor to indoor noise level reduction (OILR) for older homes and at least 30 dB of OILR for newer homes. Therefore, values are reported in these columns only if the minimum required OILR is above these assumed levels.
- \* Intervening building structures substantially obstruct line of sight to Ranchero Road. @ OILR requirement is assumed to be met.
- I.L. Insertion Loss. W Existing private property wall or soundwall. X Represented land use depends upon Ranchero Road for vehicular access.
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Table D-3. Noise Abatement Analysis for Different Cruise Speeds: National-Average Pavement Conditions (cont'd)

	uo		Units	roject³								No	ise Le	vels I	n Out	door A	Activit	y Area	ıs Wi	th Pro	ject									CNEL a			inimu	
	Location		elling U	Δ.													Noi	se Pre	dictio	on wit	h Barı	rier <sup>5</sup>							В	electe Buildin	ng		ıtdoor oor Le	
-	and L		Well	Without					rence					Barrie	r Des	ign Aʻ	5						Barrie	r Desi	gn B <sup>7</sup>					ades \ Projec			eduction R) to A	
.D.		8	of D	a۲	CNE	L Wit			e No Pi litions (								Inse	rtion L	oss.							Inse	rtion l	Loss.		Nitho:		١,	ior Im	
ver	r.D	Use	-	n Ye		rier, d			dBA <sup>3</sup>	,	Н	eight,	ft	CN	IEL, d	ВА		dB		Н	eight,	ft	CN	IEL, d	ВА		dB		Barı	rier), c	BA <sup>8</sup>		dB <sup>9</sup>	
Recei	Barrier	Land	Numbe	esig	50	45	40	50	45	40	50	45	40	50	45	40	50	45	40	50	45	40	50	45	40	50	45	40	50	45	40	50	45	40
ŭ	ď	ت	Ž	ă	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph
R 26	S197 R/W	SFR	2	67.7	_				+0.3	_		6	6	64	63	62	5	5	5	6	6	6	64	63	62	5	5	5						
R 27 X		SFR	l	68.7					-0.4			-	-	-		-	-	-	-		-	-		-	-	-		-	-	-	-	@	-	-
R 28 <sup>X,W</sup>		SFR							+0.6																			-		-	<u> </u>	@	@	@
R 29 LT2/CAL	S223 R/W	SFR							+0.6		9	8	7	64	64	64	9	8	6	6	6	6	67	66	65	6	6	5		-	-			
R 30 X		SFR	l			1	1		+0.4				-			-	-	-	-	-	-	-		-	-	-		-	-	-	-	@	@	-
R 31 <sup>X</sup>		SFR	l				1		+0.2							-	-				-	-		-	-			-		-	-	@	@	-
R 32 *		SFR			61.3		1			-1.1						-	-				-	-		-	-			-		-	-	-	-	-
R 33 <sup>Z</sup>		SFR	ı		71.0	1										-	-				-	-		-	-			-		-	-	@	-	-
R 34 ×		SFR							-1.0			-	-			-	-	-	-	-	-	-		-	-	-		-	-	-	-	@	-	-
R 35 Z		SFR	ı						-1.0		-	-	-			-	-	-	-	-	-	-		-	-	-		-	-	-	-	@	-	-
R 36 Y		SFR							-1.2		-					-	-	-	-		-	-		-	-	-		-	-	-	-	@	-	-
R 37 X		SFR	l			1	1		-0.9		-	-	-		-	-	-	-	-	-	-	-		-	-	-		-	-	-	-	@	-	-
R 38 <sup>X</sup>		SFR	4	69.9	70.1	68.7	67.4	+0.2	-1.2	-2.5											-					-		-	-	-	-	26	-	-

- 1 STxx or LTxx measurement site number; CAL Calibration site.
- 2 Land Use: SFR single-family residence; CHR Church; SCH School; PLG Playgrounds, recreational/sports fields.
- 3 Noise levels in these columns are reported to a precision of 0.1 dBA to more clearly distinguish whether or not predicted noise levels are expected to increase between Without Project and With Project conditions. The accuracy of the absolute noise level predictions shown here is not as fine as one tenth of a decibel.
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Table D-3. Noise Abatement Analysis for Different Cruise Speeds: National-Average Pavement Conditions (cont'd)

	E .		Units	roject³								No	ise Le	velsl	n Outo	door A	ctivit	y Area	ıs Wit	th Pro	ject								c	CNEL a	at	М	linimu	m
	ocation			Δ.													Nois	se Pre	dictio	on wit	h Bar	rier <sup>5</sup>							_	electe Buildin			utdoor oor Le	
_	l b		welling	Without				Diffe	rence	from				Barrie	r Des	ign A <sup>6</sup>							Barrie	r Des	ign B <sup>7</sup>					ades \			educti	
ä	. and	8	Δ	>	ONE		4		e No Pi									I												Projec Withou		١,	R) to <i>A</i> ior Im	
<u> </u>	_ ≘	Use <sup>2</sup>	er of	Yea		L With rier, di		Cond	itions ( dBA <sup>3</sup>	UNEL,	н	eight,	ft	_ CM	IEL, d	RΛ	insei	rtion I dB	_oss,	ш	eight,	ff	_ CN	IEL, d	RΛ	inse	rtion l dB	LOSS,	٠,	rier), c	-	linten	dB <sup>9</sup>	расі,
. <u>×</u>	Barrier	and U	nbe	sign	50	45	40	50	45	40	50	45	40	50	45	40	50	45	40	50	45	40	50	45	40	50	45	40	50	45	40	50	45	40
Rec	Bar	Lar	Numbe	Des																								1				mph		
R 39 Z		SFR	1	70.2	70.4	69 N	67.8	+0.2	-1.2	-2 4	_		<u> </u>	_	_	_				_		<u> </u>					_	١	_			@	_	
R 40 X		SFR							-0.1				_	l_						_							_		71			27		_
R 41 X		SFR							+0.3						-						-	-		-				-	72	-		28	26	-
R 42 X		SFR	3	70.1	71.7	70.3	69.0	+1.6	+0.2	-1.1		-		-	-						-			-			-	-	-	-	-	@	@	-
R 43 <sup>X</sup>		SFR	1	70.0	72.0	70.6	69.3	+2.0	+0.6	-0.7			-		-						-	-	-	-					72	-	-	28	27	-
R 44 Y		SFR	3	61.4	62.4	61.4	60.0	+1.0	0.0	-1.4			-	-	-	-											-	-	-	-	-		-	-
R 45 <sup>X</sup>		SCH							+0.1			-			-						-		-	-			-	-		-	-	@	@	-
R 46 X*		PLY	1					l	+0.5			-	-			-		-		-	-	-					-	-	-	-	-	-	-	-
R 47 X		SFR							+0.5				-		-					-	-	-	-	-				-	68	-	-	@	@	-
R 48 X		SFR							+0.6				-		-					-	-	-	-	-				-	68	-	-	@	@	-
R 49 X		SFR	1					l	+0.8			-	-	-	-	-	-		-	-	-	-	-	-		-	-	-	68		-	@	@	-
R 50 X		SFR	1			I	i .	l	+1.5				-	-	-					-	-	-	-	-			-	-	68	67	-	@	@	-
R 51 <sup>Y</sup>		SFR	1	55.0	57.3	56.4	55.3	+2.3	+1.4	+0.3			-							-									-	-				

- 1 STxx or LTxx measurement site number; CAL Calibration site.
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Table D-3. Noise Abatement Analysis for Different Cruise Speeds: National-Average Pavement Conditions (cont'd)

ver I.D. <sup>1</sup>	r I.D. and Location	Use <sup>2</sup>	er of Dwelling Units	n Year Without Project <sup>3</sup>		EL With	nout	Futur	erence e No Pi litions ( dBA <sup>3</sup>	roject		No eight,		Barrie	r Desi	gn A <sup>є</sup>	Nois	-	dictio	n wit			Barrie CN	r Desi		Inse	rtion dB	Loss,	S B Faç F	CNEL electe electe euildir ades Projec Vitho	ed ng With ct ut	Ou Inde Re (OILF		r to evel
Recei	Barrier	Land	Number	Design	50 mph	45 mph	40 mph	50 mph	45 mph	40 mph	50 mph	45 mph	40 mph	50 mph	45 mph	40 mph	50 mph	45 mph	40 mph	50 mph	45 mph	40 mph	50 mph	45 mph	40 mph	50 mph	45 mph	40 mph	50 mph	45 mph	40 mph	50 mph	45 mph	40 mph
R 52 X		SFR	1	65.4	67.7	66.4	65.2	+2.3	+1.0	-0.2					-							-					-	-	_	-	-	@	@	
R 53	S74 R/W	SFR	1	67.8	68.3	67.1	65.7	+0.5	-0.7	-2.1	6			63	-		5	-		6		-	63	62		5	-	-	-	-	-		-	-
R 54		SFR	1	67.6	68.0	66.9	65.5	+0.4	-0.7	-2.1	6	6	-	64	62		4	5		6	6	-	63	62		5	5	-		-	-		-	
	S80 R/W	SFR	ı			•			-0.5	-1.9	6	6		55	54		3	2	-	6	6	-	55	54		3	2	-	-	-	-	-	-	-
R 56		SFR	-10		68.9					-2.1	6	6		63	62		6	5		6	6		62	62		7	5	<u>  -</u>	-		_			
R 57 X		SFR	1			1			+0.4						-						-	-	-				-	-	-	-	-	@	@	-
R 58 Y		SFR							+1.4				-									-						<u> </u>	_				<u> </u>	
	S114 R/W	SFR							+0.6			12		66	64		6	7	-	9	9	-	67	66		5	5				-			
R 60 Y		SFR	ı			1			+1.6						-				-			-		-			-	-	-		-		-	-
R 61 Y		SFR							+1.3	_	-										<u> </u>							ļ	_	<u> </u>	-		ļ	
R 62	S122 R/W	SFR			60.9		59.0			-0.2				60	-		1		-	12		-	59	-		2	-	-	-		-		-	-
R 63		SFR	_						0.0	_				65			2			12		-	63			4	_	<u> </u>	_		-			
	S126 R/W	SFR							+0.2		-	9		64	64		3	2		12	12	-	63	62		4	4	<u> </u>		<u> </u>	<u> </u>			
R 65 Z		SFR	6	58.3	60.6	59.3	58.3	+2.3	+1.0	0.0																								

- 1 STxx or LTxx measurement site number; CAL Calibration site.
- 2 Land Use: SFR single-family residence; CHR Church; SCH School; PLG Playgrounds, recreational/sports fields.
- 3 Noise levels in these columns are reported to a precision of 0.1 dBA to more clearly distinguish whether or not predicted noise levels are expected to increase between Without Project and With Project conditions. The accuracy of the absolute noise level predictions shown here is not as fine as one tenth of a decibel.
- 4 The City's currently-adopted General Plan Noise Element establishes an CNEL of 65 dBA as the exterior noise standard for residential development, the facades of classrooms, and park uses.
- 5 The minimum barrier height considered was 6 feet or 2 feet taller than the existing property wall (if applicable), whichever is higher. The maximum barrier height considered is 12 feet.
- 6 Design A was only considered where one or more receivers were predicted to experience a Community Noise Equivalent Level (CNEL) of 65 dBA or higher under Design Year With Project conditions. It represents the minimum height required to reduce outdoor traffic noise exposure to a CNEL below 65 dBA at as many of the receivers exposed to those impacts as possible.
- 7 Design B represents the minimum height required to provide five or more decibels of reduction in traffic noise exposure at all impacted receivers where such reduction is possible.
- 8 In many cases, receivers selected to represent outdoor activity areas are set back a different distance from the roadway than the buildings themselves. Where outdoor impacts have been identified under one or more cruise speed scenarios and where the adequacy of noise reduction could be an issue for one or more of those scenarios, CNEL values predicted at the building facade are presented here. These are the appropriate values to use in computing the minimum OILR.
- 9 It has been assumed that the Ranchero-Rd.-facing facades of buildings will provide at least 25 dB of outdoor to indoor noise level reduction (OILR) for older homes and at least 30 dB of OILR for newer homes. Therefore, values are reported in these columns only if the minimum required OILR is above these assumed levels.
- \* Intervening building structures substantially obstruct line of sight to Ranchero Road. 
  @ OILR requirement is assumed to be met.
- 10 R56 represents the same residential unit as R54. The applicable dwelling unit is accounted for with R54.
- I.L. Insertion Loss. W Existing private property wall or soundwall. X Represented land use depends upon Ranchero Road for vehicular access.
- S These receivers are located within school property. However, abatement is not warranted at these sports fields. The actual school classrooms are set much further back from the Ranchero Road, and would not be exposed to significant noise impacts.
- Y Adjacent/intervening driveways would inhibit feasibility of sound walls within existing/future City right-of-way.
- Z To be feasible, a soundwall would need to extend along the boundary of adjacent undeveloped property. However, the undeveloped property would depend upon vehicular access to Ranchero Road to remain viable.

Table D-3. Noise Abatement Analysis for Different Cruise Speeds: National-Average Pavement Conditions (cont'd)

	uo		Units	Project <sup>3</sup>								No	se Le	velsl	n Out	door A	Activit	y Area	as Wi	th Pro	ject									NEL :		1	inimu	
	ocati		J Gu	t Pro													Noi	se Pre	edictio	on wit	h Bar	rier <sup>5</sup>								electe uildir			ıtdoor oor Le	
	d L		l ≣	Without				Diffe	rence	from				Barrie	r Des	ign A <sup>6</sup>	5						Barrie	r Des	ign B <sup>7</sup>				Faç	ades	With		duction	
Ġ.	an .	2	of Dwelling	ear Wi	CNI	EL Wit	h4	Futur	e No P itions								lman	rtion									rtion l			Projec Vitho		,	R) to A ior Im	
- -	r.D	Use	er o	- ≻		rier, d		Cond	dBA <sup>3</sup>	CINEL,	н	eight,	ft	CN	IEL, d	ВА	inse	dB	LOSS,	н	eight,	ft	CN	IEL, d	ВА	inse	dB	LOSS,	,	ier), d		IIIC	dB <sup>9</sup>	pact,
Recei	Barrier	Land	Number	Design	50 mph	45 mph	40 mph	50 mph	45 mph	40 mph	50 mph	45 mph	40 mph	50 mph	45 mph	40 mph	50 mph	45 mph	40 mph	50 mph	45 mph	40 mph	50 mph	45 mph	40 mph	50 mph	45 mph	40 mph	50 mph	45 mph		50 mph	45 mph	40 mph
R 66 W	S148 R/W	SFR	-			-		+2.6	-	-		8		64	64	64	6	1	3	9	9		65	63	62	5	5	5	-	-	<u> </u>	·	<u> </u>	H
R 67 ×	01401000	SFR						+2.7				-			-			-	<del>-</del>	-	-	-			-	-	-	-	_	-	-	@	@	@
R 68 <sup>Z</sup>	-	SFR						+2.0							_			_									_	_			-	@	@	-
R 69	S198 R/W	SFR	_	_	_			+0.8			6	-		63	-			-		8			62		-	5	-	-		-		-	-	
R 70		SFR	1	62.4	63.7	62.7	61.4	+1.3	+0.3	-1.0					-	-	-	-			-			-	-		-	-		-	-			
R 71	S208 R/W	SFR	2	69.6	70.2	69.0	67.7	+0.6	-0.6	-1.9	9	-		64	-			-		8	-		65		-	5	-	-						
R 72		SFR	2	59.3	61.3	60.3	59.0	+2.0	+1.0	-0.3				-	-	-	-			-		-		-	-	-	-	-	-	-	-	-	-	
R 73 W		SFR	3	64.8	66.1	65.1	63.8	+1.3	+0.3	-1.0	9	8		63	64	-	3	-	-	12	12		62	60	-	4	5	-	-	-	-			
R 74 W		SFR	1	58.9	59.5	58.7	57.3	+0.6	-0.2	-1.6	9	8		60	59	-	0	-	-	12	12		60	58		0	1	-		-				
R 75 W	S226 R/W	SFR						+0.9			9	8		54	54		0	-	-	12	12		54	53	-	0	0	-	-	-	-		-	
R 76 W		SFR	13	57.6	59.0	58.2	56.9	+1.4	+0.6	-0.7	9	8		58	59		1	-	-	12	12	-	58	57		1	1	-	-	-	-		-	-
R 77 W		SFR	5	64.9	66.6	65.6	64.3	+1.7	+0.7	-0.6	9	8		63	63		4		-	12	12		62	60	-	5	6	-						-

- 1 STxx or LTxx measurement site number: CAL Calibration site.
- 2 Land Use: SFR single-family residence; CHR Church; SCH School; PLG Playgrounds, recreational/sports fields.
- 3 Noise levels in these columns are reported to a precision of 0.1 dBA to more clearly distinguish whether or not predicted noise levels are expected to increase between Without Project and With Project conditions. The accuracy of the absolute noise level predictions shown here is not as fine as one tenth of a decibel.
- 4 The City's currently-adopted General Plan Noise Element establishes an CNEL of 65 dBA as the exterior noise standard for residential development, the facades of classrooms, and park uses.
- 5 The minimum barrier height considered was 6 feet or 2 feet taller than the existing property wall (if applicable), whichever is higher. The maximum barrier height considered is 12 feet
- 6 Design Awas only considered where one or more receivers were predicted to experience a Community Noise Equivalent Level (CNEL) of 65 dBA or higher under Design Year With Project conditions. It represents the minimum height required to reduce outdoor traffic noise exposure to a CNEL below 65 dBA at as many of the receivers exposed to
- 7 Design B represents the minimum height required to provide five or more decibels of reduction in traffic noise exposure at all impacted receivers where such reduction is not significant.
- 8 In many cases, receivers selected to represent outdoor activity areas are set back a different distance from the roadway than the buildings themselves. Where outdoor impacts have been identified under one or more cruise speed scenarios and where the adequacy of noise reduction could be an issue for one or more of those scenarios, CNEL values predicted at the building facade are presented here. These are the appropriate values to use in computing the minimum OlLR.
- 9 It has been assumed that the Ranchero-Rd.-facing facades of buildings will provide at least 25 dB of outdoor to indoor noise level reduction (OlLR) for older homes and at least 30 dB of OlLR for newer homes. Therefore, values are reported in these columns only if the minimum required OlLR is above these assumed levels.
- $^{\star}$  Intervening building structures substantially obstruct line of sight to Ranchero Road.
- @ OILR requirement is assumed to be met.
- I.L. Insertion Loss. W Existing private property wall or soundwall. X Represented land use depends upon Ranchero Road for vehicular access.
- S These receivers are located within school property. However, abatement is not warranted at these sports fields. The actual school classrooms are set much further back from the Ranchero Road, and would not be exposed to significant noise impacts.
- Y Adjacent/intervening driveways would inhibit feasibility of sound walls within existing/future City right-of-way.
- Z To be feasible, a soundwall would need to extend along the boundary of adjacent undeveloped property. However, the undeveloped property would depend upon vehicular access to Ranchero Road to remain viable.

Table D-3. Noise Abatement Analysis for Different Cruise Speeds: National-Average Pavement Conditions (cont'd)

	E .		Units	Project <sup>3</sup>								No	ise Le	evelsl	n Outo	door /	ctivit	/ Area	as Wi	th Pro	ject									CNEL a	at	М	inimu	m
	ocation			ut Pro				Noise Prediction with Barrier <sup>5</sup> Difference from Barrier Design Δ <sup>6</sup> Rarrier Design Β <sup>7</sup> Figure 1.5 Figure															electe Buildin			utdoor oor Le								
_	and L		velling	Without				Difference from Barrier Design A <sup>6</sup> Barrier Design B <sup>7</sup> F															ades			educti								
Ġ.		2	of Dv	ear W	CNI	EL Wit		Future No Project														Projec Witho		١,	R) to A ior Im									
ver l	. d	Use		<b>≻</b>		rier, d		Conc	itions CNEL, Insertion Loss, Insertion Loss,														,	rier), d	_		dB <sup>9</sup>	, ,						
Receir	Barrier	Land	Number	Design	50 mph	45 mph	40 mph	50 mph	45 mph	40 mph	50 mph	45 mph	40 mph	50 mph	45 mph	40 mph	50 mph	45 mph	40 mph	50 mph	45 mph	40 mph	50 mph	45 mph	40 mph	50 mph	45 mph	40 mph	50 mph	45 mph	40 mph	50 mph	45 mph	40 mph
R 78 W,*		SFR	4	53.9	55 1	54.5	53.4	+12	+0.6	-0.5	9	_	<u> </u>	55 <sup>10</sup>	_	_	0	_	_	12	-		55 <sup>10</sup>			0		l					_	
R 79 W		SFR	1				1		+0.9			-	-	63	-	-	3			12		-	61	-	-	5		-					-	_
R 80 W		SFR	3	63.7	65.4	64.5	63.4	+1.7	+0.8	-0.3	9	-	-	64	-		1			12		-	62	-	-	3		-						
R 81	S244 R/W	SFR	1	65.7	65.7	64.7	63.6	0.0	-1.0	-2.1	6	-		63			3			12	-		61			5								
R 82 X		SFR	2	67.5	69.7	68.5	67.1	+2.2	+1.0	-0.4				-	-	-	-		-		-		-	-				-		-		@	@	
R 83 <sup>X</sup>		SFR							+1.5			-			-	-			-	-	-	-			-			-	71	69	-	27	@	@
R 84 X		SFR							+0.9	1		-		-	-	-	-	-	-	-	-		-	-	-	-	-	-		-		@	@	
R 85 X		SFR					67.1			-0.2		-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	@	@	-
R 86 Y,*		SFR							+0.7		-	-		-			-	-	-	-	-		-		-			-			-			<sub> </sub> -
R 87 W,*		SFR							+0.4			-		-			-	-	-	-	-		-	-				-						<sub> </sub> -
R 88 W,*		SFR							+0.2		-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-		-		-	-	, - I
R 89 X		SFR	1	68.4	70.2	68.9	67.7	+1.8	+0.5	-0.7																		-				@	@	

- 1 STxx or LTxx measurement site number; CAL Calibration site.
- 2 Land Use: SFR single-family residence; CHR Church; SCH School; PLG Playgrounds, recreational/sports fields.
- 3 Noise levels in these columns are reported to a precision of 0.1 dBA to more clearly distinguish whether or not predicted noise levels are expected to increase between Without Project and With Project conditions. The accuracy of the absolute noise level predictions shown here is not as fine as one tenth of a decibel.
- 4 The Citys currently-adopted General Plan Noise Element establishes an CNEL of 65 dBA as the exterior noise standard for residential development, the facades of classrooms, and park uses.
- 5 The minimum barrier height considered was 6 feet or 2 feet taller than the existing property wall (if applicable), whichever is higher. The maximum barrier height considered is 12 feet
- 6 Design A was only considered where one or more receivers were predicted to experience a Community Noise Equivalent Level (CNEL) of 65 dBA or higher under Design Year With Project conditions. It represents the minimum height required to reduce outdoor traffic noise exposure to a CNEL below 65 dBA at as many of the receivers exposed to those impacts as possible.
- 7 Design B represents the minimum height required to provide five or more decibels of reduction in traffic noise exposure at all impacted receivers where such reduction is possible.
- 8 In many cases, receivers selected to represent outdoor activity areas are set back a different distance from the roadway than the buildings themselves. Where outdoor impacts have been identified under one or more cruise speed scenarios and where the adequacy of noise reduction could be an issue for one or more of those scenarios, CNEL values predicted at the building facade are presented here. These are the appropriate values to use in computing the minimum OILR.
- 9 It has been assumed that the Ranchero-Rd.-facing facades of buildings will provide at least 25 dB of outdoor to indoor noise level reduction (OILR) for older homes and at least 30 dB of OILR for newer homes. Therefore, values are reported in these columns only if the minimum required OILR is above these assumed levels.
- 10 Noise levels predicted by TNM are not reliable due to issues with procedures used in TNM to calculate noise levels when two parallel walls intervene between source and receiver. Accordingly, these noise levels have been set to be equal noise levels predicted without abatement. This is deemed to be relatively conservative corrected values.
- \* Intervening building structures substantially obstruct line of sight to Ranchero Road. @ OILR requirement is assumed to be met.
- I.L. Insertion Loss. W Existing private property wall or soundwall. X Represented land use depends upon Ranchero Road for vehicular access.
- S These receivers are located within school property. However, abatement is not warranted at these sports fields. The actual school classrooms are set much further back from the Ranchero Road, and would not be exposed to significant noise impacts.
- Y Adjacent/intervening driveways would inhibit feasibility of sound walls within existing/future City right-of-way.
- Z To be feasible, a soundwall would need to extend along the boundary of adjacent undeveloped property. However, the undeveloped property would depend upon vehicular access to Ranchero Road to remain viable.

Table D-3. Noise Abatement Analysis for Different Cruise Speeds: National-Average Pavement Conditions (cont'd)

	<u> </u>		Units	Project <sup>3</sup>								No	ise Le	evelsl	n Outo	loor A	Activit	y Area	as Wi	th Pro	ject									NEL :	at	М	inimu	m
	Location		ing Ur	ut Pro													Noi	se Pre	dictio	on wit	h Barı	rier <sup>5</sup>							_	electe Buildir			ıtdoor oor Le	
_	and L		Dwelling	Without					rence					Barrie	r Desi	gn A	6						Barrie	r Desi	ign B	7				ades			ducti	
G.				>					e No P								١.									١.				Projec Vitho		Ι,	R) to <i>A</i> ior Im	
	Barrier I.D	Use <sup>2</sup>	er of	Year		L With		Cond	itions dBA <sup>3</sup>	CNEL,	н	eight,	ft	l cv	IEL. di	ВΔ	Inse	rtion l dB	_oss,	н	eight,	ft	CN	IEL. di	RΔ	Inse	rtion dB	Loss,	٠,	rier), (		linteri	dB <sup>9</sup>	pact,
Receiver	ie I	ם ח	Number	sign	50	45	40	50	45	40	50	45	40	50	45	40	50	45	40	50	45	40	50	45	40	50	45	40	50	45	40	50	45	40
Rec	Bar	Land	Ν̈́	Des										mph																				
R 90 W	S284	SFR	1	68.0	70.6	69.4	68.2	+2.6	+14	+0.2	10	9	8	63	62	63	8	7	5	10	10	11	63	62	61	8	7	7	_	l	_	_	_	
R 91 W,LT3/CAL	R/W	SFR		66.5				+2.2	ı		10	9	8	64	63	64	5	5	2	10	10	1	64	63		5	5	5		_	_			_ !
R 92 W	S288 R/W	SFR	_	70.1	_			+2.8			10	10	9	64	65	64	9	7	6	7	7	8	68	67	65	5	5	5	-	-	-	-	-	-
R 93 W	S292	SFR	1	69.6				+2.8			12	10	9	64	65	64	8	6	6	8	8	8	67	66	65	5	5	5	-	-	-	-	-	-
R 93A W	R/W	SFR	2	66.2	68.0	66.7	65.5	+1.8	+0.5	-0.7	12	10	9	60	60	60	8	7	6	8	8	8	62	61	60	6	6	6		-	-	-		
R 94 W		SFR	4	63.5	64.8	63.6	62.5	+1.3	+0.1	-1.0	-	-							-					-		-	-			-	-	-	-	
R 95 W		SFR	4	62.9	63.8	62.7	61.6	+0.9	-0.2	-1.3	-		-		-		-	-	-		-		-	-				-		-	-	-	-	-
R 96 W		SFR			54.5	_			_	_													-	-						-				
R 97 W	S306	SFR		57.3		ı	ı	+0.9		1		8	-	57	56		1	1	-	8	9	-	57	56	1	1	1	-	-	-	-	-	-	-
R 98 W	R/W	SFR	1 '		62.2							8	-	60	59		2	2	-	8	9		60	59		2	2	-		-	-	-		-
R 99 W		SFR	_	67.3				+1.8			8	8		64	64		5	4	-	8	9	_	64	62	_	5	6		-	-	-			╙
R 100 W	S314	SFR		66.2				+1.3		ı	8	7	-	64	64		4	3	-	10	10	I	61	60		7	7	-		-	-		-	-
R 101 W	R/W	SFR	1 -	66.1				+1.1				7	-	64	64		3	2	-	10	10		62	61	-	5	5	-	-	-	-	- 1	-	-
R 102 W		SFR	_	66.1				+1.2				7		64	64		3	2	-	10	10	_	62	61		5	5	<del>  -</del>	-	-	-		-	
R 103 W		SFR	_	63.2				+1.1		-0.9	_	<u> </u>		-			-	-	<u> </u>		-		-	-			<u> </u>		-	-			-	
R 104		SFR	1	57.0	58.6	5/./	56.4	+1.6	+U./	-0.6	-		-								-							-			-			

- 1 STxx or LTxx measurement site number; CAL Calibration site.
- 2 Land Use: SFR single-family residence; CHR Church; SCH School; PLG Playgrounds, recreational/sports fields.
- 3 Noise levels in these columns are reported to a precision of 0.1 dBA to more clearly distinguish whether or not predicted noise levels are expected to increase between Without Project and With Project conditions. The accuracy of the absolute noise level predictions shown here is not as fine as one tenth of a decibel.
- 4 The City's currently-adopted General Plan Noise Element establishes an CNEL of 65 dBA as the exterior noise standard for residential development, the facades of classrooms, and park uses
- 5 The minimum barrier height considered was 6 feet or 2 feet taller than the existing property wall (if applicable), whichever is higher. The maximum barrier height considered is 12 feet
- 6 Design A was only considered where one or more receivers were predicted to experience a Community Noise Equivalent Level (CNEL) of 65 dBA or higher under Design Year With Project conditions. It represents the minimum height required to reduce outdoor traffic noise exposure to a CNEL below 65 dBA at as many of the receivers exposed to those impacts as possible.
- 7 Design B represents the minimum height required to provide five or more decibels of reduction in traffic noise exposure at all impacted receivers where such reduction is possible.
- 8 In many cases, receivers selected to represent outdoor activity areas are set back a different distance from the roadway than the buildings themselves. Where outdoor impacts have been identified under one or more cruise speed scenarios and where the adequacy of noise reduction could be an issue for one or more of those scenarios, CNEL values predicted at the building facade are presented here. These are the appropriate values to use in computing the minimum OlLR.
- 9 It has been assumed that the Ranchero-Rd.-facing facades of buildings will provide at least 25 dB of outdoor to indoor noise level reduction (OILR) for older homes and at least 30 dB of OILR for newer homes. Therefore, values are reported in these columns only if the minimum required OILR is above these assumed levels.
- \* Intervening building structures substantially obstruct line of sight to Ranchero Road. @ OILR requirement is assumed to be met.
- I.L. Insertion Loss. W Existing private property wall or soundwall. X Represented land use depends upon Ranchero Road for vehicular access.
- S These receivers are located within school property. However, abatement is not warranted at these sports fields. The actual school classrooms are set much further back from the Ranchero Road, and would not be exposed to significant noise impacts.
- Y Adjacent/intervening driveways would inhibit feasibility of sound walls within existing/future City right-of-way.
- Z To be feasible, a soundwall would need to extend along the boundary of adjacent undeveloped property. However, the undeveloped property would depend upon vehicular access to Ranchero Road to remain viable.

Table D-4. Noise Abatement Analysis for Different Cruise Speeds: OGAC Pavement

	5		Units	Project <sup>3</sup>								Noi	se Le	vels lı	n Outo	door A	ctivity	/ Area	as Wit	h Pro	ject								c	NEL a	at	М	inimu	m
	Location																Nois	e Pre	dictio	n witl	h Bar	rier <sup>5</sup>								electe uildin			itdoor oor Le	
-	and L		Dwelling	Without					rence					Barrie	r Des	ign A <sup>6</sup>	5						Barrie	r Des	ign B	7			_	ades \			ducti	
ď		8	of DV	ar 🛚	CNI	EL Wit			e No Pi itions (								Imaa	4: 1									rtion l			Projec Vitho		`	R) to A ior Im	
l ler l	G.	Use		ě		rier, d		Cond	dBA <sup>3</sup>	JINEL,	Н	eight,	ft	CN	IEL, d	ВА	insei	tion L dB	LOSS,	Н	eight,	ft	CN	IEL, d	ВА	inse	dB	LOSS,	٠,	ier), c	_		dB <sup>9</sup>	pa ot,
cei	Barrier	and l	Number	sign	50	45	40	50	45	40	50	45	40	50	45	40	50	45	40	50	45	40	50	45	40	50	45	40	50	45	40	50	45	40
å	Ba	La	ž	De	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph
R1 W		SFR	1	54.6	54.6	53.4	52.2	0.0	-1.2	-2.4		-					-			-		-	-			-	-	-				-	-	-
R 2 W		SFR	1	63.3	63.5	62.2	60.9	+0.2	-1.1	-2.4	-						-			-	-		-			-	-					-		-
R3 W	S73	SFR	1	64.9	65.1	63.7	62.5	+0.2	-1.2	-2.4	7	-		63	-		2		-	10	-	-	60		-	5	-			-	-			
R4 W	R/W	SFR	3	52.0	51.9	50.9	49.8	-0.1	-1.1	-2.2	7		-	52			0	-		10	-	-	51			1	-	-		-			-	-
R 5 W		SFR	_	_		_			-0.6	$\overline{}$	-			63			1			10	-		59			5								-
R 6 W		SFR						l	-0.6				-					-		-	-						-			-			-	-
R 7 W		SFR			55.3							-	-	-	-			-		-	-		-			-	-	-		-		-	-	-
R8 W		SFR	_			_			-0.8																	-						-		
R9 W	-	SFR				_			-3.8		_									-	-					-	-					-	-	
R 9A LT1/CAL		SFR			58.9					-4.0			-							-	-	-				-	-			-		-	-	ı - I
R 10		SFR					ı	l	-1.3			-	-	-	-			-		-	-		-			-	-	-		-		-	-	- I
R 11 W		SFR					ı	l	-0.8				-							-	-	-				-	-	-				-	-	i - I
R 12 W		SFR	2	56.0	56.2	55.5	54.2	+0.2	-0.5	-1.8										-						-						-		-

- 1 STxx or LTxx measurement site number; CAL Calibration site.
- 2 Land Use: SFR single-family residence; CHR Church; SCH School; PLG Playgrounds, recreational/sports fields.
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Table D-4. Noise Abatement Analysis for Different Cruise Speeds: OGAC Pavement (cont'd)

	oo		Units	roject³								Noi	se Le	vels lı	n Oute	door A	Activit	y Area	as Wit	h Pro	ject								4 -	NEL		1	inimu	
	ocation		ng U	<u> </u>													Nois	se Pre	dictio	n wit	h Bar	rier <sup>5</sup>								electe uildir			ıtdoor oor Le	
_	d L		of Dwelling	Without					rence					Barrie	r Des	ign A <sup>t</sup>	6						Barrie	r Des	ign B	7				ades			ducti	
a.	. an	2	Ď		CN	EL Wit		Futur	e No P itions								Inco	rtion I	220							Inco	rtion I	220		Projec Vitho		,	R) to A ior Im	
e –	- i	Use		Year		rier, d		Conta	dBA <sup>3</sup>	OIVLL,	н	eight,	ft	CN	IEL, d	ВА	IIISE	dB	LUSS,	н	eight,	ft	CN	IEL, d	ВА	IIISE	dB	_055,	,	ier), (			dB <sup>9</sup>	puot,
ecei	Barrier I.D	Land	Number	esign	50	45	40	50	45	40	50	45	40	50	45	40	50	45	40	50	45	40	50	45	40	50	45	40	50	45	40	50	45	40
œ .	- 8		-	_	H	+ -	-	<u> </u>	<u> </u>	<u> </u>	H	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph
R 13 <sup>X</sup>		SFR				69.6						-			-		-		-	-	-	-		-	-		-	-		-	-	@		-
R 14		SFR	1			56.2					_				-		-		-	-		-		-	-	-	-	-	-		-	-		-
R 15 R 16		PLG <sup>S</sup> PLG <sup>S</sup>	1			54.7				-2.0		-			-		-		-	-	-	-		-	-		-	-	-		-	-		-
R 17		PLG <sup>S</sup>				60.7						_		_	_	_	_		-	_		-	_	_	-	_	-	_		_	-	_		_
R 18	S147	SFR	1			57.2				-1.0	9	8		57	56		1	1	-	6	6	-	57			1	1	-			-	-		
R 19	R/W	SFR	1			70.0				-1.2	_	8		64			7	6	_	6	6	_	66	1	i	5	5	-			_	_		_
R 20		SCH	1	_	_	59.3	_				-	6		58	57		3	2		9	6	-	58	57		3	2	-			-			
R 21	S151 R/W	CHR	1	63.8	65.5	64.1	63.0	+1.7	+0.3	-0.8	6	6		62	61		4	3	-	9	6	-	61	59	-	5	5				-	-		-
R 22 X	17/ 7/	SFR	1	72.6	74.4	72.9	71.6	+1.8	+0.3	-1.0	6	6		69	67		5	6	-	9	6		68	66	-	6	7	-			-	-		
R 23 X		SFR	2			65.6	l .			-2.6	-	-		-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
R 24 Z	-	SFR				53.8	1			1					-		-		-	-	-	-		-	-		-	-			-	-	-	-
R 25 <sup>X,W</sup>		SFR	1	64.0	64.5	63.1	62.0	+0.5	-0.9	-2.0							-							-	-						-	-		- 1

- 1 STxx or LTxx measurement site number; CAL Calibration site.
- 2 Land Use: SFR single-family residence; CHR Church; SCH School; PLG Playgrounds, recreational/sports fields.
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Table D-4. Noise Abatement Analysis for Different Cruise Speeds: OGAC Pavement (cont'd)

	uo		Units	roject³								Noi	se Le	vels lı	o Outo	door A	ctivit	y Area	as Wi	th Pro	ject								4	CNEL a		1	linimu	
	ocation		l g	<u> </u>													Nois	se Pre	dictio	on wit	h Bar	rier <sup>5</sup>								electe Buildin		1 -	utdoor loor Le	
			Dwelling	Without				Diffe	rence	from				Barrie	r Des	ign A	_		,	<u> </u>			Barrie	r Des	ign B	7			4	ades	•		educti	
-	and		≧	<u> </u>				Futur																						Projec		١,	R) to A	
<u>-</u>	G.	Use <sup>2</sup>	r of	Yea		EL Wit rier, d		Cond	itions dBA <sup>3</sup>	CNEL,	l "	eight,	ft	CN	EL, d	RΔ	Inse	rtion I dB	Loss,	L	eight	ft	CN	IEL, d	RΔ	Inse	rtion I dB	Loss,	,	Withou	_	inter	rior Im dB <sup>9</sup>	pact,
<u>×</u>	Barrier	ח	Number	sign	50	45	40	50	45	40	50	45	40	50	45	40	50	45	40	50	45	40	50	45	40	50	45	40	50	45	40	50	45	40
Re	Bai	Land	2	Des	mph	mph	mph	mph		mph									mph	mph										1	1 .		mph	mph
R 26		SFR	2	67.7	67.6	66.5	65.0	-0.1	-1.2	-2.7	-		-		_				-		-							-			-			
R 27 X		SFR	1	68.7	67.8	66.8	65.3	-0.9	-1.9	-3.4	-	-	-	-		-	-		-	-	-	-	-			-	-	-	-		-	-	-	
R 28 <sup>X,W</sup>		SFR	1	66.2	66.2	65.3	64.8	0.0	-0.9	-1.4									-		-	-	-						-		-			
R 29 LT2/CAL	S223 R/W	SFR					68.8		-0.9		8		-	63			8		-	6	-		65			6			-		-			
R 30 X		SFR				1	66.4			-2.6			-			-			-		-		-				-	-	-		-		-	
R 31 X		SFR				1	67.2		I	ı			-			-			-		-	-	-				-	-	-	-	-		-	
R 32 *		SFR				1	57.5		I	ı		-	-			-			-		-	-	-				-	-	-	-	-		-	
R 33 Z		SFR				1	66.8			ı			-			-			-		-	-	-				-	-	-		-		-	
R 34 ×		SFR				1	66.2		1	1			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
R 35 <sup>Z</sup>		SFR				1	66.6		1	1		-	-			-			-		-	-	-				-	-	-	-	-		-	
R 36 Y		SFR				1	66.1		1	-3.9		-	-	-	-	-	-	-	-	-	-	-	-		-		-	-	-	-	-	-	-	-
R 37 ×		SFR				1	66.8		1	1		-	-	-	-	-	-		-	-	-	-	-		-		-	-	-	-	-	-	-	-
R 38 X		SFR	4	69.9	68.6	67.2	65.9	-1.3	-2.7	-4.0									-		-	-	-				-				-			

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Table D-4. Noise Abatement Analysis for Different Cruise Speeds: OGAC Pavement (cont'd)

	u.		Units	Project <sup>3</sup>								Noi	se Le	vels l	n Outo	loor A	Activit	Area	ıs Wit	h Pro	ject								c	NEL a	ıt	М	inimu	m
	Location		ng Ur														Nois	e Pre	dictio	n witl	h Barı	rier <sup>5</sup>							_	electe uildin			itdoor oor Le	
_	and L		Dwelling	Without				Diffe	rence	from				Barrie	r Des	ign Aʻ	5					I	Barrie	r Des	ign B <sup>7</sup>	'			,	ades V			ducti	
ā.		2	Ğ	<u>*</u>	CNE	L With			e No Pr itions (	•								4: 1								Inna				Project Nithou		Interi	₹) to A	
er –	r.i.o	Use.	er of	Yea		=∟ with rier, dE		Cona	dBA <sup>3</sup>	JNEL,	Н	eight,	ft	CN	IEL. d	ВА	Inse	tion L dB	.oss,	Н	eight,	ft	CN	IEL, d	ва	insei	rtion l dB	Loss,	,	rier), d		linteri	dB <sup>9</sup>	pa ci,
Receiv	Barrier	and l	Numb	esign	50	45	40	50	45	40	50	45	40	50	45	40	50	45	40	50	45	40	50	45	40	50	45	40	50	45	40	50	45	40
Re	Ba	Га	ž	De	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	mph
R 39 <sup>Z</sup>		SFR	1	70.2	68.9	67.5	66.3	-1.3	-2.7	-3.9	-				-					-	-							-		-			-	-
R 40 X		SFR	5	70.0	69.7	68.4	67.1	-0.3	-1.6	-2.9					-						-	-			-			-		-			-	-
R 41 X		SFR	4	70.0	70.2	68.8	67.5	+0.2	-1.2	-2.5					-													-	70	-		26	-	
R 42 X		SFR	3	70.1	70.2	68.8	67.5	+0.1	-1.3	-2.6	-				-			-	-								-	-		-		@	-	-
R 43 X		SFR	1	70.0	70.5	69.1	67.8	+0.5	-0.9	-2.2					-			-	-			-			-	-		-	70	-		26	-	-
R 44 Y		SFR	3	61.4	60.9	59.9	58.5	-0.5	-1.5	-2.9					-			-		-	-	-			-			-		-			-	-
R 45 <sup>X</sup>		SCH	1	66.6	66.2	65.2	63.6	-0.4	-1.4	-3.0					-			-			-							-		-			-	-
R 46 X*		PLY				57.8							-	-	-			-		-	-	-			-		-	-		-		-	-	-
R 47 X		SFR	4	67.5	67.6	66.5	65.0	+0.1	-1.0	-2.5	-		-	-	-			-	-			-		-	-	-	-	-	67	-		@	-	
R 48 X		SFR				65.7				-2.0	-		-	-	-			-	-			-			-	-	-	-	67	-		@	-	-
R 49 X		SFR				65.8									-		-		-			-			-	-		-	67	-		@	-	-
R 50 X		SFR				67.2				-1.5					-			-	-			-			-		-	-	67	-		@	-	-
R 51 Y		SFR	1	55.0	55.8	54.9	53.8	+0.8	-0.1	-1.2			-		-													-				-		

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	u		Units	Project <sup>3</sup>								Noi	se Le	velsli	n Outo	loor <i>F</i>	Activit	y Area	as Wit	th Pro	ject									NEL a			inimu	
	ocation			ut Pro													Nois	se Pre	dictio	n wit	h Bar	rier <sup>5</sup>							_	electe uildin			utdoor oor Le	
	d L		Dwelling	Without				Diffe	rence	from				Barrie	r Desi	gn A <sup>6</sup>	6						Barrie	r Des	ign B <sup>7</sup>	7				ades \			educti	
Ö.	and			ar Wi					e No P																					Projec		١,	R) to A	
<u> </u>	9	Use 2	٥	Yea		EL Wit rier. d		Cond	itions dBA <sup>3</sup>	CNEL,	١.,.	- ! l- 4			IEL. di		Inse	rtion I dB	_oss,	۱	-!			EL. d	ВΑ	Inse	rtion l dB	Loss,	٠,	Nithorier), o		inter	ior Im dB <sup>9</sup>	pact,
9.1	je j		g	sign	_	T	_			40		eight,		_					40		eight,						_	40	-				_	40
Receiv	Barrier I.D	Land	Number	Desi	50 mph	45 mph	40 mph		45 mph	40 mph	50 mph	45 mph	40 mph	50 mph	45 mph	40 mph	50 mph	45 mph	40 mph	50 mph	45 mph	40 mph	50 mph	45 mph	40 mph	50 mph	45 mph	40 mph	50 mph	45 mph	40 mph	50 mph	45 mph	40 mph
R 52 ×		SFR	1	65.4	66.2	64.9	63.7	+0.8	-0.5	-1.7			-	-			-		-	-	-	-	-			-		-		-		@		-
R 53	- 1	SFR	1	67.8	66.8	65.6	64.2	-1.0	-2.2	-3.6			-						-	-	-	-				-		-		-		-		_
R 54		SFR	1	67.6	66.5	65.4	64.0	-1.1	-2.2	-3.6	6		-	62			5		-	6	-		62			5				-		-		-
R 55	S80 R/W	SFR	1	56.2	56.1	54.2	52.8	-0.1	-2.0	-3.4	6			54	-		2		-	6		-	54	-		2		-		-				
R 56		SFR	<sup>10</sup>				63.8							61			6		-	6	_		61			6						-		-
R 57 X	_	SFR	1				67.8						-						-	-	-	-				-	-	-		-		-		-
R 58 Y		SFR	1	_	_	_	56.8		_	_									-			-						-		<u> </u>		-		-
R 59	S114 R/W	SFR	1	70.1	_	_	68.1		_	_			-	64			6		-	9	-		65			5	-	-				-		_
R 60 Y		SFR	1				59.3						-		-	-	-		-		-	-				-	-	-		-	-	-	-	-
R 61 Y		SFR	1			_	56.2		_							-	-				-	-				-		-						-
R 62		SFR	1				57.5					-	-	-	-	-	-	-	-	-	-	-				-	-	-	-	-	-	-	-	-
R 63		SFR	1	_		_	63.0		_												-	-						-		-				-
R 64 W		SFR	1	66.1			63.7														-	-						-		-		-		-
R 65 <sup>Z</sup>		SFR	6	58.3	59.1	57.8	56.8	+0.8	-0.5	-1.5									-									-		-		-		-

- 1 STxx or LTxx measurement site number; CAL Calibration site.
- 2 Land Use: SFR single-family residence; CHR Church; SCH School; PLG Playgrounds, recreational/sports fields.
- 3 Noise levels in these columns are reported to a precision of 0.1 dBA to more clearly distinguish whether or not predicted noise levels are expected to increase between Without Project and With Project conditions. The accuracy of the absolute noise level predictions shown here is not as fine as one tenth of a decibel.
- 4 The City's currently-adopted General Plan Noise Element establishes an CNEL of 65 dBA as the exterior noise standard for residential development, the facades of classrooms, and park uses.
- 5 The minimum barrier height considered was 6 feet or 2 feet taller than the existing property wall (if applicable), whichever is higher. The maximum barrier height considered is 12 feet
- 6 Design Awas only considered where one or more receivers were predicted to experience a Community Noise Equivalent Level (CNEL) of 65 dBA or higher under Design Year With Project conditions. It represents the minimum height required to reduce outdoor traffic noise exposure to a CNEL below 65 dBA at as many of the receivers exposed to those impacts as possible.
- 7 Design B represents the minimum height required to provide five or more decibels of reduction in traffic noise exposure at all impacted receivers where such reduction is possible
- 8 In many cases, receivers selected to represent outdoor activity areas are set back a different distance from the roadway than the buildings themselves. Where outdoor impacts have been identified under one or more cruise speed scenarios and where the adequacy of noise reduction could be an issue for one or more of those scenarios, CNEL values predicted at the building facade are presented here. These are the appropriate values to use in computing the minimum OlLR.
- 9 It has been assumed that the Ranchero-Rd.-facing facades of buildings will provide at least 25 dB of outdoor to indoor noise level reduction (OILR) for older homes and at least 30 dB of OILR for newer homes. Therefore, values are reported in these columns only if the minimum required OILR is above these assumed levels.
- 10 R56 represents the same residential unit as R54. The applicable dwelling unit is accounted for with R54.
- \* Intervening building structures substantially obstruct line of sight to Ranchero Road. @ OILR requirement is assumed to be met.
- I.L. Insertion Loss. W Existing private property wall or soundwall. X Represented land use depends upon Ranchero Road for vehicular access.
- S These receivers are located within school property. However, abatement is not warranted at these sports fields. The actual school classrooms are set much further back from the Ranchero Road, and would not be exposed to significant noise impacts.
- Y Adjacent/intervening driveways would inhibit feasibility of sound walls within existing/future City right-of-way.
- Z To be feasible, a soundwall would need to extend along the boundary of adjacent undeveloped property. However, the undeveloped property would depend upon vehicular access to Ranchero Road to remain viable.

Table D-4. Noise Abatement Analysis for Different Cruise Speeds: OGAC Pavement (cont'd)

	on		Units	Project <sup>3</sup>								Noi	se Le	vels Ir	o Out	door A	ctivit	y Area	as Wi	th Pro	ject								4	NEL a			inimu	
	ocati			# Pr													Nois	se Pre	dictio	on wit	h Bar	rier <sup>5</sup>								electe uildin			ıtdoor oor Le	
	nd Lc		Dwelling	Without				Diffe	rence	from				Barrie	r Des	ign A <sup>6</sup>	6						Barrie	r Des	ign B	7			Faç	ades '	With	Re	ducti	ion
-	an		Š	ž					e No P	•																				Projec Vitho		`	,	Avoid
<u>-</u>	G.	se 2	r of	Year		EL Wit rier, d		Cond	itions (	CNEL,	L	eight,	ft	CN	EL. d	RΔ	Inse	rtion l dB	Loss,	L	eight,	ft	CN	EL, d	RΔ	Inse	rtion I dB	oss,	,	rier), d		inter	dB <sup>9</sup>	
<u>ė</u>	rrier	ğ	Number	sign	50	45	40	50	45	40	50	45	40	50	45	40	50	45	40	50	45	40	50	45	40	50	45	40	50	45	40	50	45	
8	Bar	Lan	₹				1					1							1		1												1	mph
R 66 W	S148 R/W	SFR	1	67.1	68.2	66.9	65.7	+1.1	-0.2	-1.4	8	-	-	64	-	-	4		-	9	-		63		-	5			-	-	-	-	-	-
R 67 X		SFR	1	67.9	69.1	67.8	66.5	+1.2	-0.1	-1.4	-	-	-	-		-	-		-	-	-	-			-	-	-		-	-	-	@	-	-
R 68 <sup>Z</sup>		SFR	1	68.5	69.0	67.7	66.5	+0.5	-0.8	-2.0		-	-						-		-									-	-	@	-	-
R 69		SFR	1	66.3	65.6	64.5	63.1	-0.7	-1.8	-3.2		-	-				-			-	-				-	-				-	-		-	-
R 70		SFR	1	62.4	62.2	61.2	59.9	-0.2	-1.2	-2.5			-																				-	
R 71		SFR	2	69.6	68.7	67.5	66.2	-0.9	-2.1	-3.4							-																-	-
R 72		SFR	2	59.3	59.8	58.8	57.5	+0.5	-0.5	-1.8							-								-								-	-
R 73 W		SFR	3	64.8	64.6	63.6	62.3	-0.2	-1.2	-2.5	8	-	-	63		-	2		-	12			61		-	4				-	-		-	
R 74 W	S226	SFR	1	58.9	58.0	57.2	55.8	-0.9	-1.7	-3.1	8	-	-	58		-	0		-	12		-	58		-	0				-			-	-
R 75 W	R/W	SFR	2	52.6	52.0	51.4	50.1	-0.6	-1.2	-2.5	8	-	-	53		-	0		-	12			53		-	0				-	-		-	-
R 76 W	1,444	SFR	13	57.6	57.5	56.7	55.4	-0.1	-0.9	-2.2	8		-	58		-	0		-	12		-	57		-	1				-	-			-
R 77 W		SFR	5	64.9	65.1	64.1	62.8	+0.2	-0.8	-2.1	8	-		63			2			12	-		60		-	5							-	-

- 1 STxx or LTxx measurement site number; CAL Calibration site.
- 2 Land Use: SFR single-family residence; CHR Church; SCH School; PLG Playgrounds, recreational/sports fields.
- 3 Noise levels in these columns are reported to a precision of 0.1 dBA to more clearly distinguish whether or not predicted noise levels are expected to increase between Without Project and With Project conditions. The accuracy of the absolute noise level predictions shown here is not as fine as one tenth of a decibel.
- 4 The City's currently-adopted General Plan Noise Element establishes an CNEL of 65 dBA as the exterior noise standard for residential development, the facades of classrooms, and park uses.
- 5 The minimum barrier height considered was 6 feet or 2 feet taller than the existing property wall (if applicable), whichever is higher. The maximum barrier height considered is 12 feet.
- 6 Design A was only considered where one or more receivers were predicted to experience a Community Noise Equivalent Level (CNEL) of 65 dBA or higher under Design Year With Project conditions. It represents the minimum height required to reduce outdoor traffic noise exposure to a CNEL below 65 dBA at as many of the receivers exposed to those impacts as possible.
- 7 Design B represents the minimum height required to provide five or more decibels of reduction in traffic noise exposure at all impacted receivers where such reduction is possible.
- 8 In many cases, receivers selected to represent outdoor activity areas are set back a different distance from the roadway than the buildings themselves. Where outdoor impacts have been identified under one or more cruise speed scenarios and where the adequacy of noise reduction could be an issue for one or more of those scenarios, CNEL values predicted at the building facade are presented here. These are the appropriate values to use in computing the minimum OILR.
- 9 It has been assumed that the Ranchero-Rd.-facing facades of buildings will provide at least 25 dB of outdoor to indoor noise level reduction (OlLR) for older homes and at least 30 dB of OlLR for newer homes. Therefore, values are reported in these columns only if the minimum required OlLR is above these assumed levels.
- \* Intervening building structures substantially obstruct line of sight to Ranchero Road. @ OILR requirement is assumed to be met.
- I.L. Insertion Loss. W Existing private property wall or soundwall. X Represented land use depends upon Ranchero Road for vehicular access.
- S These receivers are located within school property. However, abatement is not warranted at these sports fields. The actual school classrooms are set much further back from the Ranchero Road, and would not be exposed to significant noise impacts.
- Y Adjacent/intervening driveways would inhibit feasibility of sound walls within existing/future City right-of-way.
- Z To be feasible, a soundwall would need to extend along the boundary of adjacent undeveloped property. However, the undeveloped property would depend upon vehicular access to Ranchero Road to remain viable.

Table D-4. Noise Abatement Analysis for Different Cruise Speeds: OGAC Pavement (cont'd)

	d Location		Dwelling Units	Without Project <sup>3</sup>				Diffe	erence	from		Noi		vels li Barrie			Nois			th Proj			Barrie	er Des	ign B	7			S	CNEL electe suildir ades	ed ng	Ou Ind	inimu itdoor oor Le	to evel
.D. 1	D. and	2	of Dw	ear Wi	CN	EL Wit	hout		e No P litions								Inse	rtion l	Loss.							Inse	rtion I	Loss.		Projec Vitho		Ι,	R) to A ior Im	
ver	<u>-</u>	nse			Bar	rier, d	BA <sup>3,4</sup>		dBA <sup>3</sup>		Н	eight,	ft	CN	IEL, d	ВА		dB	,	Н	eight,	ft	CN	IEL, d	ВА		dB	,	Bar	rier), (	dBA <sup>8</sup>		dB <sup>9</sup>	
Recei	Barrie	Land	Number	Design	50 mph	45 mph	40 mph	50 mph	45 mph	40 mph	50 mph	45 mph	40 mph	50 mph	45 mph	40 mph	50 mph	45 mph	40 mph	50 mph	45 mph	40 mph	50 mph	45 mph	40 mph	50 mph	45 mph	40 mph	50 mph	45 mph	40 mph	50 mph	45 mph	40 mph
R 78 W,*		SFR	4	53.9	53.6	53.0	51.9	-0.3	-0.9	-2.0	-	-		-	-			-			-	-	-	_	-	-	-	-	_	_	-	-	-	
R 79 W		SFR	5	63.9	64.3	63.3	62.1	+0.4	-0.6	-1.8		-	-	-	-			-		-	-		-	-	-	-	-	-	-	-	-	-	-	-
R 80 W		SFR	3	63.7	63.9	63.0	61.9	+0.2	-0.7	-1.8		-	-	-	-			-			-	-	-	-	-	-	-	-	-	-		-	-	
R 81		SFR	1	65.7	64.2	63.2	62.1	-1.5	-2.5	-3.6							-	-			-			-			-			-			-	
R 82 X		SFR	2	67.5	68.2	67.0	65.6	+0.7	-0.5	-1.9		-			-			-			-			-	-		-	-	-	-	-	@	-	
R 83 <sup>X</sup>		SFR					66.3		1									-			-			-	-		-	-	-	-		@	-	
R 84 X		SFR					65.8		1	-1.8		-	-		-			-	-	-	-			-	-		-	-	-	-	-	@	-	-
R 85 X		SFR					65.6			-1.7		-	-	-	-			-	-	-	-	-	-	-	-	-	-	-	-	-	-	@	-	-
R 86 Y,*		SFR				1	56.7		1	-1.9	-	-	-	-	-			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
R 87 W,*		SFR				1	55.5		1			-	-		-			-			-			-	-		-	-	-	-	-	-	-	-
R 88 W,*		SFR				1	57.8		1	1		-	-	-	-			-			-			-	-		-	-	-	-		-	-	-
R 89 X		SFR	1	68.4	68.7	67.4	66.2	+0.3	-1.0	-2.2								-			-			-	-		-	-		-		@	-	

- 1 STxx or LTxx measurement site number; CAL Calibration site.
- 2 Land Use: SFR single-family residence; CHR Church; SCH School; PLG Playgrounds, recreational/sports fields.
- 3 Noise levels in these columns are reported to a precision of 0.1 dBA to more clearly distinguish whether or not predicted noise levels are expected to increase between Without Project and With Project conditions. The accuracy of the absolute noise level predictions shown here is not as fine as one tenth of a decibel.
- 4 The City's currently-adopted General Plan Noise Element establishes an CNEL of 65 dBA as the exterior noise standard for residential development, the facades of classrooms, and park uses.
- 5 The minimum barrier height considered was 6 feet or 2 feet taller than the existing property wall (if applicable), whichever is higher. The maximum barrier height considered is 12 feet
- 6 Design Awas only considered where one or more receivers were predicted to experience a Community Noise Equivalent Level (CNEL) of 65 dBA or higher under Design Year With Project conditions. It represents the minimum height required to reduce outdoor traffic noise exposure to a CNEL below 65 dBA at as many of the receivers exposed to those impacts as possible.
- 7 Design B represents the minimum height required to provide five or more decibels of reduction in traffic noise exposure at all impacted receivers where such reduction is possible.
- 8 In many cases, receivers selected to represent outdoor activity areas are set back a different distance from the roadway than the buildings themselves. Where outdoor impacts have been identified under one or more cruise speed scenarios and where the adequacy of noise reduction could be an issue for one or more of those scenarios, CNEL values predicted at the building facade are presented here. These are the appropriate values to use in computing the minimum OILR.
- 9 It has been assumed that the Ranchero-Rd.-facing facades of buildings will provide at least 25 dB of outdoor to indoor noise level reduction (OlLR) for older homes and at least 30 dB of OlLR for newer homes. Therefore, values are reported in these columns only if the minimum required OlLR is above these assumed levels.
- \* Intervening building structures substantially obstruct line of sight to Ranchero Road. @ OlLR requirement is assumed to be met.
- I.L. Insertion Loss. W Existing private property wall or soundwall. X Represented land use depends upon Ranchero Road for vehicular access.
- S These receivers are located within school property. However, abatement is not warranted at these sports fields. The actual school classrooms are set much further back from the Ranchero Road, and would not be exposed to significant noise impacts.
- Y Adjacent/intervening driveways would inhibit feasibility of sound walls within existing/future City right-of-way.
- Z To be feasible, a soundwall would need to extend along the boundary of adjacent undeveloped property. However, the undeveloped property would depend upon vehicular access to Ranchero Road to remain viable.

Table D-4. Noise Abatement Analysis for Different Cruise Speeds: OGAC Pavement (cont'd)

	Location		Units	Without Project <sup>3</sup>								Noi	se Le	velsl	n Outo	loor A	Activit	y Area	ıs Wit	h Pro	ject								4 7	CNEL a			linimu	
	oca		ng	<b>1</b> ±													Nois	se Pre	dictio	n wit	h Barı	rier <sup>5</sup>							E	Buildin	ıg	Ind	loor Le	evel
			Dwelling	후				Diffe	rence	from				Barrie	r Des	ign A	6						Barrie	r Des	ign B	7				ades \			educti	
Ō.	and			ΙĒ					e No P																					Projec			R) to A	
<u> </u>	I.D.	Use 2	Jo .	Year		L With		Cond		CNEL,	١			۱			Inse	rtion L	.oss,	١						Inse	rtion	Loss,	,	Withou		Inter	rior Im dB <sup>9</sup>	pact,
ive	ē		pel	g		rier, di			dBA <sup>3</sup>			eight,		_	IEL, d	_		dB			eight,		_	EL, d	_		dB	1	_	rier), d	_			
90	Barrier	and	Number	esign	50	45	40	50	45	40	50	45	40	50	45	40	50	45	40	50	45	40	50	45	40	50	45	40	50	45	40	50	45	40
L.			_	۵		_	_		_	mpn	шрп	шрп	шрп	шрп	mpn	шрп	шрп	шрп	шрп	шрп	шрп	шрп	шрп	шрп	шрп	шрп	mpn	шрп	mpn	шрп	шрп	шрп	mph	шрп
R 90 W	S284	SFR	l	68.0				+1.1		-1.3	_		-	63			6			10		-	62	61	62	7	-			-	-		-	-
R 91 W,LT3/CAL	R/W	SFR			67.2	_	_		_					63			4			10			62	61	63	5	<u> </u>	<u> </u>						
R 92 W	S288 R/W	SFR	1	70.1	71.4			+1.3		-1.3		9		63			8	6		8	8		66	64		5	6	<u> </u>						<u> </u>
R 93 W	S292	SFR	1	69.6	70.9	69.6	68.4	+1.3	0.0	-1.2	10	9		64	63		7	7		8	8	-	66	65	-	5	5	-		-	-	-	-	-
R 93A W	R/W	SFR			66.5		64.0	+0.3	-1.0	-2.2	10	9	-	60	59		7	6		8	8	-	61	60		6	5			-	-	-	-	-
R 94 W		SFR	4	63.5	63.3	62.1	61.0	-0.2	-1.4	-2.5		-	-						-	-	-	-	-		-		-	-		-	-	-	-	-
R 95 W		SFR	4	62.9	62.3	61.2	60.1	-0.6	-1.7	-2.8		-	-							-	-	-	-		-			-		-	-		-	-
R 96 W		SFR	3	53.4	53.0	52.1	51.1	-0.4	-1.3	-2.3												-	-							-			-	-
R 97 W	S306	SFR	1	57.3	56.7	55.9	54.5	-0.6	-1.4	-2.8	7			56			1			8		-	55			2		-		-	-		-	-
R 98 W	R/W	SFR	1	61.4	60.7	59.7	58.3	-0.7	-1.7	-3.1	7			59			2			8	-	-	59	-		2	-	-		-	-		-	-
R 99 W	1000	SFR	1	67.3	67.6	66.5	65.1	+0.3	-0.8	-2.2	7		-	64			4			8		-	63		-	5	-	-		-	-	-	-	-
R 100 W		SFR	4	66.2	66.0	65.0	63.6	-0.2	-1.2	-2.6	-	-	-		-			-	-	-	-	-	-		-	-	-	-			-	-	-	-
R 101 W		SFR	3	66.1	65.7	64.7	63.4	-0.4	-1.4	-2.7												-	-	-	-		-	-		-	-	-	-	-
R 102 W		SFR	1	66.1	65.8	64.8	63.5	-0.3	-1.3	-2.6								-				-	-					-			-		-	-
R 103 W		SFR	1	63.2	62.8	61.8	60.8	-0.4	-1.4	-2.4	-	-	-	-					-	-	-	-			-	-	-	-		-	-	-	-	-
R 104		SFR	1	57.0	57.1	56.2	54.9	+0.1	-0.8	-2.1	-									-		-					-	-						

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- 2 Land Use: SFR single-family residence; CHR Church; SCH School; PLG Playgrounds, recreational/sports fields.
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- 6 Design Awas only considered where one or more receivers were predicted to experience a Community Noise Equivalent Level (CNEL) of 65 dBA or higher under Design Year With Project conditions. It represents the minimum height required to reduce outdoor traffic noise exposure to a CNEL below 65 dBA at as many of the receivers exposed to those impacts as possible.
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  - W Existing private property wall or soundwall. X Represented land use depends upon Ranchero Road for vehicular access.
- S These receivers are located within school property. However, abatement is not warranted at these sports fields. The actual school classrooms are set much further back from the Ranchero Road, and would not be exposed to significant noise impacts.
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