



LSC TRANSPORTATION CONSULTANTS, INC.  
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May 26, 2020

Mr. Jeff Mark  
President  
The Landhuis Company  
212 North Wahsatch Avenue, Suite 301  
Colorado Springs, CO 80903

RE: The Hills at Lorson Ranch  
El Paso County, CO  
Noise Impact Study  
LSC #204051

Dear Mr. Mark,

In response to your request, LSC Transportation Consultants, Inc. has completed a detailed analysis of the noise impacts of Fontaine Boulevard on the proposed Hills at Lorson Ranch residential development to be located within the Lorson Ranch development in El Paso County, Colorado. LSC has completed an evaluation of the noise exposure for submittal to El Paso County in accordance with the Federal Highway Administration (FHWA) requirements.

LSC used the software program Traffic Noise Model Version 2.5—developed by FHWA—to predict the noise levels at nine key locations in the development. The locations are shown in Figure 1. The receiver points are located on the lots within the Hills at Lorson Ranch development located adjacent to Fontaine Boulevard. An elevation of five feet was assumed for the receivers.

The input data for the noise predictions included traffic volumes, roadway geometry, topographic elevations, and the locations of the receivers. The analysis was completed using the projected 2040 afternoon peak-hour traffic volumes on Fontaine Boulevard. These volumes are estimated by LSC, based on the 2040 total traffic volumes shown in the *Hills at Lorson Ranch Traffic Impact Study* by LSC, dated May 26, 2020. The analysis assumes the interim Urban Non-Residential Collector cross section of Fontaine Boulevard with one through lane in each direction.

The results of the noise prediction show that in the year 2040, all locations have predicted noise levels that would not exceed 67 decibels Leq. Based on the criteria contained in the El Paso County *Engineering Criteria Manual* no noise mitigation would be needed. The noise analysis inputs and outputs are attached.

\* \* \* \* \*

Please contact me if you have any questions regarding this report.

Respectfully Submitted,

LSC TRANSPORTATION CONSULTANTS, INC.



By: Kirstin D. Ferrin, P.E.  
Senior Transportation Engineer

KDF:jas

Enclosures: Figure 1  
Traffic Noise Model Input and Output

## Figure 1

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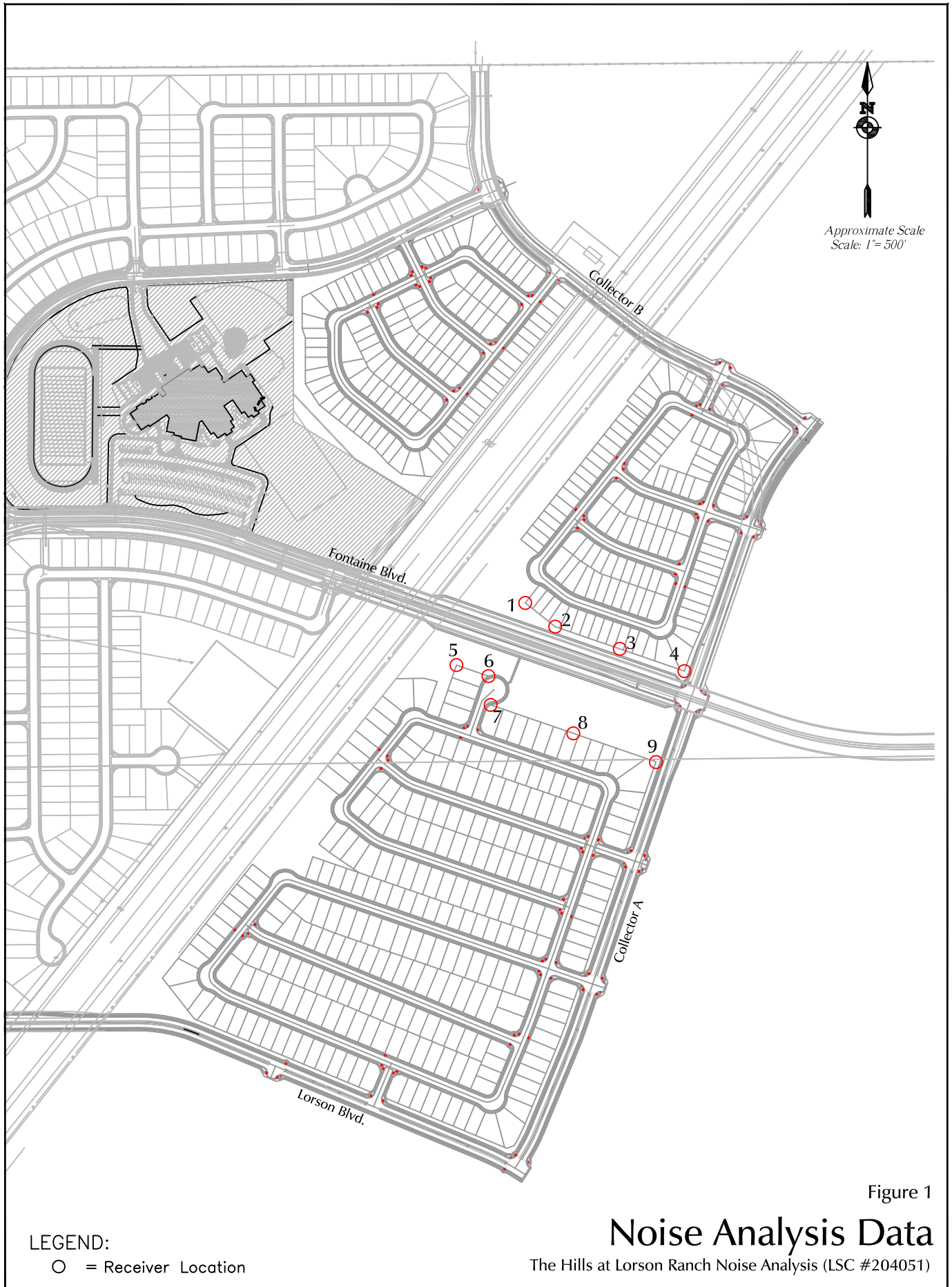


Figure 1

## Noise Analysis Data

The Hills at Lorson Ranch Noise Analysis (LSC #204051)

# Noise Analysis Inputs/Outputs

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**RESULTS: SOUND LEVELS**
**The Hills at Lorson Ranch**

LSC Transportation Consultants, Inc KDF												
5 May 2020 TNM 2.5 Calculated with TNM 2.5												
<b>RESULTS: SOUND LEVELS</b>												
<b>PROJECT/CONTRACT:</b> The Hills at Lorson Ranch												
<b>RUN:</b> 2040 PM Peak Hour												
<b>BARRIER DESIGN:</b> INPUT HEIGHTS												
Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.												
<b>ATMOSPHERICS:</b> 68 deg F, 50% RH												
<b>Receiver</b>												
<b>Name</b>	<b>No.</b>	<b>#DUs</b>	<b>Existing LAeq1h</b>	<b>No Barrier LAeq1h Calculated</b>	<b>Crit'n</b>	<b>Increase over existing Calculated</b>	<b>Crit'n Sub'l Inc</b>	<b>Type Impact</b>	<b>With Barrier Calculated LAeq1h</b>	<b>Noise Reduction Calculated</b>	<b>Goal</b>	<b>Calculated minus Goal</b>
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	56.2	67	56.2	10	----	56.2	0.0	8	-8.0
Receiver2	2	1	0.0	60.1	67	60.1	10	----	60.1	0.0	8	-8.0
Receiver3	3	1	0.0	60.4	67	60.4	10	----	60.4	0.0	8	-8.0
Receiver4	4	1	0.0	61.0	67	61.0	10	----	61.0	0.0	8	-8.0
Receiver5	5	1	0.0	54.8	67	54.8	10	----	54.8	0.0	8	-8.0
Receiver6	6	1	0.0	55.0	67	55.0	10	----	55.0	0.0	8	-8.0
Receiver7	7	1	0.0	51.4	67	51.4	10	----	51.4	0.0	8	-8.0
Receiver8	8	1	0.0	51.8	67	51.8	10	----	51.8	0.0	8	-8.0
Receiver9	9	1	0.0	51.9	67	51.9	10	----	51.9	0.0	8	-8.0
<b>Dwelling Units</b>		<b># DUs</b>	<b>Noise Reduction</b>									
			<b>Min</b>	<b>Avg</b>	<b>Max</b>							
			<b>dB</b>	<b>dB</b>	<b>dB</b>							
All Selected		9	0.0	0.0	0.0							
All Impacted		0	0.0	0.0	0.0							
All that meet NR Goal		0	0.0	0.0	0.0							

**INPUT: TRAFFIC FOR LAeq1h Volumes**
**The Hills at Lorson Ranch**

LSC Transportation Consultants, Inc					5 May 2020								
KDF					TNM 2.5								
INPUT: TRAFFIC FOR LAeq1h Volumes													
PROJECT/CONTRACT:	The Hills at Lorson Ranch												
RUN:	2040 PM Peak Hour												
Roadway	Points												
Name	Name	No.	Segment										
			Autos		MTrucks		HTrucks		Buses		Motorcycles		
			V	S	V	S	V	S	V	S	V	S	
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	
Fontaine Blvd EB	point1	1	555	40	11	40	6	40	0	0	0	0	
	point3	3	555	40	11	40	6	40	0	0	0	0	
	point4	4	555	40	11	40	6	40	0	0	0	0	
	point5	5	555	40	11	40	6	40	0	0	0	0	
	point6	6	555	40	11	40	6	40	0	0	0	0	
	point7	7	555	40	11	40	6	40	0	0	0	0	
	point8	8	555	40	11	40	6	40	0	0	0	0	
	point9	9	555	40	11	40	6	40	0	0	0	0	
	point10	10	555	40	11	40	6	40	0	0	0	0	
	point11	11	555	40	11	40	6	40	0	0	0	0	
	point12	12	555	40	11	40	6	40	0	0	0	0	
	point13	13	555	40	11	40	6	40	0	0	0	0	
	point14	14	555	40	11	40	6	40	0	0	0	0	
	point15	15	555	40	11	40	6	40	0	0	0	0	
	point16	16	555	40	11	40	6	40	0	0	0	0	
	point17	17	555	40	11	40	6	40	0	0	0	0	
	point18	18	555	40	11	40	6	40	0	0	0	0	
	point19	19	555	40	11	40	6	40	0	0	0	0	
	point20	20	555	40	11	40	6	40	0	0	0	0	
	point21	21	555	40	11	40	6	40	0	0	0	0	
	point22	22	555	40	11	40	6	40	0	0	0	0	
	point23	23	555	40	11	40	6	40	0	0	0	0	
	point24	24	555	40	11	40	6	40	0	0	0	0	

**INPUT: TRAFFIC FOR LAeq1h Volumes**
**The Hills at Lorson Ranch**

	point25	25	555	40	11	40	6	40	0	0	0	0
	point26	26	555	40	11	40	6	40	0	0	0	0
	point27	27	555	40	11	40	6	40	0	0	0	0
	point28	28	555	40	11	40	6	40	0	0	0	0
	point29	29	555	40	11	40	6	40	0	0	0	0
	point30	30	555	40	11	40	6	40	0	0	0	0
	point31	31	555	40	11	40	6	40	0	0	0	0
	point32	32	555	40	11	40	6	40	0	0	0	0
	point33	33	555	40	11	40	6	40	0	0	0	0
	point34	34	555	40	11	40	6	40	0	0	0	0
	point35	35	555	40	11	40	6	40	0	0	0	0
	point36	36	555	40	11	40	6	40	0	0	0	0
	point37	37	555	40	11	40	6	40	0	0	0	0
	point38	38	555	40	11	40	6	40	0	0	0	0
	point39	39	555	40	11	40	6	40	0	0	0	0
	point40	40	555	40	11	40	6	40	0	0	0	0
	point41	41	555	40	11	40	6	40	0	0	0	0
	point2	2										
Fontaine Blvd WB	point42	42	331	40	7	40	3	40	0	0	0	0
	point44	44	331	40	7	40	3	40	0	0	0	0
	point45	45	331	40	7	40	3	40	0	0	0	0
	point46	46	331	40	7	40	3	40	0	0	0	0
	point47	47	331	40	7	40	3	40	0	0	0	0
	point48	48	331	40	7	40	3	40	0	0	0	0
	point49	49	331	40	7	40	3	40	0	0	0	0
	point50	50	331	40	7	40	3	40	0	0	0	0
	point51	51	331	40	7	40	3	40	0	0	0	0
	point52	52	331	40	7	40	3	40	0	0	0	0
	point53	53	331	40	7	40	3	40	0	0	0	0
	point54	54	331	40	7	40	3	40	0	0	0	0
	point55	55	331	40	7	40	3	40	0	0	0	0
	point56	56	331	40	7	40	3	40	0	0	0	0
	point57	57	331	40	7	40	3	40	0	0	0	0
	point58	58	331	40	7	40	3	40	0	0	0	0
	point59	59	331	40	7	40	3	40	0	0	0	0
	point60	60	331	40	7	40	3	40	0	0	0	0



**INPUT: TRAFFIC FOR LAeq1h Volumes**
**The Hills at Lorson Ranch**

	point61	61	331	40	7	40	3	40	0	0	0	0
	point62	62	331	40	7	40	3	40	0	0	0	0
	point63	63	331	40	7	40	3	40	0	0	0	0
	point64	64	331	40	7	40	3	40	0	0	0	0
	point65	65	331	40	7	40	3	40	0	0	0	0
	point66	66	331	40	7	40	3	40	0	0	0	0
	point67	67	331	40	7	40	3	40	0	0	0	0
	point68	68	331	40	7	40	3	40	0	0	0	0
	point69	69	331	40	7	40	3	40	0	0	0	0
	point70	70	331	40	7	40	3	40	0	0	0	0
	point71	71	331	40	7	40	3	40	0	0	0	0
	point72	72	331	40	7	40	3	40	0	0	0	0
	point73	73	331	40	7	40	3	40	0	0	0	0
	point74	74	331	40	7	40	3	40	0	0	0	0
	point75	75	331	40	7	40	3	40	0	0	0	0
	point76	76	0	40	7	40	3	40	0	0	0	0
	point77	77	331	40	7	40	3	40	0	0	0	0
	point78	78	331	40	7	40	3	40	0	0	0	0
	point79	79	331	40	7	40	3	40	0	0	0	0
	point80	80	331	40	7	40	3	40	0	0	0	0
	point81	81	331	40	7	40	3	40	0	0	0	0
	point43	43										

**INPUT: ROADWAYS**
**The Hills at Lorson Ranch**

LSC Transportation Consultants, Inc				5 May 2020							
KDF				TNM 2.5							
INPUT: ROADWAYS											
PROJECT/CONTRACT:		The Hills at Lorson Ranch								Average pavement type shall be used unless	
RUN:		2040 PM Peak Hour								a State highway agency substantiates the use	
										of a different type with the approval of FHWA	
Roadway		Points									
Name	Width	Name	No.	Coordinates	(pavement)		Flow Control			Segment	
				X	Y	Z	Control	Speed	Percent	Pvmt	On
							Device	Constraint	Vehicles	Type	Struct?
									Affected		
	ft			ft	ft	ft		mph	%		
Fontaine Blvd EB	12.0	point1	1	28,684.6	23,341.4	5,751.00				Average	
		point3	3	28,757.6	23,316.2	5,752.00				Average	
		point4	4	28,808.2	23,298.8	5,753.00				Average	
		point5	5	28,849.3	23,284.6	5,754.00				Average	
		point6	6	28,884.9	23,272.4	5,755.00				Average	
		point7	7	28,917.0	23,261.3	5,756.00				Average	
		point8	8	28,948.5	23,250.5	5,757.00				Average	
		point9	9	28,980.0	23,239.6	5,758.00				Average	
		point10	10	29,011.6	23,228.8	5,759.00				Average	
		point11	11	29,043.1	23,217.9	5,760.00				Average	
		point12	12	29,074.6	23,207.1	5,761.00				Average	
		point13	13	29,106.1	23,196.2	5,762.00				Average	
		point14	14	29,137.6	23,185.4	5,763.00				Average	
		point15	15	29,169.2	23,174.5	5,764.00				Average	
		point16	16	29,200.7	23,163.7	5,765.00				Average	
		point17	17	29,232.2	23,152.8	5,766.00				Average	
		point18	18	29,263.7	23,142.0	5,767.00				Average	
		point19	19	29,295.2	23,131.1	5,768.00				Average	
		point20	20	29,325.7	23,120.7	5,769.00				Average	
		point21	21	29,354.1	23,110.9	5,770.00				Average	
		point22	22	29,380.9	23,101.6	5,771.00				Average	
		point23	23	29,406.6	23,092.8	5,772.00				Average	
		point24	24	29,432.1	23,084.0	5,773.00				Average	
		point25	25	29,457.7	23,075.2	5,774.00				Average	
		point26	26	29,483.3	23,066.4	5,775.00				Average	

**INPUT: ROADWAYS**
**The Hills at Lorson Ranch**

		point27	27	29,510.2	23,057.1	5,776.00				Average	
		point28	28	29,539.1	23,047.2	5,777.00				Average	
		point29	29	29,570.6	23,036.4	5,778.00				Average	
		point30	30	29,605.0	23,024.5	5,779.00				Average	
		point31	31	29,640.0	23,012.4	5,780.00				Average	
		point32	32	29,675.0	23,000.4	5,781.00				Average	
		point33	33	29,710.1	22,988.3	5,782.00				Average	
		point34	34	29,745.1	22,976.3	5,783.00				Average	
		point35	35	29,784.5	22,962.7	5,784.00				Average	
		point36	36	29,831.9	22,946.4	5,785.00				Average	
		point37	37	29,885.4	22,928.0	5,786.00				Average	
		point38	38	29,922.3	22,915.2	5,787.00				Average	
		point39	39	29,950.9	22,905.4	5,788.00				Average	
		point40	40	29,953.3	22,904.6	5,788.00				Average	
		point41	41	29,957.1	22,903.3	5,787.00				Average	
		point2	2	29,960.9	22,902.0	5,786.00					
Fontaine Blvd WB	12.0	point42	42	29,964.3	22,926.2	5,787.00	Stop	0.00	100	Average	
		point44	44	29,960.6	22,927.5	5,788.00				Average	
		point45	45	29,957.2	22,928.6	5,788.00				Average	
		point46	46	29,928.4	22,938.9	5,787.00				Average	
		point47	47	29,891.0	22,951.4	5,786.00				Average	
		point48	48	29,839.6	22,969.1	5,785.00				Average	
		point49	49	29,792.4	22,985.4	5,784.00				Average	
		point50	50	29,752.9	22,998.9	5,783.00				Average	
		point51	51	29,717.9	23,011.0	5,782.00				Average	
		point52	52	29,682.9	23,023.1	5,781.00				Average	
		point53	53	29,647.8	23,035.1	5,780.00				Average	
		point54	54	29,612.8	23,047.2	5,779.00				Average	
		point55	55	29,578.4	23,059.0	5,778.00				Average	
		point56	56	29,546.9	23,069.9	5,777.00				Average	
		point57	57	29,518.0	23,079.8	5,776.00				Average	
		point58	58	29,491.1	23,089.1	5,775.00				Average	
		point59	59	29,465.5	23,097.9	5,774.00				Average	
		point60	60	29,439.9	23,106.7	5,773.00				Average	
		point61	61	29,414.4	23,115.5	5,772.00				Average	
		point62	62	29,388.7	23,124.3	5,771.00				Average	
		point63	63	29,361.9	23,133.6	5,770.00				Average	
		point64	64	29,333.5	23,143.4	5,769.00				Average	
		point65	65	29,303.0	23,153.8	5,768.00				Average	

**INPUT: ROADWAYS****The Hills at Lorson Ranch**

		point66	66	29,271.5	23,164.7	5,767.00				Average	
		point67	67	29,240.0	23,175.5	5,766.00				Average	
		point68	68	29,208.5	23,186.4	5,765.00				Average	
		point69	69	29,177.0	23,197.2	5,764.00				Average	
		point70	70	29,145.4	23,208.1	5,763.00				Average	
		point71	71	29,113.9	23,218.9	5,762.00				Average	
		point72	72	29,082.4	23,229.8	5,761.00				Average	
		point73	73	29,050.9	23,240.6	5,760.00				Average	
		point74	74	29,019.4	23,251.5	5,759.00				Average	
		point75	75	28,987.9	23,262.3	5,758.00				Average	
		point76	76	28,956.3	23,273.2	5,757.00				Average	
		point77	77	28,924.8	23,284.0	5,756.00				Average	
		point78	78	28,892.8	23,295.1	5,755.00				Average	
		point79	79	28,857.2	23,307.3	5,754.00				Average	
		point80	80	28,816.0	23,321.5	5,753.00				Average	
		point81	81	28,765.4	23,338.9	5,752.00				Average	
		point43	43	28,692.4	23,364.0	5,751.00					

**INPUT: RECEIVERS**
**The Hills at Lorson Ranch**

LSC Transportation Consultants, Inc KDF							5 May 2020 TNM 2.5					
INPUT: RECEIVERS												
PROJECT/CONTRACT:	The Hills at Lorson Ranch											
RUN:	2040 PM Peak Hour											
Receiver												
Name	No.	#DUs	Coordinates (ground)			Height	Input Sound Levels and Criteria				Active	
			X	Y	Z	above	Existing	Impact Criteria		NR	in	
						Ground	L <sub>Aeq</sub> 1h	L <sub>Aeq</sub> 1h	Sub'l	Goal	Calc.	
			ft	ft	ft	ft	dBA	dBA	dB	dB		
Receiver1	1	1	29,238.4	23,309.1	5,772.00	4.92	0.00	67	10.0	8.0	Y	
Receiver2	2	1	29,351.3	23,219.7	5,772.50	4.92	0.00	67	10.0	8.0	Y	
Receiver3	3	1	29,595.0	23,135.8	5,779.00	4.92	0.00	67	10.0	8.0	Y	
Receiver4	4	1	29,838.7	23,051.9	5,785.00	4.92	0.00	67	10.0	8.0	Y	
Receiver5	5	1	28,978.7	23,074.6	5,761.50	4.92	0.00	67	10.0	8.0	Y	
Receiver6	6	1	29,099.7	23,032.9	5,769.00	4.92	0.00	67	10.0	8.0	Y	
Receiver7	7	1	29,107.8	22,924.4	5,771.50	4.92	0.00	67	10.0	8.0	Y	
Receiver8	8	1	29,419.7	22,817.0	5,776.00	4.92	0.00	67	10.0	8.0	Y	
Receiver9	9	1	29,731.4	22,708.7	5,784.00	4.92	0.00	67	10.0	8.0	Y	