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May 6, 2024

Monument Ridge East, LLC
5050 List Drive
Colorado Springs, CO 80919
<via email>

RE: Monument Ridge East
Noise Impact Study
El Paso County, Colorado
LSC #S234400

Dear Mr. Whitehead:

In response to your request, LSC Transportation Consultants, Inc. has completed a detailed analysis of the noise impacts of Interstate 25 (I-25) and County Line Road on the proposed Monument Ridge East residential development. The site is located to the east of I-25 and south of County Line Road in El Paso County, Colorado. LSC has completed an evaluation of the noise exposure for submittal to El Paso County and the Colorado Department of Transportation (CDOT) in accordance with the Federal Highway Administration (FHWA) requirements.

LSC recently completed a traffic impact analysis (TIS) for the Monument Ridge East residential development dated March 11, 2024. Key pages from that report are attached: Figure 1 from the TIS shows the site location relative to the adjacent and nearby roadways; Figure 2 shows the proposed site plan; Figure 3 shows the proposed roadway realignments including the realignment of the north portion of Monument Hill Road; and Figure 10 shows the projected 2044 total traffic volumes.

LSC used the software program Traffic Noise Model Version 2.5 — developed by FHWA — to predict the noise levels at key locations (“receivers”) within the proposed development. An elevation of five feet was assumed for the height of the receivers. The receiver locations are shown in Figure 1 of this report.

The input data for the noise predictions included traffic volumes, roadway geometry, traffic control, the existing topographic elevations, the proposed site-grading plan, and the locations of the receivers. The analysis was completed using projected 2044 afternoon peak-hour traffic volumes on County Line Road taken from Figure 10 of *The Monument Ridge East Traffic Impact Study* and CDOT existing traffic volume data and the 20-year growth factor on I-25 adjacent to the site. The traffic volumes on I-25 were assumed to include 2.4% single-unit trucks and

4.8% combination trucks, based on information for the segment of I-25 adjacent to the site obtained from the CDOT website.

The results of the noise prediction were compared to the noise abatement criteria contained in Exhibit 1 of the *Colorado Department of Transportation Noise Analysis and Abatement Guidelines* dated January 15, 2015. The proposed residential development would be considered a Category "B" land use. The threshold for exterior noise levels for Category B is 66 decibels Leq(h).

As shown in Table 1, in the year 2044, some locations have predicted noise levels that would exceed the 66-decibel Leq(h) threshold for Category "B" land uses, even with the proposed grading plan shown in Figure 1. The applicant is requesting a waiver to any requirements to provide further noise mitigation. Please refer to the waiver request prepared as part of this submittal.

* * * * *

Please contact me if you have any questions or need further assistance.

Respectfully submitted,

LSC TRANSPORTATION CONSULTANTS, INC.



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

KDF:jas

Enclosures: Table 1
Figure 1
Noise Analysis Inputs/Outputs
Key pages from the *Monument Ridge East TIS*

Mitigation in Residential Subdivisions. Noise mitigation **shall** be required for single-family and duplex residential subdivisions, which contain lots that will be individually owned, and are located adjacent to expressways, principal arterials or railroads

**Table 1
Comparison of Projected/Modeled Noise Level
Monument Ridge East**

Receiver Location	Noise level with the proposed grading (dBA)	Standard (dBA) ⁽¹⁾	Difference between the standard and the projected noise level (dBA)	Difference from the standard would be considered... ⁽²⁾
1	61.1	66	-4.9	
2	60.4	66	-5.6	
3	65.6	66	-0.4	
4	65.2	66	-0.8	
5	63.8	66	-2.2	
6	65.3	66	-0.7	
7	64.1	66	-1.9	
8	58.6	66	-7.4	
9	63.2	66	-2.8	
10	65.5	66	-0.5	
11	69.4	66	3.4	"noticeable"
12	69.2	66	3.2	"noticeable"
13	65.1	66	-0.9	
14	64	66	-2	
15	60.7	66	-5.3	
16	58.1	66	-7.9	
17	56.5	66	-9.5	
18	53.5	66	-12.5	
19	53.3	66	-12.7	
20	59.5	66	-6.5	
21	59.5	66	-6.5	
22	64.8	66	-1.2	
23	65.8	66	-0.2	

Notes

- 1 Source: Table 1 of the *Colorado Department of Transportation Noise Analysis and Abatement Guidelines*, September 21, 2020
- 2 Source: <https://www.codot.gov/programs/environmental/noise/noise-faqs> "Studies have shown that changes in noise levels of 3 decibels or less are not normally detectable by the average human ear. An increase of 5 decibels is generally readily noticeable by anyone, and a 10-decibel increase is usually felt to be "twice as loud" as before."
- 3 The results reflect projected noise levels with proposed grading as shown on Figure 1. However, as the projected noise levels for a few of the modeled receiver locations exceed the standard, the applicant is requesting a waiver to the requirement to install a sound wall. Please refer to this waiver request prepared as part of this submittal.

Figure 1



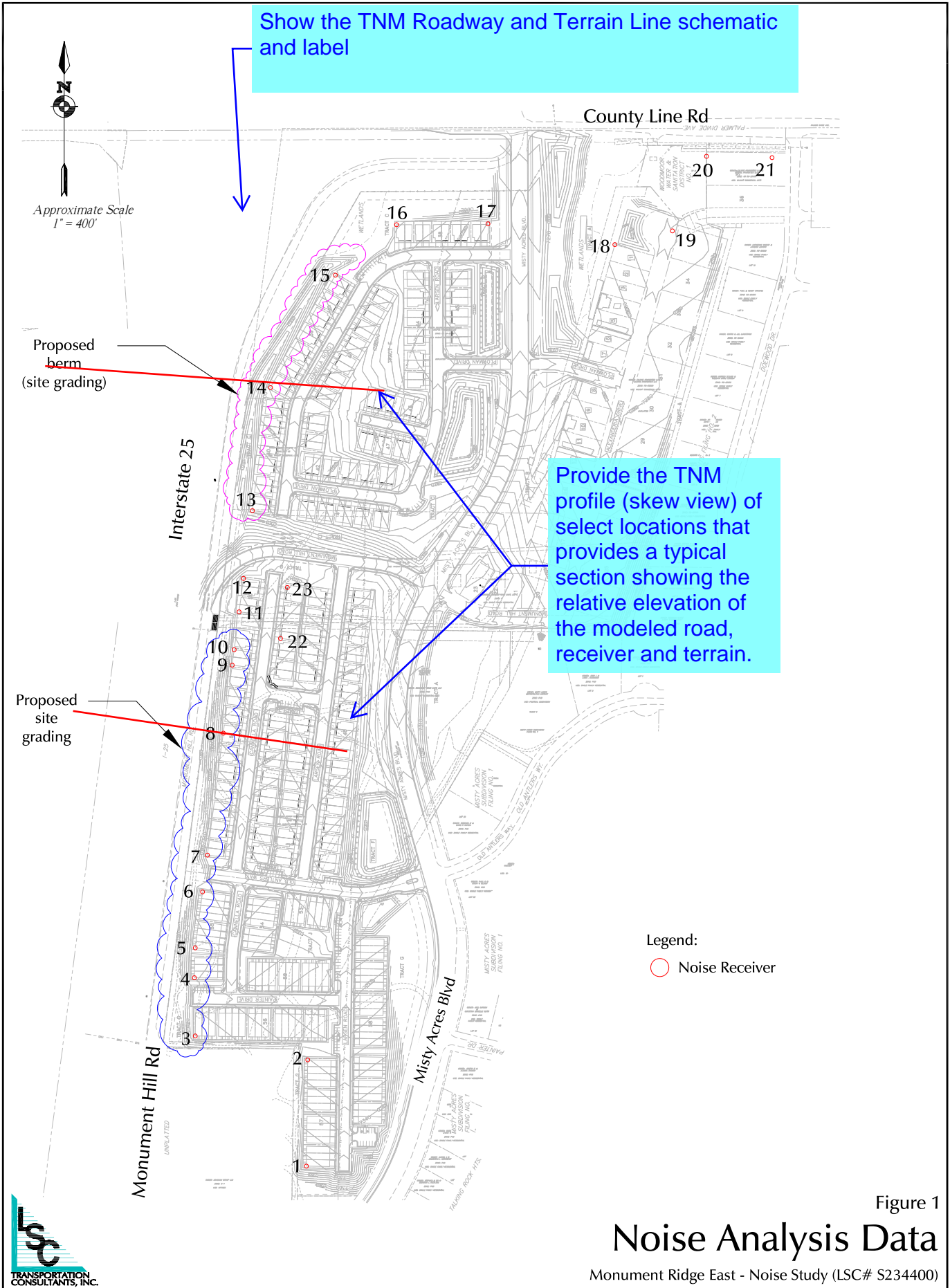


Figure 1

Noise Analysis Data

Monument Ridge East - Noise Study (LSC# S234400)



Noise Analysis Inputs/Outputs



INPUT: TRAFFIC FOR LAeq1h Volumes

Monument Ridge

LSC Transportation Consultants, Inc				30 April 2024															
KDF				TNM 2.5															
INPUT: TRAFFIC FOR LAeq1h Volumes																			
PROJECT/CONTRACT:				Monument Ridge															
RUN:				2044 Total PM Peak Hour With Mitigation															
Roadway				Points															
Name				Name		No.		Segment											
								Autos		MTrucks		HTrucks		Buses		Motorcycles			
								V		S		V		S		V		S	
								veh/hr		mph		veh/hr		mph		veh/hr		mph	
I-25 NB South of County Line Rd				point1		1		4025 75		83 75		42 75		0 0		0 0		0 0	
				point3		3		4025 75		83 75		42 75		0 0		0 0		0 0	
				point4		4		4025 75		83 75		42 75		0 0		0 0		0 0	
				point5		5		4025 75		83 75		42 75		0 0		0 0		0 0	
				point6		6		4025 75		83 75		42 75		0 0		0 0		0 0	
				point7		7		4025 75		83 75		42 75		0 0		0 0		0 0	
				point8		8		4025 75		83 75		42 75		0 0		0 0		0 0	
				point9		9		4025 75		83 75		42 75		0 0		0 0		0 0	
				point10		10		4025 75		83 75		42 75		0 0		0 0		0 0	
				point11		11		4025 75		83 75		42 75		0 0		0 0		0 0	
				point12		12		4025 75		83 75		42 75		0 0		0 0		0 0	
				point13		13		4025 75		83 75		42 75		0 0		0 0		0 0	
				point14		14		4025 75		83 75		42 75		0 0		0 0		0 0	
				point15		15		4025 75		83 75		42 75		0 0		0 0		0 0	
				point16		16		4025 75		83 75		42 75		0 0		0 0		0 0	
				point17		17		4025 75		83 75		42 75		0 0		0 0		0 0	
				point18		18		4025 75		83 75		42 75		0 0		0 0		0 0	
				point19		19		4025 75		83 75		42 75		0 0		0 0		0 0	
				point20		20		4025 75		83 75		42 75		0 0		0 0		0 0	
				point21		21		4025 75		83 75		42 75		0 0		0 0		0 0	
				point22		22		4025 75		83 75		42 75		0 0		0 0		0 0	
				point23		23		4025 75		83 75		42 75		0 0		0 0		0 0	
				point24		24		4025 75		83 75		42 75		0 0		0 0		0 0	

INPUT: TRAFFIC FOR LAeq1h Volumes

Monument Ridge

	point25	25	4025	75	83	75	42	75	0	0	0	0
	point26	26	4025	75	83	75	42	75	0	0	0	0
	point27	27	4025	75	83	75	42	75	0	0	0	0
	point28	28	4025	75	83	75	42	75	0	0	0	0
	point29	29	4025	75	83	75	42	75	0	0	0	0
	point2	2										
I-25 NB Lane Drop	point30	30	3688	75	76	75	38	75	0	0	0	0
	point32	32	3688	75	76	75	38	75	0	0	0	0
	point33	33	3688	75	76	75	38	75	0	0	0	0
	point34	34	3688	75	76	75	38	75	0	0	0	0
	point35	35	3688	75	76	75	38	75	0	0	0	0
	point36	36	3688	75	76	75	38	75	0	0	0	0
	point37	37	3688	75	76	75	38	75	0	0	0	0
	point31	31										
I-25 NB North of County Line Rd	point38	38	3688	75	76	75	38	75	0	0	0	0
	point40	40	3688	75	76	75	38	75	0	0	0	0
	point41	41	3688	75	76	75	38	75	0	0	0	0
	point42	42	3688	75	76	75	38	75	0	0	0	0
	point43	43	3688	75	76	75	38	75	0	0	0	0
	point39	39										
I-25 SB North of County Line Rd	point44	44	3452	75	71	75	36	75	0	0	0	0
	point46	46	3452	75	71	75	36	75	0	0	0	0
	point47	47	3452	75	71	75	36	75	0	0	0	0
	point48	48	3452	75	71	75	36	75	0	0	0	0
	point49	49	3452	75	71	75	36	75	0	0	0	0
	point50	50	3452	75	71	75	36	75	0	0	0	0
	point51	51	3452	75	71	75	36	75	0	0	0	0
	point52	52	3452	75	71	75	36	75	0	0	0	0
	point53	53	3452	75	71	75	36	75	0	0	0	0
	point54	54	3452	75	71	75	36	75	0	0	0	0
	point55	55	3452	75	71	75	36	75	0	0	0	0
	point56	56	3452	75	71	75	36	75	0	0	0	0
	point57	57	3452	75	71	75	36	75	0	0	0	0
	point58	58	3452	75	71	75	36	75	0	0	0	0
	point59	59	3452	75	71	75	36	75	0	0	0	0
	point60	60	3452	75	71	75	36	75	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes

Monument Ridge

	point61	61	3452	75	71	75	36	75	0	0	0	0
	point62	62	3452	75	71	75	36	75	0	0	0	0
	point63	63	3452	75	71	75	36	75	0	0	0	0
	point64	64	3452	75	71	75	36	75	0	0	0	0
	point65	65	3452	75	71	75	36	75	0	0	0	0
	point66	66	3452	75	71	75	36	75	0	0	0	0
	point67	67	3452	75	71	75	36	75	0	0	0	0
	point68	68	3452	75	71	75	36	75	0	0	0	0
	point45	45										
I-25 SB South of County Line Rd	point69	69	3715	75	77	75	38	75	0	0	0	0
	point71	71	3715	75	77	75	38	75	0	0	0	0
	point72	72	3715	75	77	75	38	75	0	0	0	0
	point73	73	3715	75	77	75	38	75	0	0	0	0
	point74	74	3715	75	77	75	38	75	0	0	0	0
	point75	75	3715	75	77	75	38	75	0	0	0	0
	point76	76	3715	75	77	75	38	75	0	0	0	0
	point77	77	3715	75	77	75	38	75	0	0	0	0
	point78	78	3715	75	77	75	38	75	0	0	0	0
	point79	79	3715	75	77	75	38	75	0	0	0	0
	point80	80	3715	75	77	75	38	75	0	0	0	0
	point81	81	3715	75	77	75	38	75	0	0	0	0
	point70	70										
County Line Rd NB Off Ramp	point82	82	338	35	7	35	3	35	0	0	0	0
	point84	84	338	35	7	35	3	35	0	0	0	0
	point85	85	338	35	7	35	3	35	0	0	0	0
	point86	86	338	35	7	35	3	35	0	0	0	0
	point87	87	338	35	7	35	3	35	0	0	0	0
	point88	88	338	35	7	35	3	35	0	0	0	0
	point89	89	338	35	7	35	3	35	0	0	0	0
	point90	90	338	35	7	35	3	35	0	0	0	0
	point91	91	338	35	7	35	3	35	0	0	0	0
	point92	92	338	35	7	35	3	35	0	0	0	0
	point93	93	338	35	7	35	3	35	0	0	0	0
	point94	94	338	35	7	35	3	35	0	0	0	0
	point95	95	338	35	7	35	3	35	0	0	0	0
	point96	96	338	35	7	35	3	35	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes

Monument Ridge

	point97	97	338	35	7	35	3	35	0	0	0	0
	point98	98	338	35	7	35	3	35	0	0	0	0
	point83	83										
County Line Rd SB On Ramp	point99	99	263	75	5	75	3	55	0	0	0	0
	point101	101	0	0	0	0	0	0	0	0	0	0
	point102	102	0	0	0	0	0	0	0	0	0	0
	point103	103	0	0	0	0	0	0	0	0	0	0
	point104	104	0	0	0	0	0	0	0	0	0	0
	point105	105	0	0	0	0	0	0	0	0	0	0
	point106	106	0	0	0	0	0	0	0	0	0	0
	point107	107	0	0	0	0	0	0	0	0	0	0
	point108	108	0	0	0	0	0	0	0	0	0	0
	point109	109	0	0	0	0	0	0	0	0	0	0
	point110	110	0	0	0	0	0	0	0	0	0	0
	point111	111	0	0	0	0	0	0	0	0	0	0
	point112	112	0	0	0	0	0	0	0	0	0	0
	point113	113	0	0	0	0	0	0	0	0	0	0
	point114	114	0	0	0	0	0	0	0	0	0	0
	point115	115	0	0	0	0	0	0	0	0	0	0
	point116	116	0	0	0	0	0	0	0	0	0	0
	point117	117	0	0	0	0	0	0	0	0	0	0
	point118	118	0	0	0	0	0	0	0	0	0	0
	point119	119	0	0	0	0	0	0	0	0	0	0
	point120	120	0	0	0	0	0	0	0	0	0	0
	point121	121	0	0	0	0	0	0	0	0	0	0
	point122	122	0	0	0	0	0	0	0	0	0	0
	point123	123	0	0	0	0	0	0	0	0	0	0
	point124	124	0	0	0	0	0	0	0	0	0	0
	point125	125	0	0	0	0	0	0	0	0	0	0
	point100	100										
County Line Rd EB West of Misty Acres	point126	126	659	45	14	45	7	45	0	0	0	0
	point128	128	659	45	14	45	7	45	0	0	0	0
	point129	129	659	45	14	45	7	45	0	0	0	0
	point130	130	659	45	14	45	7	45	0	0	0	0
	point131	131	659	45	14	45	7	45	0	0	0	0
	point132	132	659	45	14	45	7	45	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes

Monument Ridge

	point133	133	659	45	14	45	7	45	0	0	0	0
	point134	134	659	45	14	45	7	45	0	0	0	0
	point135	135	659	45	14	45	7	45	0	0	0	0
	point136	136	659	45	14	45	7	45	0	0	0	0
	point137	137	659	45	14	45	7	45	0	0	0	0
	point138	138	659	45	14	45	7	45	0	0	0	0
	point139	139	659	45	14	45	7	45	0	0	0	0
	point140	140	659	45	14	45	7	45	0	0	0	0
	point141	141	659	45	14	45	7	45	0	0	0	0
	point142	142	659	45	14	45	7	45	0	0	0	0
	point143	143	659	45	14	45	7	45	0	0	0	0
	point144	144	659	45	14	45	7	45	0	0	0	0
	point145	145	659	45	14	45	7	45	0	0	0	0
	point146	146	659	45	14	45	7	45	0	0	0	0
	point147	147	659	45	14	45	7	45	0	0	0	0
	point148	148	659	45	14	45	7	45	0	0	0	0
	point127	127										
County Line Rd EB East of Misty Acres	point149	149	531	45	11	45	5	45	0	0	0	0
	point151	151	531	45	11	45	5	45	0	0	0	0
	point152	152	531	45	11	45	5	45	0	0	0	0
	point153	153	531	45	11	45	5	45	0	0	0	0
	point154	154	531	45	11	45	5	45	0	0	0	0
	point155	155	531	45	11	45	5	45	0	0	0	0
	point156	156	531	45	11	45	5	45	0	0	0	0
	point157	157	531	45	11	45	5	45	0	0	0	0
	point158	158	531	45	11	45	5	45	0	0	0	0
	point159	159	531	45	11	45	5	45	0	0	0	0
	point160	160	531	45	11	45	5	45	0	0	0	0
	point161	161	531	45	11	45	5	45	0	0	0	0
	point162	162	531	45	11	45	5	45	0	0	0	0
	point163	163	531	45	11	45	5	45	0	0	0	0
	point164	164	531	45	11	45	5	45	0	0	0	0
	point165	165	531	45	11	45	5	45	0	0	0	0
	point150	150										
County Line Rd WB East of Misty Acres	point166	166	275	45	6	45	3	45	0	0	0	0
	point168	168	275	45	6	45	3	45	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes

Monument Ridge

	point169	169	275	45	6	45	3	45	0	0	0	0
	point170	170	275	45	6	45	3	45	0	0	0	0
	point171	171	275	45	6	45	3	45	0	0	0	0
	point172	172	275	45	6	45	3	45	0	0	0	0
	point173	173	275	45	6	45	3	45	0	0	0	0
	point174	174	275	45	6	45	3	45	0	0	0	0
	point175	175	275	45	6	45	3	45	0	0	0	0
	point176	176	275	45	6	45	3	45	0	0	0	0
	point177	177	275	45	6	45	3	45	0	0	0	0
	point178	178	275	45	6	45	3	45	0	0	0	0
	point179	179	275	45	6	45	3	45	0	0	0	0
	point180	180	275	45	6	45	3	45	0	0	0	0
	point181	181	275	45	6	45	3	45	0	0	0	0
	point182	182	275	45	6	45	3	45	0	0	0	0
	point183	183	275	45	6	45	3	45	0	0	0	0
	point184	184	275	45	6	45	3	45	0	0	0	0
	point185	185	275	45	6	45	3	45	0	0	0	0
	point186	186	275	45	6	45	3	45	0	0	0	0
	point187	187	275	45	6	45	3	45	0	0	0	0
	point188	188	275	45	6	45	3	45	0	0	0	0
	point167	167										
County Line Rd WB West of Misty Acres	point189	189	342	45	7	45	4	45	0	0	0	0
	point191	191	342	45	7	45	4	45	0	0	0	0
	point192	192	342	45	7	45	4	45	0	0	0	0
	point193	193	342	45	7	45	4	45	0	0	0	0
	point194	194	342	45	7	45	4	45	0	0	0	0
	point195	195	342	45	7	45	4	45	0	0	0	0
	point196	196	342	45	7	45	4	45	0	0	0	0
	point197	197	342	45	7	45	4	45	0	0	0	0
	point198	198	342	45	7	45	4	45	0	0	0	0
	point199	199	342	45	7	45	4	45	0	0	0	0
	point200	200	342	45	7	45	4	45	0	0	0	0
	point201	201	342	45	7	45	4	45	0	0	0	0
	point202	202	342	45	7	45	4	45	0	0	0	0
	point203	203	342	45	7	45	4	45	0	0	0	0
	point204	204	342	45	7	45	4	45	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes**Monument Ridge**

	point205	205	342	45	7	45	4	45	0	0	0	0
	point206	206	342	45	7	45	4	45	0	0	0	0
	point207	207	342	45	7	45	4	45	0	0	0	0
	point208	208	342	45	7	45	4	45	0	0	0	0
	point209	209	342	45	7	45	4	45	0	0	0	0
	point210	210	342	45	7	45	4	45	0	0	0	0
	point211	211	342	45	7	45	4	45	0	0	0	0
	point190	190										

INPUT: TRAFFIC FOR LAeq1h Volumes

Monument Ridge

		point27	27	3,180,352.5	1,471,612.0	7,322.00				Average
		point28	28	3,180,362.0	1,471,664.1	7,320.00				Average
		point29	29	3,180,365.5	1,471,717.8	7,318.00				Average
		point2	2	3,180,373.5	1,471,770.1	7,316.00				
I-25 NB Lane Drop	48.0	point30	30	3,180,373.5	1,471,776.1	7,316.00				Average
		point32	32	3,180,378.5	1,471,824.1	7,314.00				Average
		point33	33	3,180,386.8	1,471,875.9	7,312.00				Average
		point34	34	3,180,394.5	1,471,938.0	7,310.00				Average
		point35	35	3,180,403.2	1,472,004.1	7,308.00				Average
		point36	36	3,180,414.5	1,472,081.5	7,306.00				Average
		point37	37	3,180,431.0	1,472,206.8	7,304.00				Average
		point31	31	3,180,433.0	1,472,220.1	7,304.00				
I-25 NB North of County Line Rd	36.0	point38	38	3,180,433.0	1,472,226.1	7,304.00				Average
		point40	40	3,180,469.0	1,472,557.0	7,302.00				Average
		point41	41	3,180,503.8	1,472,844.8	7,300.00				Average
		point42	42	3,180,507.0	1,472,862.8	7,300.00				Average
		point43	43	3,180,514.0	1,472,911.6	7,300.00				Average
		point39	39	3,180,548.5	1,473,156.4	7,298.00				
I-25 SB North of County Line Rd	48.0	point44	44	3,180,475.0	1,473,137.9	7,298.00				Average
		point46	46	3,180,423.5	1,472,747.9	7,300.00				Average
		point47	47	3,180,378.5	1,472,384.8	7,302.00				Average
		point48	48	3,180,352.8	1,472,183.8	7,304.00				Average
		point49	49	3,180,341.5	1,472,097.2	7,306.00				Average
		point50	50	3,180,333.0	1,472,036.0	7,308.00				Average
		point51	51	3,180,326.2	1,471,968.8	7,310.00				Average
		point52	52	3,180,319.0	1,471,918.9	7,312.00				Average
		point53	53	3,180,314.0	1,471,866.2	7,314.00				Average
		point54	54	3,180,304.5	1,471,813.5	7,316.00				Average
		point55	55	3,180,294.2	1,471,748.2	7,318.00				Average
		point56	56	3,180,287.2	1,471,694.5	7,320.00				Average
		point57	57	3,180,283.5	1,471,648.5	7,322.00				Average
		point58	58	3,180,273.2	1,471,582.8	7,324.00				Average
		point59	59	3,180,267.8	1,471,529.4	7,326.00				Average
		point60	60	3,180,260.8	1,471,469.1	7,328.00				Average
		point61	61	3,180,252.0	1,471,421.2	7,330.00				Average
		point62	62	3,180,245.2	1,471,366.8	7,332.00				Average
		point63	63	3,180,238.0	1,471,310.2	7,334.00				Average
		point64	64	3,180,232.2	1,471,261.8	7,336.00				Average
		point65	65	3,180,225.0	1,471,206.2	7,338.00				Average

INPUT: TRAFFIC FOR LAeq1h Volumes

Monument Ridge

		point66	66	3,180,217.0	1,471,141.8	7,340.00				Average
		point67	67	3,180,210.0	1,471,086.9	7,342.00				Average
		point68	68	3,180,200.2	1,471,026.2	7,344.00				Average
		point45	45	3,180,192.5	1,470,961.4	7,346.00				
I-25 SB South of County Line Rd	48.0	point69	69	3,180,192.5	1,470,955.4	7,346.00				Average
		point71	71	3,180,184.0	1,470,893.9	7,348.00				Average
		point72	72	3,180,171.0	1,470,801.0	7,350.00				Average
		point73	73	3,180,158.5	1,470,709.5	7,352.00				Average
		point74	74	3,180,141.0	1,470,552.6	7,354.00				Average
		point75	75	3,180,080.0	1,470,090.0	7,354.00				Average
		point76	76	3,180,062.0	1,469,961.8	7,352.00				Average
		point77	77	3,180,061.2	1,469,950.8	7,352.00				Average
		point78	78	3,180,048.8	1,469,853.8	7,350.00				Average
		point79	79	3,180,035.5	1,469,740.0	7,350.00				Average
		point80	80	3,180,031.0	1,469,707.0	7,352.00				Average
		point81	81	3,180,027.2	1,469,680.1	7,354.00				Average
		point70	70	3,179,900.0	1,468,664.1	7,316.00				
County Line Rd NB Off Ramp	12.0	point82	82	3,180,409.5	1,471,770.1	7,314.00				Average
		point84	84	3,180,419.0	1,471,829.2	7,312.00				Average
		point85	85	3,180,424.0	1,471,881.4	7,310.00				Average
		point86	86	3,180,432.2	1,471,948.8	7,308.00				Average
		point87	87	3,180,441.2	1,472,013.1	7,306.00				Average
		point88	88	3,180,454.0	1,472,109.0	7,304.00				Average
		point89	89	3,180,470.0	1,472,230.6	7,302.00				Average
		point90	90	3,180,505.8	1,472,379.8	7,302.00				Average
		point91	91	3,180,529.0	1,472,456.0	7,304.00				Average
		point92	92	3,180,546.0	1,472,506.6	7,306.00				Average
		point93	93	3,180,553.5	1,472,523.5	7,308.00				Average
		point94	94	3,180,558.0	1,472,536.8	7,308.00				Average
		point95	95	3,180,570.5	1,472,573.2	7,310.00				Average
		point96	96	3,180,590.2	1,472,614.9	7,312.00				Average
		point97	97	3,180,610.5	1,472,662.8	7,314.00				Average
		point98	98	3,180,626.0	1,472,712.2	7,316.00				Average
		point83	83	3,180,654.0	1,472,795.2	7,317.00				
County Line Rd SB On Ramp	12.0	point99	99	3,180,255.2	1,472,771.2	7,326.00	Onramp	0.00	100	Average
		point101	101	3,180,256.8	1,472,688.0	7,324.00				Average
		point102	102	3,180,256.8	1,472,639.2	7,322.00				Average
		point103	103	3,180,256.8	1,472,585.2	7,320.00				Average
		point104	104	3,180,256.2	1,472,544.4	7,318.00				Average

INPUT: TRAFFIC FOR LAeq1h Volumes

Monument Ridge

		point105	105	3,180,256.5	1,472,495.8	7,316.00				Average	
		point106	106	3,180,256.5	1,472,434.8	7,314.00				Average	
		point107	107	3,180,256.5	1,472,359.0	7,312.00				Average	
		point108	108	3,180,256.5	1,472,238.0	7,310.00				Average	
		point109	109	3,180,256.0	1,472,040.8	7,310.00				Average	
		point110	110	3,180,254.0	1,471,915.0	7,312.00				Average	
		point111	111	3,180,254.0	1,471,836.9	7,314.00				Average	
		point112	112	3,180,250.8	1,471,795.2	7,316.00				Average	
		point113	113	3,180,245.2	1,471,734.2	7,318.00				Average	
		point114	114	3,180,241.5	1,471,681.2	7,320.00				Average	
		point115	115	3,180,240.2	1,471,631.2	7,322.00				Average	
		point116	116	3,180,236.0	1,471,576.9	7,324.00				Average	
		point117	117	3,180,232.5	1,471,518.4	7,326.00				Average	
		point118	118	3,180,226.0	1,471,466.8	7,328.00				Average	
		point119	119	3,180,220.5	1,471,412.4	7,330.00				Average	
		point120	120	3,180,213.0	1,471,355.0	7,332.00				Average	
		point121	121	3,180,206.8	1,471,300.0	7,334.00				Average	
		point122	122	3,180,201.2	1,471,246.2	7,336.00				Average	
		point123	123	3,180,193.2	1,471,190.8	7,338.00				Average	
		point124	124	3,180,185.5	1,471,130.6	7,340.00				Average	
		point125	125	3,180,179.2	1,471,075.1	7,342.00				Average	
		point100	100	3,180,171.0	1,471,019.5	7,344.00					
County Line Rd EB West of Misty Acres	12.0	point126	126	3,180,637.0	1,472,830.0	7,318.00				Average	
		point128	128	3,180,695.0	1,472,830.0	7,316.00				Average	
		point129	129	3,180,733.5	1,472,830.1	7,314.00				Average	
		point130	130	3,180,795.0	1,472,830.9	7,312.00				Average	
		point131	131	3,180,825.0	1,472,831.2	7,310.00				Average	
		point132	132	3,180,858.8	1,472,831.2	7,308.00				Average	
		point133	133	3,180,889.5	1,472,831.2	7,306.00				Average	
		point134	134	3,180,926.2	1,472,831.2	7,304.00				Average	
		point135	135	3,180,944.2	1,472,832.9	7,302.00				Average	
		point136	136	3,180,977.2	1,472,833.2	7,300.00				Average	
		point137	137	3,181,001.2	1,472,833.2	7,298.00				Average	
		point138	138	3,181,033.5	1,472,834.1	7,296.00				Average	
		point139	139	3,181,058.5	1,472,834.4	7,294.00				Average	
		point140	140	3,181,088.0	1,472,834.4	7,292.00				Average	
		point141	141	3,181,115.5	1,472,834.8	7,290.00				Average	
		point142	142	3,181,145.2	1,472,834.8	7,288.00				Average	
		point143	143	3,181,174.5	1,472,834.8	7,286.00				Average	

INPUT: TRAFFIC FOR LAeq1h Volumes

Monument Ridge

		point144	144	3,181,203.0	1,472,834.8	7,284.00				Average
		point145	145	3,181,233.8	1,472,834.8	7,282.00				Average
		point146	146	3,181,264.8	1,472,834.8	7,280.00				Average
		point147	147	3,181,296.2	1,472,834.8	7,278.00				Average
		point148	148	3,181,321.2	1,472,834.6	7,276.00				Average
		point127	127	3,181,352.5	1,472,834.8	7,274.00				
County Line Rd EB East of Misty Acres	12.0	point149	149	3,181,358.5	1,472,834.8	7,274.00				Average
		point151	151	3,181,379.2	1,472,833.2	7,272.00				Average
		point152	152	3,181,407.2	1,472,834.2	7,270.00				Average
		point153	153	3,181,447.5	1,472,833.2	7,268.00				Average
		point154	154	3,181,511.0	1,472,833.2	7,266.00				Average
		point155	155	3,181,596.0	1,472,833.2	7,264.00				Average
		point156	156	3,181,755.5	1,472,832.0	7,264.00				Average
		point157	157	3,181,886.5	1,472,829.0	7,266.00				Average
		point158	158	3,182,033.0	1,472,825.9	7,268.00				Average
		point159	159	3,182,179.5	1,472,822.8	7,270.00				Average
		point160	160	3,182,274.0	1,472,820.8	7,272.00				Average
		point161	161	3,182,364.8	1,472,818.8	7,274.00				Average
		point162	162	3,182,422.8	1,472,817.5	7,276.00				Average
		point163	163	3,182,466.8	1,472,817.0	7,278.00				Average
		point164	164	3,182,512.2	1,472,817.0	7,280.00				Average
		point165	165	3,182,544.0	1,472,814.9	7,282.00				Average
		point150	150	3,182,552.2	1,472,814.8	7,282.00				
County Line Rd WB East of Misty Acres	12.0	point166	166	3,182,559.8	1,472,845.2	7,282.00				Average
		point168	168	3,182,524.2	1,472,845.8	7,280.00				Average
		point169	169	3,182,484.2	1,472,846.2	7,278.00				Average
		point170	170	3,182,442.0	1,472,846.9	7,276.00				Average
		point171	171	3,182,390.5	1,472,847.6	7,274.00				Average
		point172	172	3,182,317.2	1,472,847.6	7,272.00				Average
		point173	173	3,182,210.5	1,472,850.8	7,270.00				Average
		point174	174	3,182,081.0	1,472,852.1	7,268.00				Average
		point175	175	3,181,957.5	1,472,853.8	7,266.00				Average
		point176	176	3,181,834.5	1,472,855.6	7,264.00				Average
		point177	177	3,181,755.5	1,472,856.8	7,262.00				Average
		point178	178	3,181,681.2	1,472,857.8	7,260.00				Average
		point179	179	3,181,651.2	1,472,858.2	7,258.00				Average
		point180	180	3,181,640.2	1,472,858.2	7,256.00				Average
		point181	181	3,181,605.2	1,472,858.2	7,258.00				Average
		point182	182	3,181,555.0	1,472,858.2	7,260.00				Average

INPUT: TRAFFIC FOR LAeq1h Volumes

Monument Ridge

		point183	183	3,181,522.5	1,472,858.1	7,262.00				Average
		point184	184	3,181,486.2	1,472,858.1	7,264.00				Average
		point185	185	3,181,459.5	1,472,858.0	7,266.00				Average
		point186	186	3,181,428.5	1,472,858.0	7,268.00				Average
		point187	187	3,181,399.0	1,472,859.4	7,270.00				Average
		point188	188	3,181,371.5	1,472,859.4	7,272.00				Average
		point167	167	3,181,354.5	1,472,859.4	7,274.00				
County Line Rd WB West of Misty Acres	12.0	point189	189	3,181,340.5	1,472,860.0	7,274.00				Average
		point191	191	3,181,316.0	1,472,860.0	7,276.00				Average
		point192	192	3,181,240.0	1,472,861.9	7,278.00				Average
		point193	193	3,181,209.0	1,472,862.2	7,280.00				Average
		point194	194	3,181,189.0	1,472,862.4	7,282.00				Average
		point195	195	3,181,160.0	1,472,862.6	7,284.00				Average
		point196	196	3,181,116.8	1,472,863.0	7,286.00				Average
		point197	197	3,181,092.2	1,472,863.2	7,288.00				Average
		point198	198	3,181,062.8	1,472,863.4	7,290.00				Average
		point199	199	3,181,034.5	1,472,863.5	7,292.00				Average
		point200	200	3,181,006.5	1,472,863.9	7,294.00				Average
		point201	201	3,180,979.5	1,472,864.1	7,296.00				Average
		point202	202	3,180,950.0	1,472,864.4	7,298.00				Average
		point203	203	3,180,922.8	1,472,864.8	7,300.00				Average
		point204	204	3,180,896.8	1,472,865.1	7,302.00				Average
		point205	205	3,180,863.2	1,472,864.8	7,304.00				Average
		point206	206	3,180,835.5	1,472,865.4	7,306.00				Average
		point207	207	3,180,807.0	1,472,866.0	7,308.00				Average
		point208	208	3,180,774.5	1,472,866.0	7,310.00				Average
		point209	209	3,180,734.8	1,472,866.4	7,312.00				Average
		point210	210	3,180,716.2	1,472,866.8	7,314.00				Average
		point211	211	3,180,690.5	1,472,866.6	7,316.00				Average
		point190	190	3,180,641.0	1,472,866.8	7,318.00				

INPUT: RECEIVERS

Monument Ridge

LSC Transportation Consultants, Inc KDF							30 April 2024 TNM 2.5				
INPUT: RECEIVERS											
PROJECT/CONTRACT:		Monument Ridge									
RUN:		2044 Total PM Peak Hour With Mitigation									
Receiver											
Name	No.	#DUs	Coordinates (ground)			Height above Ground	Input Sound Levels and Criteria				Active in Calc.
			X	Y	Z		Existing LAeq1h	Impact Criteria LAeq1h	Sub'l	NR Goal	
			ft	ft	ft	ft	dBA	dBA	dB	dB	
Receiver 1	1	1	3,180,720.5	1,469,705.1	7,344.00	4.92	0.00	66	10.0	8.0	
Receiver 2	2	1	3,180,724.8	1,470,025.1	7,335.00	4.92	0.00	66	10.0	8.0	
Receiver 3	3	1	3,180,386.0	1,470,097.4	7,337.00	4.92	0.00	66	10.0	8.0	
Receiver 4	4	1	3,180,383.5	1,470,272.6	7,336.50	4.92	0.00	66	10.0	8.0	
Receiver 5	5	1	3,180,386.0	1,470,362.5	7,337.00	4.92	0.00	66	10.0	8.0	
Receiver 6	6	1	3,180,408.0	1,470,531.0	7,335.00	4.92	0.00	66	10.0	8.0	
Receiver 7	7	1	3,180,422.5	1,470,642.0	7,335.00	4.92	0.00	66	10.0	8.0	
Receiver 8	8	1	3,180,470.5	1,471,009.1	7,328.50	4.92	0.00	66	10.0	8.0	
Receiver 9	9	1	3,180,497.2	1,471,214.1	7,325.00	4.92	0.00	66	10.0	8.0	
Receiver 10	10	1	3,180,503.2	1,471,260.8	7,324.50	4.92	0.00	66	10.0	8.0	Y
Receiver 11	11	1	3,180,518.2	1,471,374.8	7,323.50	4.92	0.00	66	10.0	8.0	
Receiver 12	12	1	3,180,531.2	1,471,474.9	7,323.00	4.92	0.00	66	10.0	8.0	
Receiver 13	13	1	3,180,558.0	1,471,679.4	7,305.00	4.92	0.00	66	10.0	8.0	
Receiver 14	14	1	3,180,612.5	1,472,049.6	7,297.00	4.92	0.00	66	10.0	8.0	
Receiver 15	15	1	3,180,807.8	1,472,388.4	7,288.00	4.92	0.00	66	10.0	8.0	
Receiver 16	16	1	3,180,991.8	1,472,540.2	7,286.00	4.92	0.00	66	10.0	8.0	
Receiver 17	17	1	3,181,267.8	1,472,541.4	7,279.50	4.92	0.00	66	10.0	8.0	
Receiver 18	18	1	3,181,632.2	1,472,463.2	7,278.00	4.92	0.00	66	10.0	8.0	
Receiver 19	20	1	3,181,822.5	1,472,521.8	7,276.00	4.92	0.00	66	10.0	8.0	
Receiver 20	22	1	3,181,908.2	1,472,729.0	7,272.00	4.92	0.00	66	10.0	8.0	
Receiver 21	23	1	3,182,105.5	1,472,725.5	7,274.00	4.92	0.00	66	10.0	8.0	Y
Receiver 22	24	1	3,180,643.0	1,471,294.4	7,323.00	4.92	0.00	66	10.0	8.0	

INPUT: RECEIVERS**Monument Ridge**

Receiver 23	27	1	3,180,662.0	1,471,445.9	7,319.00	4.92	0.00	66	10.0	8.0	
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INPUT: TERRAIN LINES

Monument Ridge

LSC Transportation Consultants, Inc			30 April 2024	
KDF			TNM 2.5	
INPUT: TERRAIN LINES				
PROJECT/CONTRACT:	Monument Ridge			
RUN:	2044 Total PM Peak Hour With Mitigation			
Terrain Line	Points			
Name	No.	Coordinates (ground)		
		X	Y	Z
		ft	ft	ft
Terrain Line6	157	3,180,355.8	1,470,042.9	7,346.00
	159	3,180,337.5	1,470,050.8	7,346.00
	160	3,180,332.5	1,470,059.2	7,346.00
	161	3,180,328.8	1,470,125.2	7,346.00
	162	3,180,333.2	1,470,158.2	7,344.00
	163	3,180,339.0	1,470,172.4	7,342.00
	164	3,180,342.0	1,470,179.6	7,342.00
	165	3,180,342.0	1,470,194.2	7,342.00
	166	3,180,342.0	1,470,211.2	7,342.00
	167	3,180,344.2	1,470,228.9	7,342.00
	168	3,180,335.8	1,470,240.9	7,342.00
	169	3,180,328.8	1,470,244.6	7,344.00
	170	3,180,323.8	1,470,266.6	7,346.00
	171	3,180,319.8	1,470,305.5	7,348.00
	172	3,180,315.2	1,470,340.1	7,350.00
	173	3,180,323.0	1,470,424.2	7,350.00
	174	3,180,323.8	1,470,449.2	7,348.00
	175	3,180,326.2	1,470,468.4	7,346.00
	176	3,180,326.2	1,470,480.1	7,344.00
	177	3,180,333.0	1,470,520.1	7,342.00
	178	3,180,335.2	1,470,537.6	7,340.00
	179	3,180,335.2	1,470,545.0	7,340.00
	180	3,180,339.0	1,470,567.0	7,342.00
	181	3,180,343.0	1,470,597.1	7,344.00

INPUT: TERRAIN LINES**Monument Ridge**

	182	3,180,345.8	1,470,618.0	7,346.00
	183	3,180,356.2	1,470,698.2	7,348.00
	184	3,180,370.8	1,470,808.5	7,348.00
	185	3,180,378.2	1,470,866.8	7,348.00
	186	3,180,385.0	1,470,898.2	7,350.00
	187	3,180,387.5	1,470,944.5	7,350.00
	188	3,180,395.0	1,470,995.4	7,348.00
	189	3,180,398.8	1,471,023.9	7,346.00
	190	3,180,398.8	1,471,055.2	7,344.00
	191	3,180,411.5	1,471,121.9	7,342.00
	192	3,180,415.2	1,471,149.2	7,340.00
Terrain Line6-2	203	3,180,441.0	1,471,525.8	7,322.00
	204	3,180,445.0	1,471,536.8	7,320.00
	205	3,180,450.5	1,471,548.0	7,318.00
	206	3,180,455.0	1,471,558.2	7,316.00
	207	3,180,504.0	1,471,623.2	7,316.00
	208	3,180,496.5	1,471,673.2	7,314.00
	209	3,180,516.5	1,471,760.5	7,312.00
	210	3,180,529.0	1,471,860.0	7,310.00
	211	3,180,538.2	1,471,938.8	7,308.00
	212	3,180,564.0	1,472,047.5	7,306.00
	213	3,180,609.0	1,472,133.8	7,304.00
	214	3,180,649.5	1,472,203.6	7,302.00
	215	3,180,689.8	1,472,270.4	7,300.00
	216	3,180,728.5	1,472,339.6	7,298.00
	217	3,180,760.2	1,472,393.8	7,296.00
	218	3,180,783.8	1,472,403.0	7,294.00
	219	3,180,808.0	1,472,409.4	7,292.00
	220	3,180,832.0	1,472,415.9	7,290.00
	158	3,180,856.0	1,472,422.4	7,288.00
Terrain Line9	222	3,180,415.2	1,471,149.2	7,340.00
	224	3,180,420.2	1,471,188.5	7,338.00
	225	3,180,423.5	1,471,211.9	7,336.00
	226	3,180,426.5	1,471,235.9	7,334.00
	227	3,180,432.0	1,471,278.8	7,332.00
	228	3,180,439.2	1,471,330.1	7,330.00

INPUT: TERRAIN LINES

	229	3,180,443.0	1,471,363.8	7,328.00
	230	3,180,448.8	1,471,408.2	7,328.00
	231	3,180,451.2	1,471,427.8	7,328.00
	232	3,180,464.8	1,471,447.9	7,328.00
	233	3,180,481.5	1,471,466.8	7,328.00
	234	3,180,501.0	1,471,482.9	7,328.00
	235	3,180,521.8	1,471,495.5	7,328.00
	236	3,180,553.0	1,471,508.4	7,326.00
	223	3,180,580.0	1,471,514.5	7,324.00

Monument Ridge

Additional Attachments

Key pages from the *Monument Ridge East TIS*



Monument Ridge East Traffic Impact Study

Prepared for:
Monument Ridge East, LLC
5050 List Drive
Colorado Springs, CO 80919
<via email>

MARCH 11, 2024

LSC Transportation Consultants, Inc.
Prepared by: Jeffrey C. Hodsdon, P.E.

LSC #S234450





Figure 1

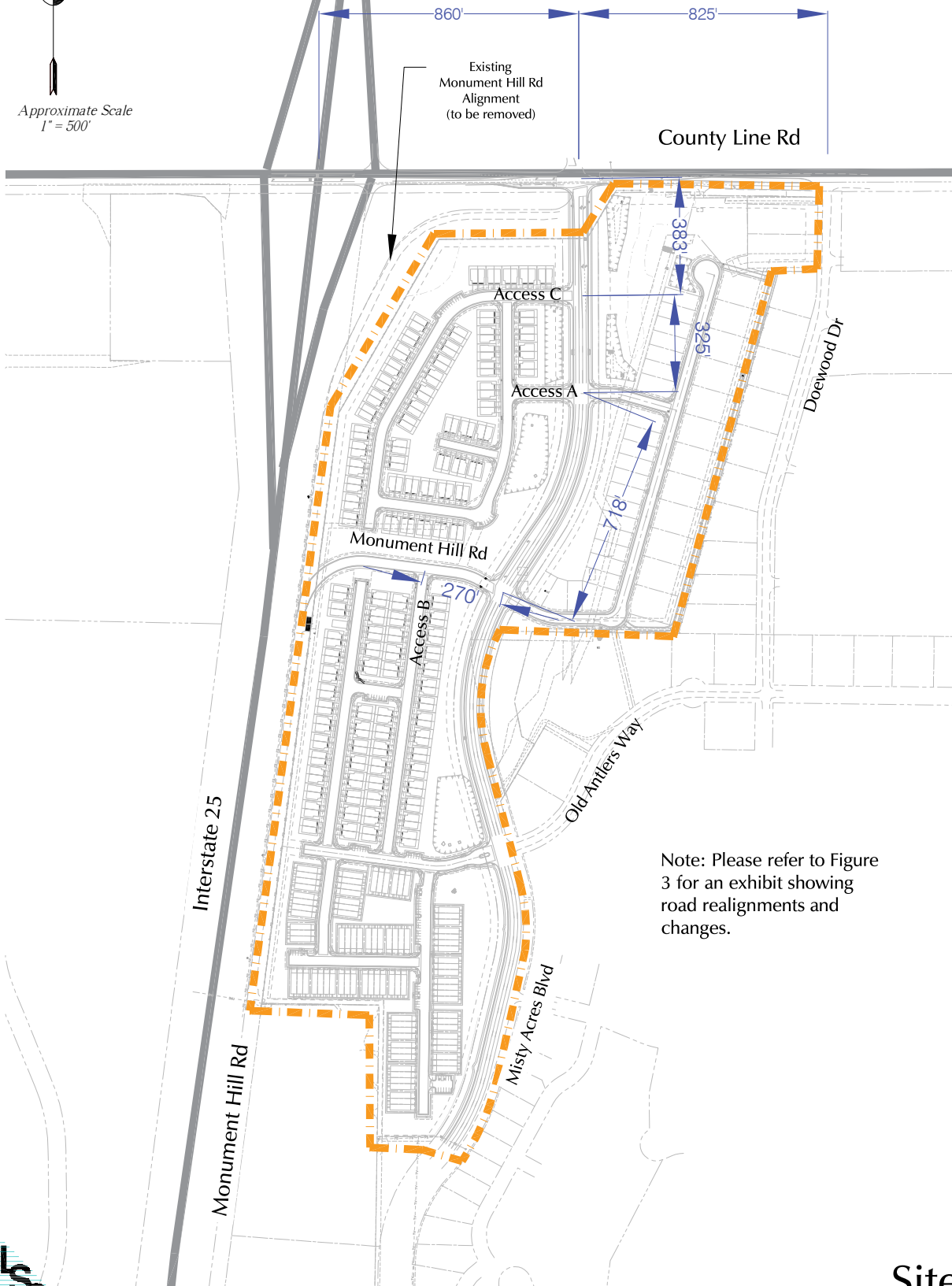
Vicinity

Monument Ridge East (LSC# S234450)





Approximate Scale
1" = 500'



Note: Please refer to Figure 3 for an exhibit showing road realignments and changes.

Figure 2

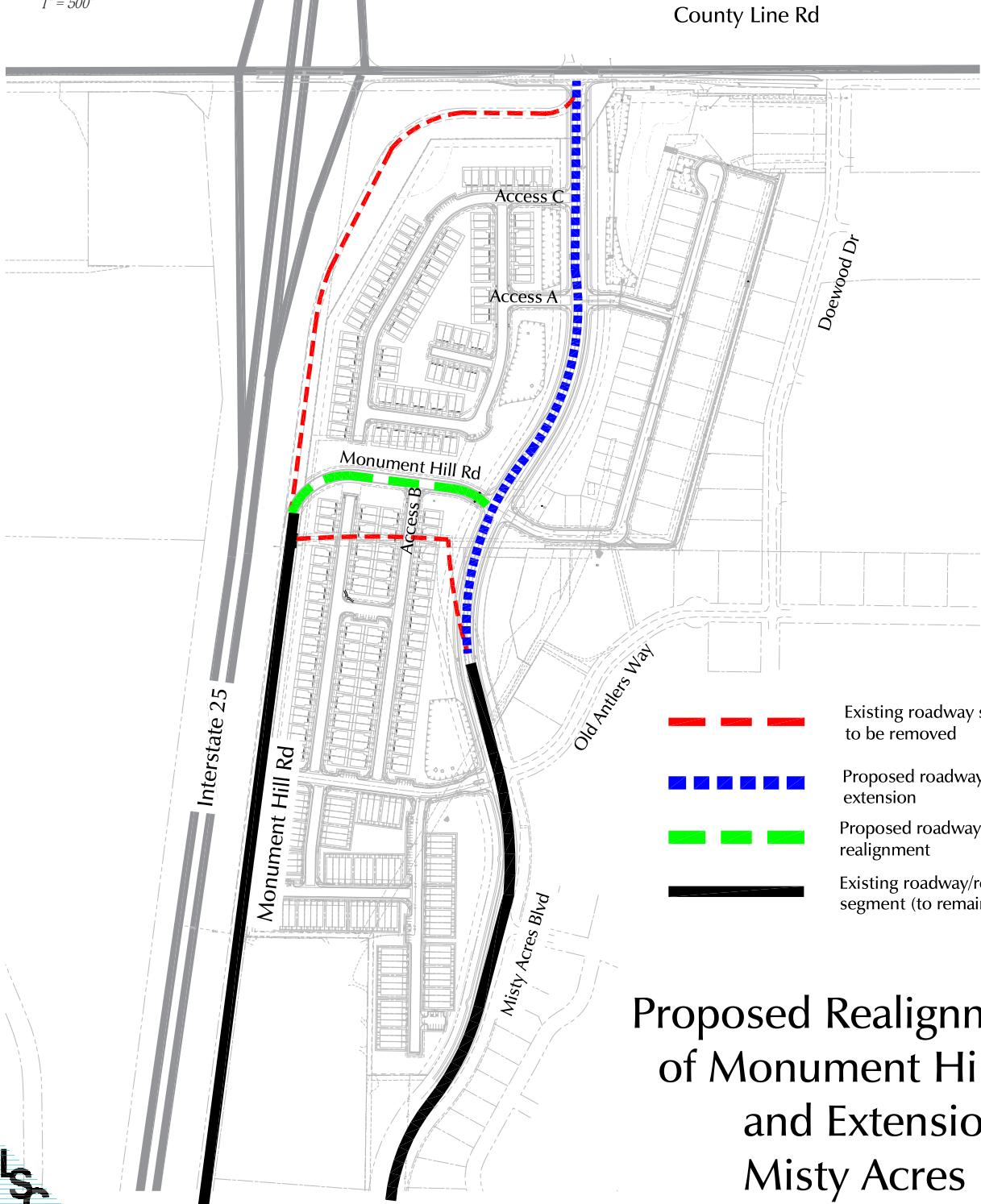
Site Plan

Monument Ridge East (LSC# S234450)





Approximate Scale
1" = 500'







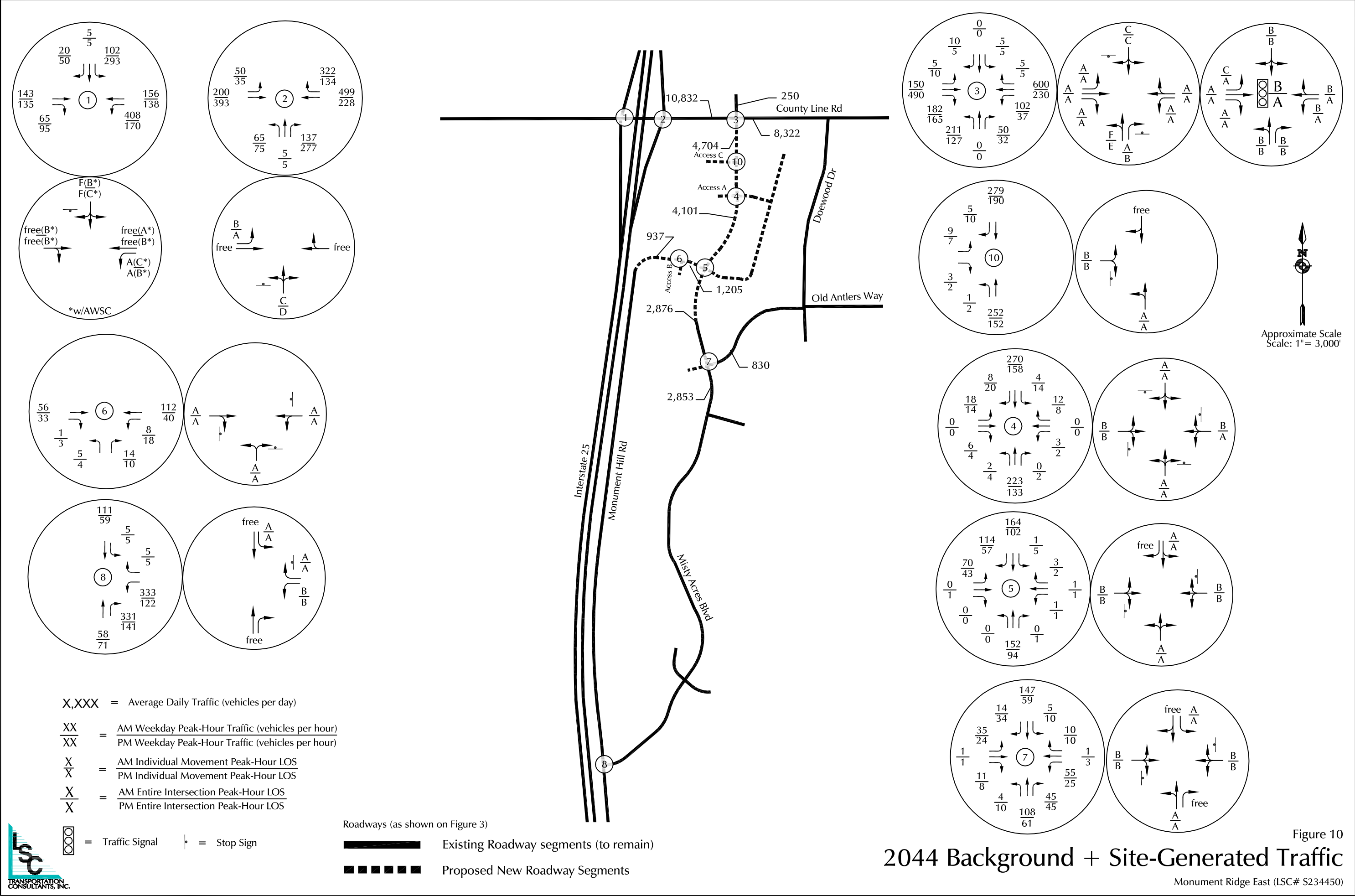
-  Existing roadway segment - to be removed
-  Proposed roadway extension
-  Proposed roadway realignment
-  Existing roadway/roadway segment (to remain)

Figure 3
Proposed Realignment
of Monument Hill Rd
and Extension of
Misty Acres Blvd

Monument Ridge East (LSC# S234450)



X,XXX = Average Daily Traffic (vehicles per day)

$\frac{XX}{XX}$ = $\frac{\text{AM Weekday Peak-Hour Traffic (vehicles per hour)}}{\text{PM Weekday Peak-Hour Traffic (vehicles per hour)}}$

$\frac{X}{X}$ = $\frac{\text{AM Individual Movement Peak-Hour LOS}}{\text{PM Individual Movement Peak-Hour LOS}}$

$\frac{X}{X}$ = $\frac{\text{AM Entire Intersection Peak-Hour LOS}}{\text{PM Entire Intersection Peak-Hour LOS}}$

= Traffic Signal = Stop Sign

Roadways (as shown on Figure 3)

Existing Roadway segments (to remain)

Proposed New Roadway Segments

2044 Background + Site-Generated Traffic

Figure 10

Monument Ridge East (LSC# S234450)



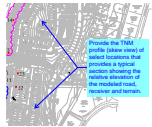
V1_Noise Study.pdf Markup Summary

Callout (2)



Subject: Callout
Page Label: 6
Author: dsdlaforce
Date: 6/13/2024 1:28:45 PM
Status:
Color: ■
Layer:
Space:

Show the TNM Roadway and Terrain Line schematic and label



Subject: Callout
Page Label: 6
Author: dsdlaforce
Date: 6/13/2024 1:45:12 PM
Status:
Color: ■
Layer:
Space:

Provide the TNM profile (skew view) of select locations that provides a typical section showing the relative elevation of the modeled road, receiver and terrain.

Line (2)



Subject: Line
Page Label: 6
Author: dsdlaforce
Date: 6/13/2024 1:31:19 PM
Status:
Color: ■
Layer:
Space:



Subject: Line
Page Label: 6
Author: dsdlaforce
Date: 6/13/2024 1:31:40 PM
Status:
Color: ■
Layer:
Space:

Planner (1)



Subject: Planner
Page Label: 2
Author: Kylie Bagley
Date: 5/30/2024 11:01:53 AM
Status:
Color: ■
Layer:
Space:

Mitigation in Residential Subdivisions. Noise mitigation shall be required for single-family and duplex residential subdivisions, which contain lots that will be individually owned, and are located adjacent to expressways, principal arterials or railroads