T 702-365-9312 | F 702-365-9317
6345 S Jones Blvd, Suite 100
Las Vegas, NV 89118

Lochsa engineering

May 25, 2025

Mr. Courey A. Stewart
Principal Planner
Department of Community Development
495 South Main Street
Las Vegas, NV 89101

Subject: The Parker Apartment Complex – 50 North 21st Street
Lochsa Engineering No. 241024.00

Dear Mr. Stewart,

Lochsa Engineering is currently assisting Oscar O'Keefe Architects in securing construction permits for the installation of automatic gates for an existing apartment complex located at 50 North 21st Street. The site is also known as A.P.N.'s 139-35-804-011.

The existing facilities has 214 dwelling units and serves the hearing impaired, It has a single access point off of 21st Street.

In order to prepare the queueing analysis, trip generation rates were obtained from the ITE publication entitled "Trip Generation – 11th Edition". The independent variable was the number of dwelling units. The results are as follows:

TRIP GENERATION ITE CODE 220 MULTIFAMILY HOUSING 200 DWELLING UNITS	
AM PEAK HOUR	
T = 0.31 (X) + 22.85 T = 0.31 (214) + 22.85 T = 89.2 or **90 Trips**	
24% Entering 22 Trips	76% Exiting 68 Trips
PM PEAK HOUR	
T = 0.43 (X) + 20.55 T = 0.43 (214) + 20.55 T = 112.5 or **113 Trips**	
63% Entering 71 Trips	37% Exiting 42 Trips

In discussions with the developer of the project, residents shall be provided "clickers" for the gate. Therefore, only visitors shall have the need to utilize the call box. It was assumed that visitor would account for thirty percent of the entering volumes or 22 vehicles (0.3 * 71 = 21.3). Based upon this assumption and a thirty second service time the required storage distance is 25 feet. Referring to the enclosed site plan 102 feet of storage is provided.

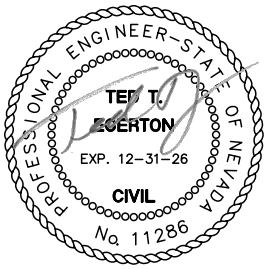
It should also be noted that the existing driveway was observed on Thursday, May 15, 2025 during the PM peak hours. The observation indicated a total of 12 vehicles during the PM peak hour. Based upon this information the preceding analysis is considered conservative.

If you have any question or comments, please contact our office at your convenience.

Sincerely,
LOCHSA ENGINEERING

Ted T. Egerton, P.E.

Digitally signed by
Ted T. Egerton
Date: 2025.05.25
12:54:27-07'00'



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File Name : 21StreetDrivewayPM
Site Code : 00000000
Start Date : 5/15/2025
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Groups Printed- Unshifted

	21st Street From North				Driveway From East				21st Street From South				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
04:00 PM	0	7	1	0	2	0	1	0	3	17	0	0	31
04:15 PM	0	7	0	0	1	0	3	0	0	23	0	0	34
04:30 PM	0	11	1	0	3	0	1	0	2	25	0	0	43
04:45 PM	0	13	2	0	1	0	2	0	2	21	0	0	41
Total	0	38	4	0	7	0	7	0	7	86	0	0	149
05:00 PM	0	11	2	0	1	0	6	0	3	26	0	0	49
05:15 PM	0	9	2	0	2	0	1	0	2	13	0	0	29
05:30 PM	0	8	0	0	2	0	2	0	1	18	0	0	31
05:45 PM	0	10	1	0	1	0	2	0	1	12	0	0	27
Total	0	38	5	0	6	0	11	0	7	69	0	0	136
Grand Total	0	76	9	0	13	0	18	0	14	155	0	0	285
Apprch %	0	89.4	10.6	0	41.9	0	58.1	0	8.3	91.7	0	0	
Total %	0	26.7	3.2	0	4.6	0	6.3	0	4.9	54.4	0	0	

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File Name : 21StreetDrivewayPM
Site Code : 00000000
Start Date : 5/15/2025
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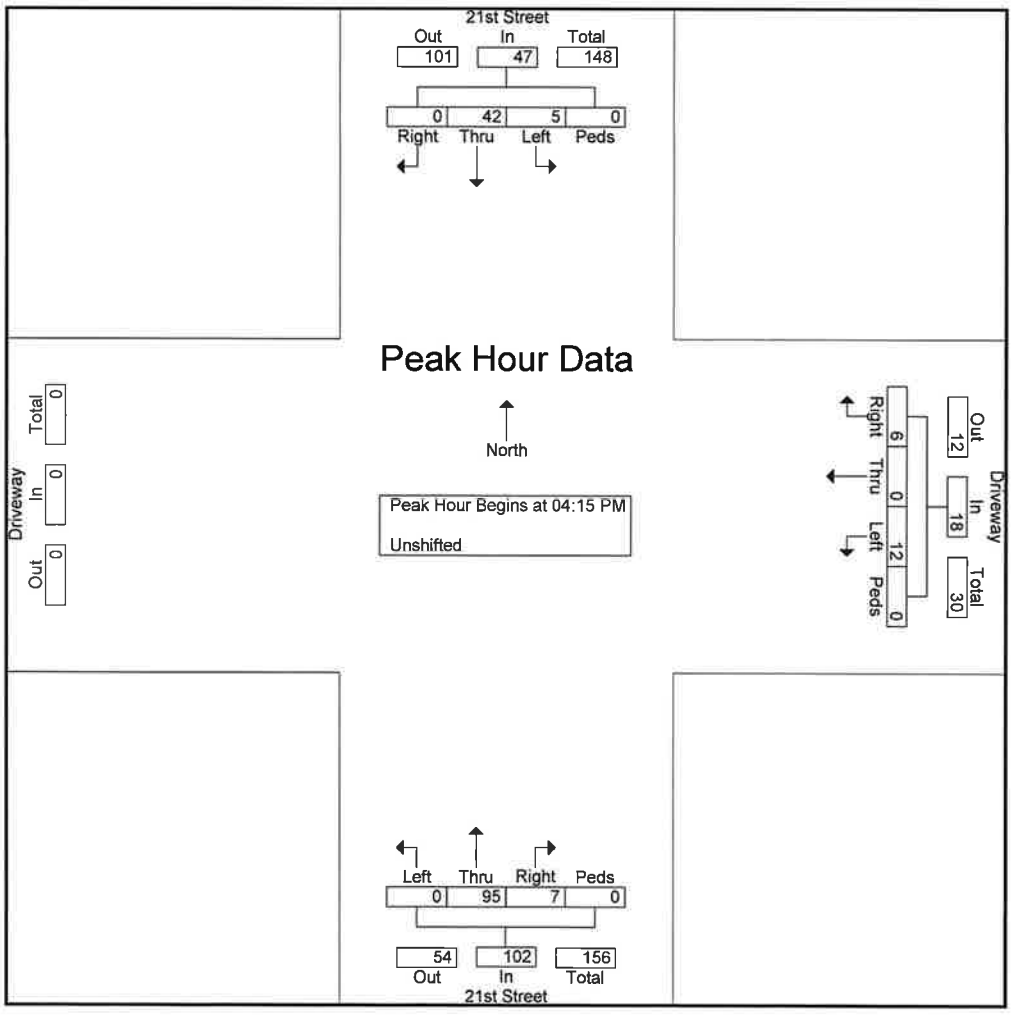
	21st Street From North					Driveway From East					21st Street From South					From West	
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	7	0	0	7	1	0	3	0	4	0	23	0	0	23	0	34
04:30 PM	0	11	1	0	12	**3**	0	1	0	4	2	25	0	0	27	0	43
04:45 PM	0	**13**	**2**	0	**15**	1	0	2	0	3	2	21	0	0	23	0	41
05:00 PM	0	11	2	0	13	1	0	**6**	0	**7**	**3**	**26**	0	0	**29**	0	**49**
Total Volume	0	42	5	0	47	6	0	12	0	18	7	95	0	0	102	0	167
% App. Total	0	89.4	10.6	0		33.3	0	66.7	0		6.9	93.1	0	0			
PHF	.000	.808	.625	.000	.783	.500	.000	.500	.000	.643	.583	.913	.000	.000	.879	.000	.852



QUEUING ANALYSIS

THE PARKER - TRIP GENERATION CALCS

SERVICE TIME= 0.5 MINUTES/VEHICLE

ARRIVAL RATE= 22 VEHICLES/HOUR

NO. OF LANES= 1 LANES

Q = (60 min/hr) / (service rate) = **120.00** SERVICES/VEHICLE

p =(arrival rate) / ((no. of lanes) X (Q) = **0.1833**

Qm(from table 8-11)= **0.1833**

* The acceptable probability of the queue, M, being longer than the storage is 5%.

P(X>M) = 0.05

M = [(Ln P(X>M) - Ln Qm) / Ln *p*] -1 = **-0.23** VEHICLES

AVERAGE LENGTH PER VEHICLE = 25 FEET

CALCULATED STORAGE LENGTH = (M) X (25 ft/veh) = -5 FEET / LANE

REQUIRED STORAGE LENGTH = 25 FEET / LANE

	NUMBER OF LANES						
p	**1**	**2**	**3**	**4**	**6**	**8**	**10**
0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.1000	0.1000	0.0182	0.0037	0.0008	0.0000	0.0000	0.0000
0.2000	0.2000	0.0666	0.0247	0.0096	0.0015	0.0002	0.0000
0.3000	0.3000	0.1385	0.0700	0.0370	0.0111	0.0036	0.0011
0.4000	0.4000	0.2286	0.1411	0.0907	0.0400	0.0185	0.0088
0.5000	0.5000	0.3333	0.2366	0.1739	0.0991	0.0591	0.0360
0.6000	0.6000	0.4501	0.3548	0.2870	0.1965	0.1395	0.1013
0.7000	0.7000	0.5766	0.4923	0.4286	0.3359	0.2706	0.2218
0.8000	0.8000	0.7111	0.6472	0.5964	0.5178	0.4576	0.4093
0.9000	0.9000	0.8525	0.8172	0.7878	0.7401	0.7014	0.6687
1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

QUEUING ANALYSIS

THE PARKER - OBSERVED VOLUMES

SERVICE TIME= 0.5 MINUTES/VEHICLE

ARRIVAL RATE= 12 VEHICLES/HOUR

NO. OF LANES= 1 LANES

Q = (60 min/hr) / (service rate) = **120.00** SERVICES/VEHICLE

p =(arrival rate) / ((no. of lanes) X (Q) = **0.1000**

Qm(from table 8-11)= **0.1000**

* The acceptable probability of the queue, M, being longer than the storage is 5%.

P(X>M) = 0.05

M = [(Ln P(X>M) - Ln Qm) / Ln *p*] -1 = **-0.70** VEHICLES

AVERAGE LENGTH PER VEHICLE = 25 FEET

CALCULATED STORAGE LENGTH = (M) X (25 ft/veh) = -17 FEET / LANE

REQUIRED STORAGE LENGTH = 25 FEET / LANE

	NUMBER OF LANES						
p	**1**	**2**	**3**	**4**	**6**	**8**	**10**
0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.1000	0.1000	0.0182	0.0037	0.0008	0.0000	0.0000	0.0000
0.2000	0.2000	0.0666	0.0247	0.0096	0.0015	0.0002	0.0000
0.3000	0.3000	0.1385	0.0700	0.0370	0.0111	0.0036	0.0011
0.4000	0.4000	0.2286	0.1411	0.0907	0.0400	0.0185	0.0088
0.5000	0.5000	0.3333	0.2366	0.1739	0.0991	0.0591	0.0360
0.6000	0.6000	0.4501	0.3548	0.2870	0.1965	0.1395	0.1013
0.7000	0.7000	0.5766	0.4923	0.4286	0.3359	0.2706	0.2218
0.8000	0.8000	0.7111	0.6472	0.5964	0.5178	0.4576	0.4093
0.9000	0.9000	0.8525	0.8172	0.7878	0.7401	0.7014	0.6687
1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000