

Attachment No. PC 4

Queueing Analysis

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MEMORANDUM

TO: Shawna Schaffner, CAA Planning, Inc.

FROM: Sean Mohn

DATE: September 27, 2023

RE: Queuing Analysis for
Sage Hill School
Newport Beach, California

Ref: J2065

Gibson Transportation Consulting, Inc. (GTC) was asked to conduct driveway and intersection queuing analyses for Sage Hill School (Project), which is located at 20102 Newport Coast Drive in Newport Beach, California (City). This memorandum summarizes the results of the analyses.

PROJECT DESCRIPTION

Based on discussions with members of the Project team, it is our understanding that the Project currently serves 553 students attending high school classes (i.e., grades 9-12), but is allowed to serve up to 600 students. It is also our understanding that the Project is proposing to increase the maximum enrollment by up to 150 students via the addition of middle school classes (i.e., grades 7-8), resulting in a total maximum enrollment of 750 students.

The high school classes would continue to begin at 8:00 AM and conclude at 3:00 PM, while the middle school classes would begin at 8:30 AM and conclude at 3:30 PM during days of typical school activity, thereby alleviating the effects of coinciding peak demand profiles during the drop-off/pick-up periods.

DATA COLLECTION & REVIEW

For purposes of developing empirical vehicular demand profiles for the queuing analyses, GTC collected AM and PM peak period traffic volume data at the Newport Coast Drive (NCD) & Sage Hill Driveway (Project Driveway) and NCD & Renewable Energy Facility (REF) Driveway intersections and conducted on-site queuing observations during the drop-off/pick-up periods between the hours of 7:00-10:00 AM and 2:00-5:00 PM on the following dates, which represented typical school days:

- Wednesday, January 11, 2023
- Thursday, January 12, 2023
- Thursday, January 19, 2023

Based on the results of the AM and PM peak period traffic volume data collection effort, the peak vehicular demand for the Project Driveway was observed to occur between 7:15-8:15 AM on Thursday, January 19, 2023, as summarized below.

- Wednesday, January 11, 2023: **171 Vehicles**
- Thursday, January 12, 2023: **425 Vehicles**
- Thursday, January 19, 2023: **429 Vehicles**

Based on the results of the drop-off/pick-up queuing observations, the peak on-site driveway queuing was observed to occur within the 15-minute period between 7:45-8:00 AM and reflects the uniform Project Driveway drop-off/pick-up demand of approximately 124 vehicles (which for conservative purpose does not including the student/teacher self-parking demand), as summarized below.

- Wednesday, January 11, 2023: **N/A¹**
- Thursday, January 12, 2023: **16 Vehicles**
- Thursday, January 19, 2023: **20 Vehicles**

As illustrated in Figure 1, the Project Driveway currently provides approximately 2,000 feet of on-site queuing capacity, which is sufficient to accommodate approximately 80 vehicles (conservatively assuming 25 feet per vehicle).

The AM and PM peak period traffic volume data is provided in Attachment A. The AM and PM peak period queuing observation data is provided in Attachment B.

VEHICULAR DEMAND PROJECTIONS & DRIVEWAY QUEUING ANALYSIS

The peak vehicular demand and driveway queuing profiles detailed above were then adjusted to reflect both the Existing Conditions (Maximum Enrollment) Scenario and the Future Conditions (Maximum Enrollment) Scenario based on the associated maximum enrollment thresholds of 600 students and 750 students, respectively.

The resulting AM Peak Hour turning movement volume projections for each evaluation scenario are detailed in Table 1 for both Project Driveway and NCD & REF Driveway intersections.

Existing Conditions (Maximum Enrollment) Scenario

The peak vehicular demand projections for the Project Driveway and the peak driveway queuing projections under the Existing Conditions (Maximum Enrollment) Scenario, which were adjusted²

¹ The peak on-site driveway queuing during the AM peak period was essentially negligible (i.e., free flow conditions) due to relatively low Project Driveway demand associated with typical late start conditions (vs. typical normal start conditions).

² An adjustment factor of 1.21 was applied to both the peak hour and 15-minute peak period vehicular demand projections based on the proportional relationship between the recorded on-site attendance (i.e., 495 students) and the maximum enrollment currently allowed (i.e., 600 students).

based on the maximum enrollment threshold of 600 students, are anticipated to occur between 7:15-8:15 AM, are summarized below and detailed in Table 2.

- Project Driveway - Peak Queuing: **29 Vehicles**
- Project Driveway - Peak Vehicular Demand: **520 Vehicles**

Based on the information detailed above, under the Existing Conditions (Maximum Enrollment) Scenario, the peak driveway queuing is projected to occur within the 15-minute period between 7:45-8:00 AM and estimated at 29 vehicles, while the peak vehicular demand at the Project Driveway is projected to occur between 7:15-8:15 AM and estimated at 520 vehicles, 150 of which would require access to the drop-off/pick-up lane (vs. parking facility) within the 15-minute period between 7:45-8:00 AM when the peak driveway queuing is projected to occur.

As illustrated in Figure 2, the on-site storage capacity is sufficient to accommodate peak driveway queuing projected under the Existing Conditions (Maximum Enrollment) Scenario.

Future Conditions (Maximum Enrollment) Scenario

The peak driveway queuing and vehicular demand projections under the Existing Conditions (Maximum Enrollment) Scenario detailed above were then adjusted to reflect future conditions under maximum enrollment based on the total project maximum attendance of 750 students and the anticipated middle school class schedule.

As previously discussed, the high school classes would continue to begin at 8:00 AM and conclude at 3:00 PM, while the middle school classes would begin at 8:30 AM and conclude at 3:30 PM during typical days of school activity, thereby alleviating the effects of coinciding peak demand profiles during the drop-off/pick-up periods.

For conservative purposes, however, it was assumed that the associated increase in vehicle demand would be based on one vehicle per student and that each of the 150 additional vehicles would require access to the drop-off/pick-up lane (vs. the parking facility), resulting in 150 net new inbound and outbound Project Driveway trips distributed proportionally between 7:30-8:30 AM based on the quarterly percentages associated with the Existing Conditions (Maximum Enrollment) Scenario peak hour arrival period of 7:15-8:15 AM, as detailed below.

<u>High School (Maximum Enrollment)</u>	<u>Middle School</u>	<u>Total</u>
7:15-7:30 AM: 8% - (41 Vehicles)	0% - (0 Vehicles)	41 Vehicles
7:30-7:45 AM: 22% - (116 Vehicles)	8% - (12 Vehicles)	128 Vehicles
7:45-8:00 AM: 59% - (305 Vehicles)	22% - (34 Vehicles)	339 Vehicles
8:00-8:15 AM: 11% - (57 Vehicles)	59% - (88 Vehicles)	145 Vehicles
8:15-8:30 AM: 0% - (0 Vehicles)	11% - (16 Vehicles)	16 Vehicles

The peak driveway queuing projections, peak vehicular demand projections for the Project Driveway, and peak vehicular demand projections for the southbound left-turn lane (SBL) at the NCD & REF Driveway intersection under the Future Conditions (Maximum Enrollment) Scenario, which are anticipated to still occur between 7:15-8:15 AM, are summarized below and detailed in Table 2.

- Project Driveway - Peak Queuing: **40 Vehicles**
- Project Driveway - Peak Vehicular Demand: **654 Vehicles**
- NCD & REF Driveway SBL - Peak Vehicular Demand: **481 Vehicles**

Based on the information detailed above, under the Future Conditions (Maximum Enrollment) Scenario the peak driveway queuing is projected to occur within the 15-minute period between 7:45-8:00 AM and estimated at 40 vehicles, while the peak vehicular demand at the Project Driveway is projected to occur between 7:15-8:15 AM and estimated at 654 vehicles, 172 of which would require access to the drop-off/pick-up lane (vs. parking facility) within the 15-minute period between 7:45-8:00 AM when the peak driveway queuing is project to occur.

As illustrated in Figure 2, the on-site storage capacity is sufficient to accommodate peak driveway queuing projected under the Future Conditions (Maximum Enrollment) Scenario.

INTERSECTION QUEUING ANALYSIS

For purposes of evaluating the SBL queuing at the NCD & REF Driveway intersection, the AM peak hour turning movement volume projections for the Existing Conditions (Observed) Scenario were adjusted accordingly based on the associated peak vehicular demand profiles detailed above to reflect both the Existing Conditions (Maximum Enrollment) Scenario and the Future Conditions (Maximum Enrollment) Scenario, as detailed in Table 3.

The peak vehicular demand projections for the SBL at the NCD & REF Driveway intersection evaluation scenarios are summarized below and detailed in Table 3.

- Existing Conditions (Observed) Scenario: **313 Vehicles**
- Existing Conditions (Maximum Enrollment) Scenario: **379 Vehicles**
- Future Conditions (Maximum Enrollment) Scenario: **481 Vehicles**

The SBL queue lengths for each scenario were then estimated based on the Highway Capacity Manual (HCM) methodology using Synchro software, which reports the 95th percentile queue length, in vehicles, for each approach lane. For Synchro calibration purposes, the default signal cycle lengths were adjusted based on the signal timing sheets provided by the City and the default HCM platoon ratios, which correlate to arrival efficiency within the peak hour, were reduced to reflect (as close as possible) the SBL queuing conditions as observed in the field within the 15-minute period between 7:45-8:00 AM.

The peak vehicular demand projections for the SBL at the NCD & REF Driveway intersection evaluation scenarios within the 15-minute period between 7:45-8:00 AM are summarized below and detailed in Table 3.

- Existing Conditions (Observed) Scenario: **172 Vehicles**
- Existing Conditions (Maximum Enrollment) Scenario: **208 Vehicles**
- Future Conditions (Maximum Enrollment) Scenario: **238 Vehicles**

The length of the SBL at the NCD & REF Driveway intersection is approximately 150 feet, which is sufficient to safely accommodate a queue of approximately six vehicles. The 95th percentile

queue length projections for each of the evaluation scenarios are summarized below and detailed in Table 3.

- Existing Conditions (Observed) Scenario: **18.2 Vehicles**
- Existing Conditions (Maximum Enrollment) Scenario: **21.0 Vehicles**
- Future Conditions (Maximum Enrollment) Scenario: **25.2 Vehicles**

As detailed in Table 3 and illustrated in Figure 3, the existing SBL storage capacity at the NCD & REF Driveway intersection is not sufficient to accommodate the peak SBL queuing projected under Future Conditions (Maximum Enrollment) Scenario.

The detailed HCM queuing analysis worksheets for each of the scenarios described above are provided in Attachment C.

Recommended Improvements

As detailed above, the existing SBL storage capacity of approximately 150 feet is not sufficient to accommodate the increase in vehicular demand and associated queuing anticipated under the under the Future Conditions (Maximum Enrollment) Scenario.

As such, for purposes of improving the SBL operational efficiency and reducing the associated queue length projections as much as possible, an analysis of potential alternative signal timing parameters at the NCD & REF Driveway intersection was conducted. This analysis included the review of signal phasing, timing, and coordination patterns. Proposed changes to the operation of the traffic signals requires review by the City for feasibility and compliance with applicable regulations.

Alterations to the traffic signal timing showed a potential reduction in the SBL 95th percentile queue length under the Future Conditions (Maximum Enrollment) Scenario at the NCD & REF Driveway intersection, as summarized below and detailed in Table 4.

- Future Conditions (Maximum Enrollment) Scenario: **16.8 Vehicles**

Preliminary review of NCD shows potential to modify the median to extend the SBL to a total length of up to approximately 550 feet (i.e., an increase of an additional 400 feet), as conceptually illustrated in Figure 4. When combined with the potential signal timing alterations, the potential median modification could provide sufficient SBL storage capacity to accommodate the theoretical 95th percentile queue length.

The detailed HCM queuing analysis worksheets for the alternative signal timing scenario are provided in Attachment C.

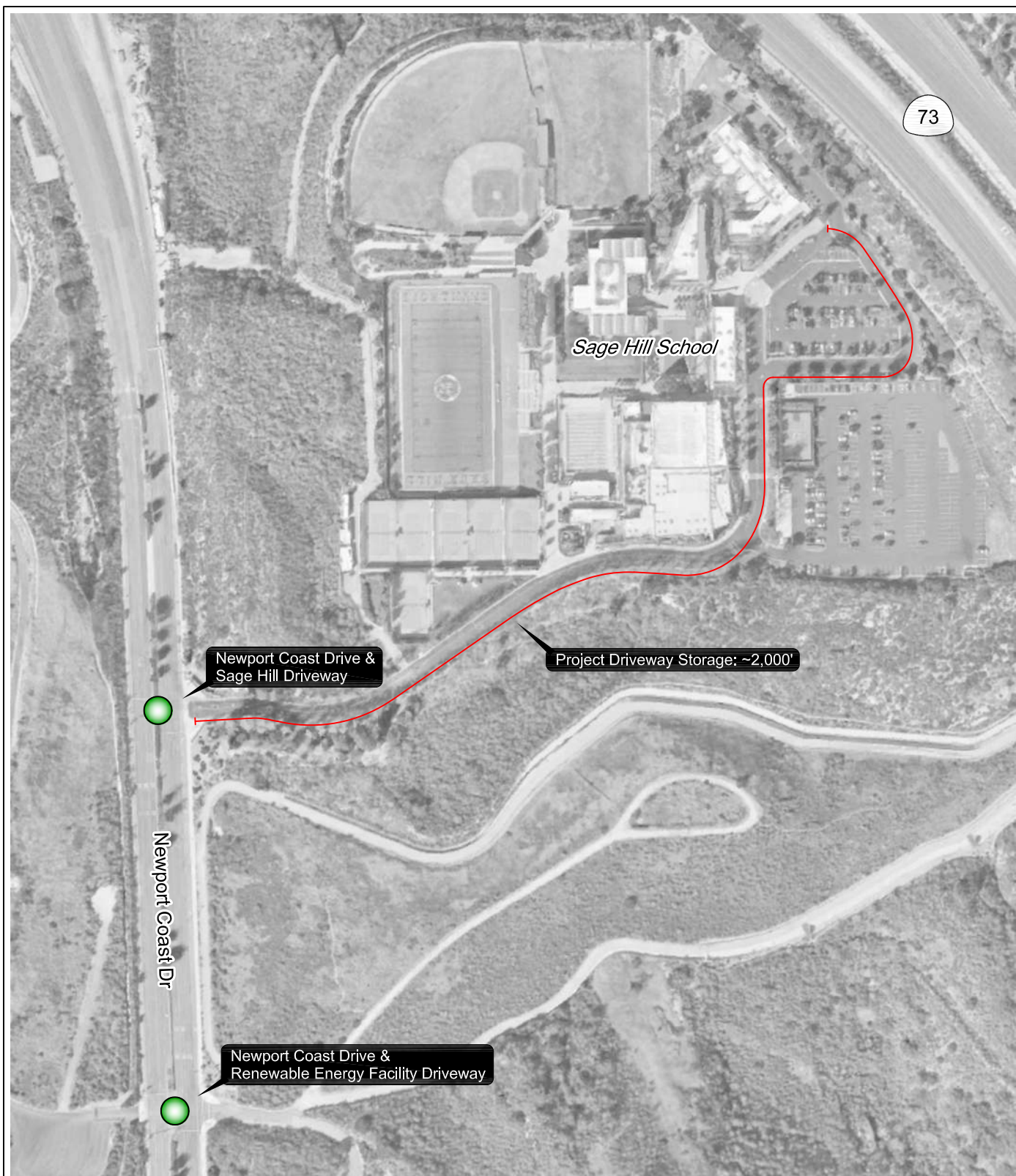
CONCLUSION

Based on the results of the conservative analysis detailed above, it is our professional opinion that the existing Project Driveway storage is more than sufficient to accommodate the increase

in vehicular demand and associated driveway queuing anticipated under the under the Future Conditions (Maximum Enrollment) Scenario.

At the NCD & REF Driveway intersection, based on the results of the analysis detailed above, the existing SBL storage capacity of approximately 150 feet is not sufficient to accommodate the increase in vehicular demand and associated queuing anticipated under the under the Future Conditions (Maximum Enrollment) Scenario. To limit the impact, City staff can review and adjust the signal timing at both intersections to improve the SBL operational efficiency and the Applicant will implement NCD median modifications to increase the SBL storage capacity at the NCD & REF Driveway intersection, as described in detail above.

The Applicant will also continue to explore the implementation of transportation demand management (TDM) strategies such as dispersed arrival patterns, carpool/rideshare programs, and associated TDM educational materials, to increase the average number of students per vehicle and reduce the intensity of the peak arrival patterns.



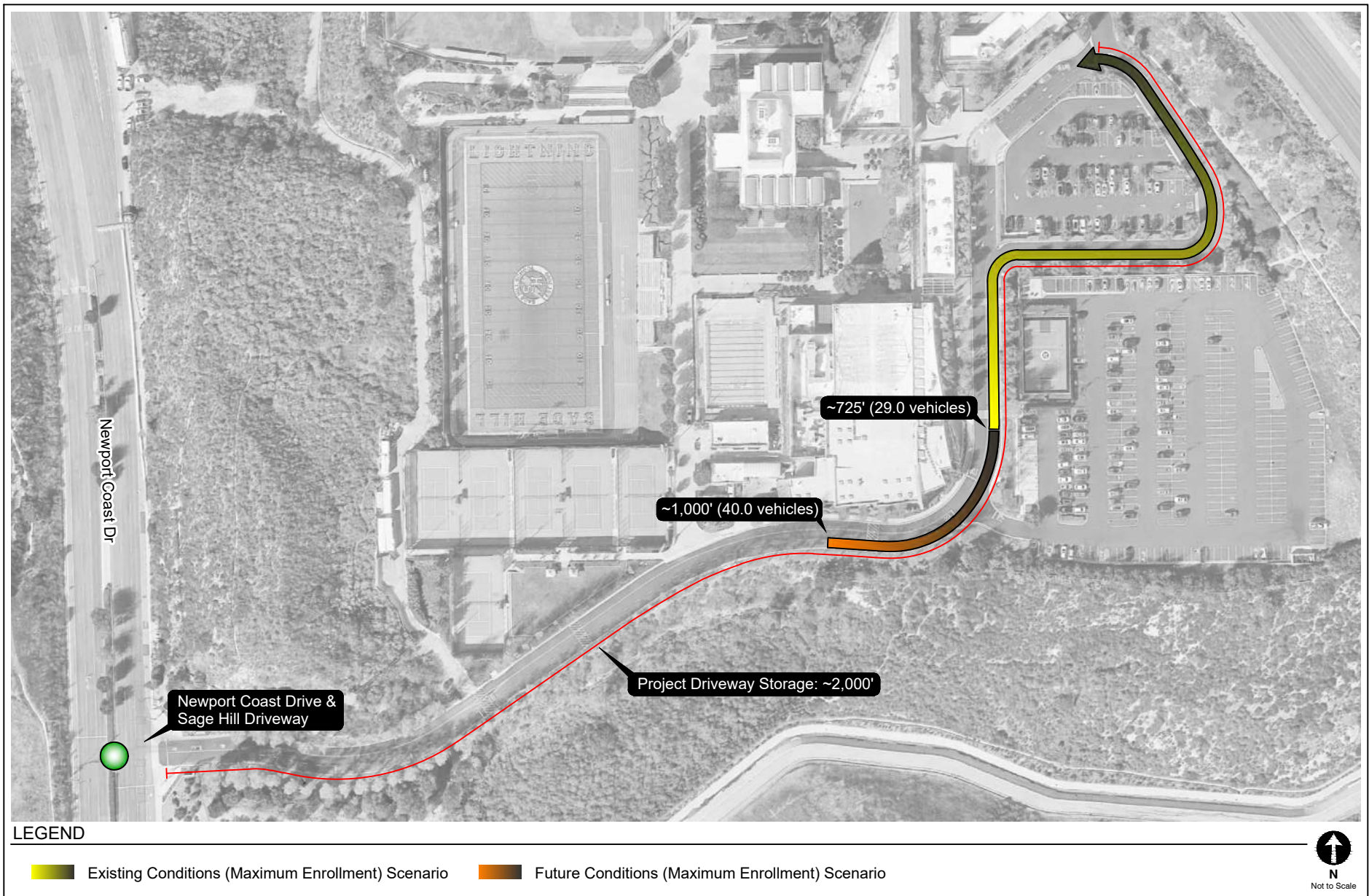
LEGEND

● Signalized Intersection



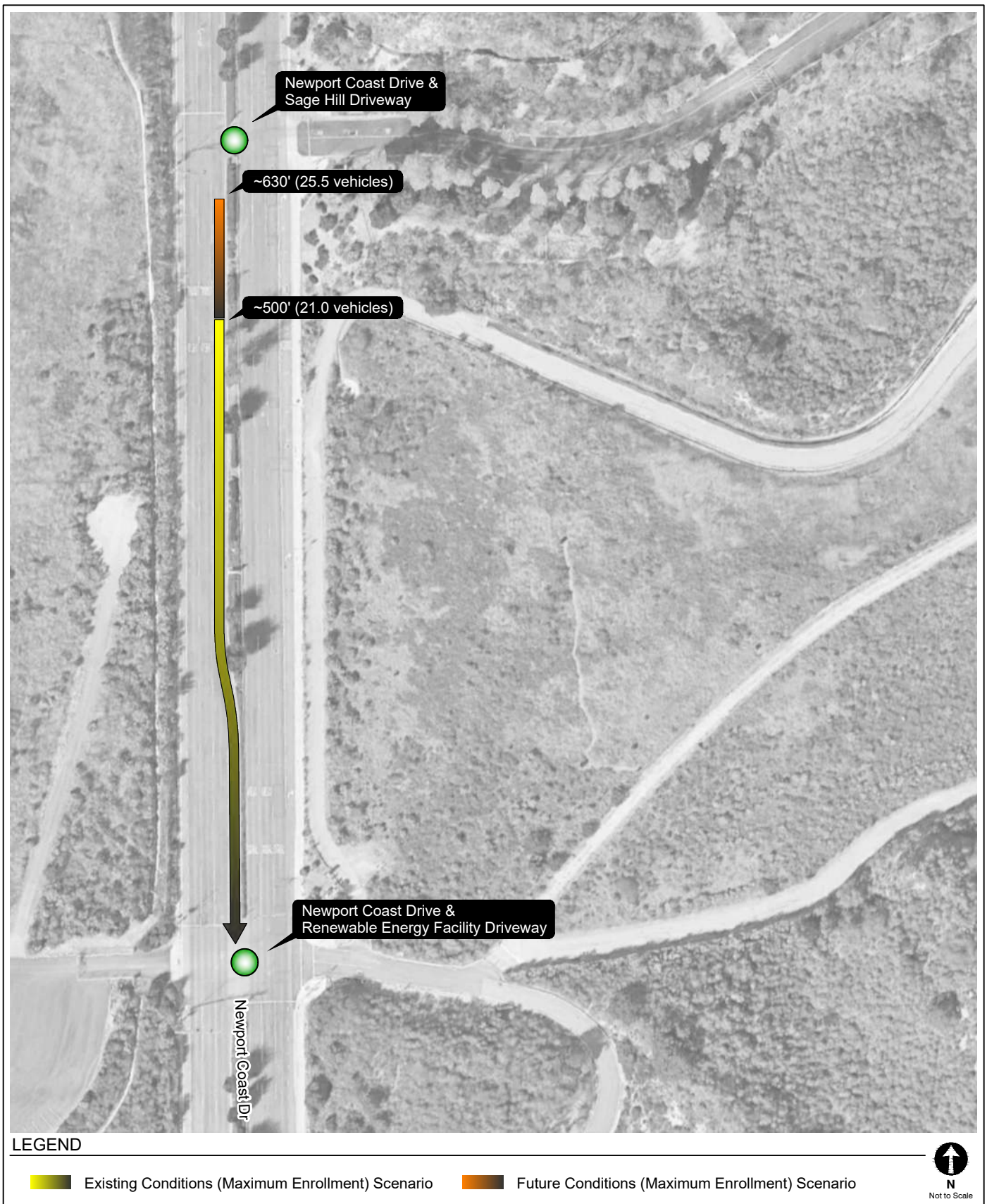
STUDY AREA

FIGURE
1



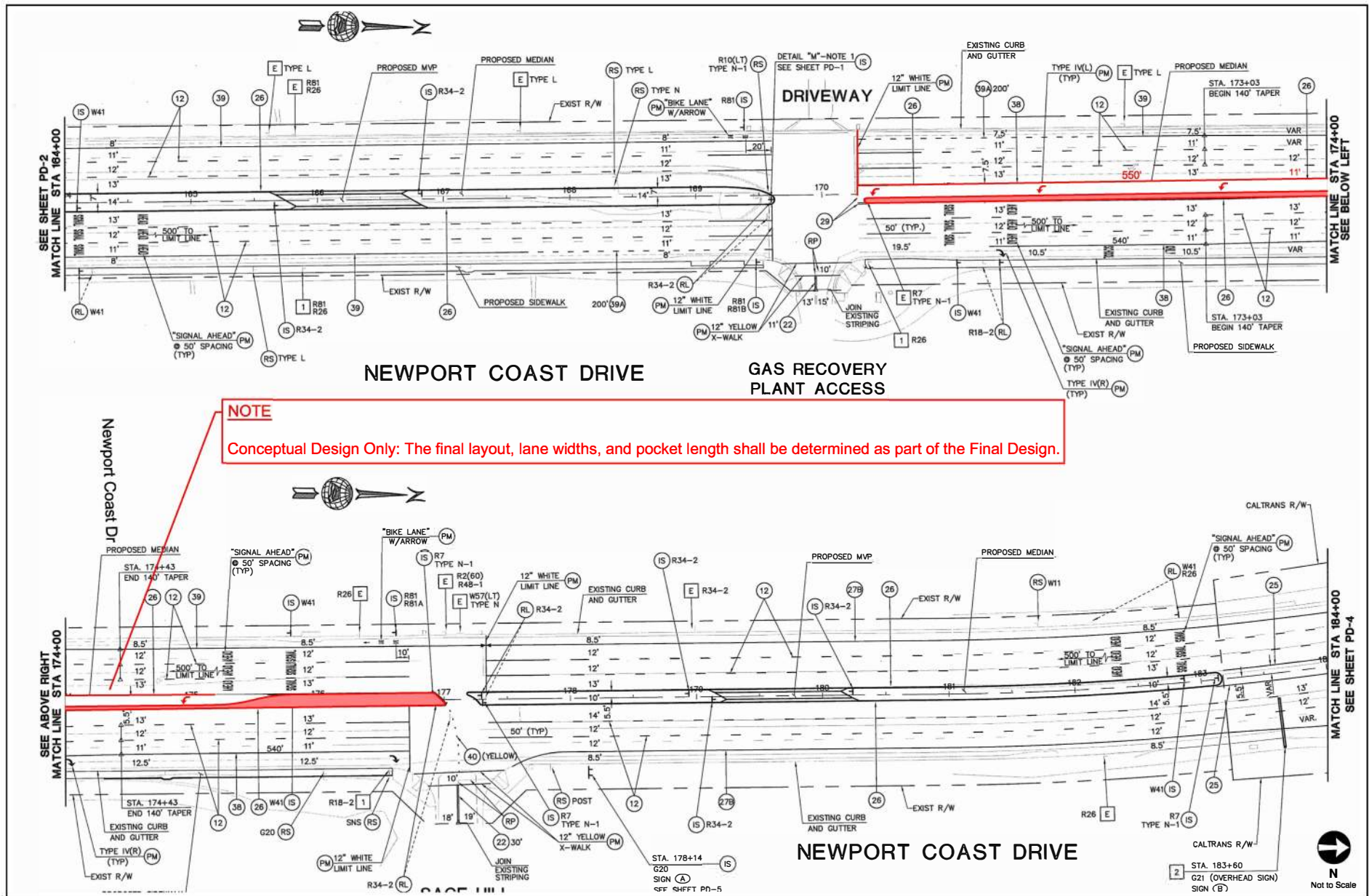
PROJECT DRIVEWAY QUEUEING

FIGURE
2



INTERSECTION QUEUING

FIGURE
3



NEWPORT COAST DRIVE - CONCEPTUAL MEDIAN MODIFICATION

FIGURE
4

TABLE 1
AM PEAK HOUR TURNING MOVEMENT VOLUME PROJECTIONS

Newport Coast Drive & Sage Hill Driveway

Evaluation Scenario	AM Peak Hour [a]	Southbound			Westbound			Northbound			Eastbound		
		1	2	3	4	5	6	7	8	9	10	11	12
		R	T	L	R	T	L	R	T	L	R	T	L
Existing Conditions (Observed) Scenario <i>[495 Students]</i>	7:15-7:30 AM	0	182	0	17	0	2	34	137	0	0	0	0
	7:30-7:45AM	0	278	0	31	0	5	96	183	0	0	0	0
	7:45-8:00 AM	0	442	0	92	0	32	252	239	0	0	0	0
	8:00-8:15 AM	0	259	0	49	0	19	47	265	0	0	0	0
		0	1,161	0	189	0	58	429	824	0	0	0	0
Existing Conditions (Maximum Enrollment) Scenario NET NEW [105 Students]	7:15-7:30 AM	0	2	0	4	0	0	7	0	0	0	0	0
	7:30-7:45AM	0	7	0	7	0	1	20	0	0	0	0	0
	7:45-8:00 AM	0	14	0	20	0	7	53	0	0	0	0	0
	8:00-8:15 AM	0	2	0	10	0	4	10	0	0	0	0	0
		0	25	0	40	0	12	91	0	0	0	0	0
Existing Conditions (Maximum Enrollment) Scenario TOTAL [600 Students]	7:15-7:30 AM	0	184	0	21	0	2	41	137	0	0	0	0
	7:30-7:45AM	0	285	0	38	0	6	116	183	0	0	0	0
	7:45-8:00 AM	0	456	0	112	0	39	305	239	0	0	0	0
	8:00-8:15 AM	0	261	0	59	0	23	57	265	0	0	0	0
		0	1,186	0	229	0	70	520	824	0	0	0	0
Future Conditions (Maximum Enrollment) Scenario NET NEW [150 Students]	7:15-7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
	7:30-7:45AM	0	4	0	10	0	2	12	0	0	0	0	0
	7:45-8:00 AM	0	10	0	16	0	6	34	0	0	0	0	0
	8:00-8:15 AM	0	22	0	54	0	21	88	0	0	0	0	0
		0	36	0	80	0	28	134	0	0	0	0	0
Future Conditions (Maximum Enrollment) Scenario TOTAL [750 Students]	7:15-7:30 AM	0	184	0	21	0	2	41	137	0	0	0	0
	7:30-7:45AM	0	289	0	48	0	8	128	183	0	0	0	0
	7:45-8:00 AM	0	466	0	128	0	44	339	239	0	0	0	0
	8:00-8:15 AM	0	283	0	114	0	44	145	265	0	0	0	0
		0	1,222	0	310	0	99	654	824	0	0	0	0

Newport Coast Drive & Renewable Energy Facility Driveway

Evaluation Scenario	AM Peak Hour [a]	Southbound			Westbound			Northbound			Eastbound		
		1	2	3	4	5	6	7	8	9	10	11	12
		R	T	L	R	T	L	R	T	L	R	T	L
Existing Conditions (Observed) Scenario <i>[495 Students]</i>	7:15-7:30 AM	1	157	30	0	0	0	0	146	0	0	0	0
	7:30-7:45AM	0	196	83	0	0	0	0	219	0	0	0	0
	7:45-8:00 AM	0	290	172	0	0	0	0	294	0	0	0	0
	8:00-8:15 AM	0	245	28	0	1	0	0	296	0	0	0	0
		1	888	313	0	1	0	0	955	0	0	0	0
Existing Conditions (Maximum Enrollment) Scenario NET NEW [105 Students]	7:15-7:30 AM	0	1	6	0	0	0	0	2	0	0	0	0
	7:30-7:45AM	0	2	18	0	0	0	0	7	0	0	0	0
	7:45-8:00 AM	0	5	36	0	0	0	0	14	0	0	0	0
	8:00-8:15 AM	0	4	6	0	0	0	0	2	0	0	0	0
		0	12	66	0	0	0	0	25	0	0	0	0
Existing Conditions (Maximum Enrollment) Scenario TOTAL [600 Students]	7:15-7:30 AM	1	158	36	0	0	0	0	148	0	0	0	0
	7:30-7:45AM	0	198	101	0	0	0	0	226	0	0	0	0
	7:45-8:00 AM	0	295	208	0	0	0	0	308	0	0	0	0
	8:00-8:15 AM	0	249	34	0	1	0	0	298	0	0	0	0
		1	900	379	0	1	0	0	980	0	0	0	0
Future Conditions (Maximum Enrollment) Scenario NET NEW [150 Students]	7:15-7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
	7:30-7:45AM	0	2	11	0	0	0	0	4	0	0	0	0
	7:45-8:00 AM	0	6	30	0	0	0	0	10	0	0	0	0
	8:00-8:15 AM	0	19	62	0	0	0	0	21	0	0	0	0
		0	27	102	0	0	0	0	35	0	0	0	0
Future Conditions (Maximum Enrollment) Scenario TOTAL [750 Students]	7:15-7:30 AM	1	158	36	0	0	0	0	148	0	0	0	0
	7:30-7:45AM	0	200	111	0	0	0	0	229	0	0	0	0
	7:45-8:00 AM	0	301	238	0	0	0	0	318	0	0	0	0
	8:00-8:15 AM	0	268	95	0	1	0	0	319	0	0	0	0
		1	927	481	0	1	0	0	1,015	0	0	0	0

Notes:

[a] For evaluation purposes, the AM Peak Hour of 7:15-8:15 AM was designated based on Future Conditions (Maximum Enrollment) Scenario Project Driveway projections for the four highest consecutive 15-minute arrival periods between 7:15-8:30 AM, as detailed in the memorandum. As such, the turning movement volumes for the 15-minute period between 8:15-8:30 AM coinciding with the remaining 11% middle school demand, as detailed in the memorandum, were not included within this table.

TABLE 2
DRIVEWAY QUEUING ANALYSIS
NEWPORT COAST DRIVE & SAGE HILL SCHOOL DROP-OFF/PICK-UP LANE

Evaluation Scenario	Drop-Off/Pick-Up Lane Demand [a]		Observed/Projected Queue - Maximum [c]		Project Driveway Storage Capacity (ft)	Sufficient Capacity
	AM Peak Hour (vehicles)	7:45-8:00 AM (vehicles)	Queue (vehicles)	Queue (ft)		
Existing Conditions (Observed) Scenario [b]	247	124	20.0	500	2,000	Yes
Existing Conditions (Maximum Enrollment) Scenario	299	150	29.0	725	2,000	Yes
Future Conditions (Maximum Enrollment) Scenario	408	172	40.0	1,000	2,000	Yes

Notes:

[a] For conservative purposes, the drop-off/pick-up lane demand for the Existing Conditions (Observed) Scenario was determined based on the Project driveway departure data collected during the AM Peak Period rather than the Project driveway arrival data collected during the AM Peak Period, which included the both the drop-off/pick-up lane demand and the parking facility demand.

[b] The peak period traffic volume data collected on Thursday, January 19, 2023 was used as the baseline for this analysis scenario.

[c] The maximum queue length for the Existing Conditions (Observed) Scenario was occurred within a five minute window between the 7:45-8:00 AM peak period. The increase in queue length associated with the subsequent evaluation scenarios assumed the uniform distribution of vehicles within the 7:45-8:00 AM peak period, thereby resulting in the addition of 1/3 of the total arrivals within that period directly to the previously observed or projected queue.

TABLE 3
INTERSECTION QUEUING ANALYSIS
NEWPORT COAST DRIVE & RENEWABLE ENERGY FACILITY DRIVEWAY - SOUTHBOUND LEFT-TURN LANE (SBL)

Evaluation Scenario	SBL Demand [U-Turns]		95 th Percentile Queue [a] (Cycle Length - 120 Seconds)		SBL Storage Capacity (ft)	Sufficient Capacity
	AM Peak Hour (vehicles)	7:45-8:00 AM (vehicles)	Queue (vehicles)	Queue (ft)		
Existing Conditions (Observed) Scenario [b]	313	172	18.2	455	150	No
Existing Conditions (Maximum Enrollment) Scenario	379	208	21.0	525	150	No
Future Conditions (Maximum Enrollment) Scenario	408	238	25.2	630	150	No

Notes:

[a] The reported queues are based on the 95th percentile queue (vehicles) as calculated by HCM 6th Edition methodology. The linear feet associated with the reported queue is based on an assumed length of 25 ft per vehicle.

[b] The peak period traffic volume data collected on Thursday, January 19, 2023 was used as the baseline for this analysis scenario.

TABLE 4
INTERSECTION QUEUING ANALYSIS
NEWPORT COAST DRIVE & RENEWABLE ENERGY FACILITY DRIVEWAY - SOUTHBOUND LEFT-TURN LANE (SBL) - RECOMMENDED IMPROVEMENTS

Evaluation Scenario	SBL Demand [U-Turns]		95 th Percentile Queue [a] (Cycle Length - 80 Seconds)		SBL Storage Capacity (ft)	Sufficient Capacity
	AM Peak Hour (vehicles)	7:45-8:00 AM (vehicles)	Queue (vehicles)	Queue (ft)		
Future Conditions (Maximum Enrollment) Scenario	408	238	16.8	420	550	Yes

Notes:

[a] The reported queues are based on the 95th percentile queue (vehicles) as calculated by HCM 6th Edition methodology. The linear feet associated with the reported queue is based on an assumed length of 25 ft per vehicle.

[b] The peak period traffic volume data collected on Thursday, January 19, 2023 was used as the baseline for this analysis scenario.

Attachment A

AM & PM Peak Period Traffic Volume Data

Turning Movement Count Report AM

Location ID: 1
 North/South: Newport Coast Drive
 East/West: Sage Hill Driveway

Date: 01/11/23
 City: Newport Beach, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	0	107	0	11	0	0	11	95	0	0	0	0	224
7:15	0	133	0	6	0	2	13	136	0	0	0	0	290
7:30	0	223	0	16	0	0	39	184	0	0	0	0	462
7:45	0	251	0	19	0	12	39	223	0	0	0	0	544
8:00	0	323	0	30	0	5	80	274	0	0	0	0	712
8:15	0	358	0	85	0	29	164	227	0	0	0	0	863
8:30	0	284	0	39	0	13	69	261	0	0	0	0	666
8:45	0	323	0	10	0	4	76	253	0	0	0	0	666
9:00	0	215	0	23	0	3	34	216	0	0	0	0	491
9:15	0	205	0	9	0	5	7	199	0	0	0	0	425
9:30	0	204	0	15	0	3	10	196	0	0	0	0	428
9:45	0	182	0	2	0	2	6	198	0	0	0	0	390

Total Volume:	0	2808	0	265	0	78	548	2462	0	0	0	0	6161
Approach %	0%	100%	0%	77%	0%	23%	18%	82%	0%	0%	0%	0%	

Peak Hr Begin:	8:00												
PHV	0	1288	0	164	0	51	389	1015	0	0	0	0	2907
PHF	0.899			0.471			0.898			0.000			0.842

Turning Movement Count Report PM

Location ID: 1
 North/South: Newport Coast Drive
 East/West: Sage Hill Driveway

Date: 01/11/23
 City: Newport Beach, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
14:00	0	215	0	25	0	9	22	203	0	0	0	0	474
14:15	0	208	0	19	0	8	22	227	0	0	0	0	484
14:30	0	213	0	11	0	5	13	221	0	0	0	0	463
14:45	0	206	0	18	0	5	29	262	0	0	0	0	520
15:00	0	233	0	21	0	7	28	275	0	0	0	0	564
15:15	0	244	0	15	0	10	29	298	0	0	0	0	596
15:30	0	282	0	11	0	7	9	281	0	0	0	0	590
15:45	0	246	0	7	0	1	8	331	0	0	0	0	593
16:00	0	221	0	9	0	4	5	320	0	0	0	0	559
16:15	0	238	0	8	0	0	9	287	0	0	0	0	542
16:30	0	275	0	10	0	5	30	256	0	0	0	0	576
16:45	0	239	0	28	0	9	40	251	0	0	0	0	567

Total Volume:	0	2820	0	182	0	70	244	3212	0	0	0	0	6528
Approach %	0%	100%	0%	72%	0%	28%	7%	93%	0%	0%	0%	0%	

Peak Hr Begin:	15:00												
PHV	0	1005	0	54	0	25	74	1185	0	0	0	0	2343
PHF	0.891			0.705			0.928			0.000			0.983

Pedestrian/Bicycle Count Report

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0
7:30	0	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	0	0
8:30	0	0	0	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0
9:00	0	0	0	0	0	0	0	0
9:15	0	0	0	0	0	0	0	0
9:30	0	0	0	0	0	0	0	0
9:45	0	0	0	0	0	0	0	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
14:00	0	0	0	0	0	0	0	0
14:15	0	0	0	0	0	0	0	0
14:30	0	0	0	0	0	0	0	0
14:45	0	0	0	2	0	0	0	0
15:00	0	0	0	0	0	0	0	0
15:15	0	0	0	0	0	0	0	0
15:30	0	0	0	0	0	0	0	0
15:45	0	0	0	0	0	0	0	0
16:00	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0

Turning Movement Count Report AM

Location ID: 1
 North/South: Newport Coast Drive
 East/West: Sage Hill Driveway

Date: 01/12/23
 City: Newport Beach, CA

	Southbound			Westbound			Northbound			Eastbound			
	1	2	3	4	5	6	7	8	9	10	11	12	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	0	137	0	2	0	1	8	89	0	0	0	0	237
7:15	0	163	0	17	0	1	27	151	0	0	0	0	359
7:30	0	291	0	38	0	9	110	201	0	0	0	0	649
7:45	0	392	0	94	0	33	260	267	0	0	0	0	1046
8:00	0	264	0	47	0	14	28	242	0	0	0	0	595
8:15	0	239	0	7	0	0	13	231	0	0	0	0	490
8:30	0	244	0	2	0	1	14	239	0	0	0	0	500
8:45	0	250	0	2	0	1	23	236	0	0	0	0	512
9:00	0	223	0	2	0	4	16	197	0	0	0	0	442
9:15	0	217	0	8	0	7	20	188	0	0	0	0	440
9:30	0	202	0	6	0	5	17	190	0	0	0	0	420
9:45	0	228	0	7	0	7	24	187	0	0	0	0	453

Total Volume:	0	2850	0	232	0	83	560	2418	0	0	0	0	6143
Approach %	0%	100%	0%	74%	0%	26%	19%	81%	0%	0%	0%	0%	

Peak Hr Begin:	7:30												
PHV	0	1186	0	186	0	56	411	941	0	0	0	0	2780
PHF	0.756			0.476			0.641			0.000			0.664

Turning Movement Count Report PM

Location ID: 1
 North/South: Newport Coast Drive
 East/West: Sage Hill Driveway

Date: 01/12/23
 City: Newport Beach, CA

	Southbound			Westbound			Northbound			Eastbound			
	1	2	3	4	5	6	7	8	9	10	11	12	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
14:00	0	203	0	4	0	2	0	205	0	0	0	0	414
14:15	0	198	0	3	0	1	9	222	0	0	0	0	433
14:30	0	209	0	7	0	2	20	250	0	0	0	0	488
14:45	0	227	0	15	0	3	49	240	0	0	0	0	534
15:00	0	252	0	113	0	36	49	322	0	0	0	0	772
15:15	0	272	0	73	0	23	40	324	0	0	0	0	732
15:30	0	269	0	30	0	8	23	321	0	0	0	0	651
15:45	0	275	0	14	0	12	14	317	0	0	0	0	632
16:00	0	230	0	9	0	2	10	334	0	0	0	0	585
16:15	0	252	0	10	0	6	26	292	0	0	0	0	586
16:30	0	279	0	5	0	2	64	257	0	0	0	0	607
16:45	0	272	0	10	0	5	55	261	0	0	0	0	603

Total Volume:	0	2938	0	293	0	102	359	3345	0	0	0	0	7037
Approach %	0%	100%	0%	74%	0%	26%	10%	90%	0%	0%	0%	0%	

Peak Hr Begin:	15:00												
PHV	0	1068	0	230	0	79	126	1284	0	0	0	0	2787
PHF	0.971			0.518			0.950			0.000			0.903

Pedestrian/Bicycle Count Report

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0
7:30	0	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	0	0
8:30	0	0	0	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0
9:00	0	0	0	0	0	0	0	0
9:15	0	0	0	0	0	0	0	0
9:30	0	0	0	0	0	0	0	0
9:45	0	0	0	0	0	0	0	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
14:00	0	0	0	0	0	0	0	0
14:15	0	0	0	0	0	0	0	0
14:30	0	0	0	0	0	0	0	0
14:45	0	0	0	0	0	0	0	0
15:00	0	0	0	0	0	0	0	0
15:15	0	0	0	0	0	0	0	0
15:30	0	0	0	0	0	0	0	0
15:45	0	0	0	0	0	0	0	0
16:00	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0

Turning Movement Count Report AM

Location ID: 1
 North/South: Newport Coast Drive
 East/West: Sage Hill Driveway

Date: 01/19/23
 City: Newport Beach, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	0	129	0	1	0	0	7	92	0	0	0	0	229
7:15	0	182	0	17	0	2	34	137	0	0	0	0	372
7:30	0	278	0	31	0	5	96	183	0	0	0	0	593
7:45	0	442	0	92	0	32	252	239	0	0	0	0	1057
8:00	0	259	0	49	0	19	47	265	0	0	0	0	639
8:15	0	305	0	5	0	1	8	222	0	0	0	0	541
8:30	0	240	0	2	0	1	14	275	0	0	0	0	532
8:45	0	252	0	4	0	3	14	201	0	0	0	0	474
9:00	0	231	0	8	0	1	16	211	0	0	0	0	467
9:15	0	241	0	6	0	2	19	181	0	0	0	0	449
9:30	0	229	0	9	0	5	13	233	0	0	0	0	489
9:45	0	174	0	4	0	4	20	205	0	0	0	0	407

Total Volume:	0	2962	0	228	0	75	540	2444	0	0	0	0	6249
Approach %	0%	100%	0%	75%	0%	25%	18%	82%	0%	0%	0%	0%	

Peak Hr Begin:	7:30												
PHV	0	1284	0	177	0	57	403	909	0	0	0	0	2830
PHF	0.726			0.472			0.668			0.000			0.669

Turning Movement Count Report PM

Location ID: 1
 North/South: Newport Coast Drive
 East/West: Sage Hill Driveway

Date: 01/19/23
 City: Newport Beach, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
14:00	0	196	0	4	0	2	3	244	0	0	0	0	449
14:15	0	217	0	5	0	2	7	233	0	0	0	0	464
14:30	0	223	0	6	0	1	19	281	0	0	0	0	530
14:45	0	267	0	10	0	5	52	248	0	0	0	0	582
15:00	0	248	0	97	0	35	64	348	0	0	0	0	792
15:15	0	241	0	86	0	30	29	277	0	0	0	0	663
15:30	0	254	0	29	0	9	14	330	0	0	0	0	636
15:45	0	288	0	22	0	5	6	366	0	0	0	0	687
16:00	0	221	0	12	0	2	8	364	0	0	0	0	607
16:15	0	232	0	9	0	5	15	322	0	0	0	0	583
16:30	0	253	0	12	0	6	19	294	0	0	0	0	584
16:45	0	293	0	23	0	10	37	306	0	0	0	0	669

Total Volume:	0	2933	0	315	0	112	273	3613	0	0	0	0	7246
Approach %	0%	100%	0%	74%	0%	26%	7%	93%	0%	0%	0%	0%	

Peak Hr Begin:	15:00												
PHV	0	1031	0	234	0	79	113	1321	0	0	0	0	2778
PHF	0.895			0.593			0.870			0.000			0.877

Pedestrian/Bicycle Count Report

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0
7:30	0	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	0	0
8:30	0	0	0	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0
9:00	0	0	1	0	0	0	0	0
9:15	0	0	0	0	0	0	0	0
9:30	0	0	0	0	0	0	0	0
9:45	0	0	0	0	0	0	0	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
14:00	0	0	0	0	0	0	0	0
14:15	0	0	0	0	0	0	0	0
14:30	0	0	0	0	0	0	0	0
14:45	0	0	0	0	0	0	0	0
15:00	0	0	0	0	0	0	0	0
15:15	0	0	0	0	0	0	0	0
15:30	0	0	0	0	0	0	0	0
15:45	0	0	0	0	0	0	0	0
16:00	0	0	1	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0

Turning Movement Count Report AM

Location ID: 2
 North/South: Newport Coast Drive
 East/West: REF Driveway

Date: 01/11/23
 City: Newport Beach, CA

	Southbound			Westbound			Northbound			Eastbound			
	1	2	3	4	5	6	7	8	9	10	11	12	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	0	112	12	0	0	0	0	90	0	0	0	0	214
7:15	0	111	12	0	3	0	0	137	0	0	0	0	263
7:30	0	186	30	0	1	0	0	193	0	0	0	0	410
7:45	0	231	46	0	0	0	0	212	0	0	0	0	489
8:00	0	244	66	0	0	0	0	281	0	1	0	0	592
8:15	0	271	123	0	0	0	1	280	0	0	0	1	676
8:30	2	256	49	0	1	0	0	289	0	0	0	0	597
8:45	0	282	53	0	0	0	0	260	0	0	0	0	595
9:00	0	198	24	0	0	0	0	223	0	0	0	0	445
9:15	1	198	9	0	0	0	0	188	0	0	0	0	396
9:30	0	199	10	0	0	0	0	209	0	0	0	0	418
9:45	0	179	6	0	0	0	0	204	0	0	0	0	389

Total Volume:	3	2467	440	0	5	0	1	2566	0	1	0	1	5484
Approach %	0%	85%	15%	0%	100%	0%	0%	100%	0%	50%	0%	50%	

Peak Hr Begin:	8:00												
PHV	2	1053	291	0	1	0	1	1110	0	1	0	1	2460
PHF	0.854			0.250			0.961			0.500			0.910

Turning Movement Count Report PM

Location ID: 2
 North/South: Newport Coast Drive
 East/West: REF Driveway

Date: 01/11/23
 City: Newport Beach, CA

	Southbound			Westbound			Northbound			Eastbound			
	1	2	3	4	5	6	7	8	9	10	11	12	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
14:00	0	203	20	0	0	0	0	196	0	0	0	0	419
14:15	0	198	21	0	0	0	0	237	0	0	0	0	456
14:30	0	194	14	0	0	0	0	219	0	0	0	0	427
14:45	0	192	22	4	0	0	0	267	0	0	0	0	485
15:00	0	214	22	0	0	0	0	275	0	0	0	2	513
15:15	0	249	15	0	0	0	0	313	0	0	0	0	577
15:30	0	282	8	0	0	0	0	289	0	0	0	0	579
15:45	0	239	18	0	0	2	1	332	0	0	0	0	592
16:00	0	204	4	0	0	0	0	309	0	0	0	0	517
16:15	0	232	8	0	0	0	1	285	0	0	0	0	526
16:30	0	260	23	0	0	1	0	257	0	0	0	0	541
16:45	0	237	14	0	0	0	0	283	0	0	0	0	534

Total Volume:	0	2704	189	4	0	3	2	3262	0	0	0	2	6166
Approach %	0%	93%	7%	57%	0%	43%	0%	100%	0%	0%	0%	100%	

Peak Hr Begin:	15:15												
PHV	0	974	45	0	0	2	1	1243	0	0	0	0	2265
PHF	0.878			0.250			0.934			0.000			0.957

Pedestrian/Bicycle Count Report

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0
7:30	0	0	0	0	0	0	0	0
7:45	0	0	1	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	0	0
8:30	0	0	0	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0
9:00	0	0	0	0	0	0	0	0
9:15	0	0	0	0	0	0	0	0
9:30	0	0	0	0	0	0	0	0
9:45	0	0	0	0	0	0	0	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
14:00	0	0	0	0	0	0	0	0
14:15	0	0	0	0	0	0	0	0
14:30	0	0	0	0	0	0	0	0
14:45	0	0	0	0	0	0	0	0
15:00	0	0	0	0	0	0	0	0
15:15	0	0	0	0	0	0	0	0
15:30	0	0	0	0	0	0	0	0
15:45	0	0	14	0	0	0	0	0
16:00	0	0	5	0	0	0	0	0
16:15	0	0	10	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0

Turning Movement Count Report AM

Location ID: 2
 North/South: Newport Coast Drive
 East/West: REF Driveway

Date: 01/12/23
 City: Newport Beach, CA

	Southbound			Westbound			Northbound			Eastbound			
	1	2	3	4	5	6	7	8	9	10	11	12	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	0	118	9	0	1	0	0	87	0	0	0	0	215
7:15	0	143	24	0	2	0	0	150	0	0	1	0	320
7:30	0	183	90	0	0	0	0	223	0	0	0	0	496
7:45	0	251	181	0	1	0	0	345	0	0	0	0	778
8:00	0	260	32	0	0	0	0	256	0	0	0	0	548
8:15	0	240	15	0	0	0	0	208	0	0	0	0	463
8:30	0	229	14	0	0	0	0	243	0	0	0	0	486
8:45	0	234	20	1	0	0	1	238	0	0	0	0	494
9:00	0	221	13	0	0	0	0	198	0	0	0	0	432
9:15	0	206	16	0	0	0	0	203	0	0	0	0	425
9:30	0	199	8	0	0	0	0	189	0	0	0	0	396
9:45	0	223	16	0	0	0	0	201	0	0	0	0	440

Total Volume:	0	2507	438	1	4	0	1	2541	0	0	1	0	5493
Approach %	0%	85%	15%	20%	80%	0%	0%	100%	0%	0%	100%	0%	

Peak Hr Begin:	7:30												
PHV	0	934	318	0	1	0	0	1032	0	0	0	0	2285
PHF	0.725			0.250			0.748			0.000			0.734

Turning Movement Count Report PM

Location ID: 2
 North/South: Newport Coast Drive
 East/West: REF Driveway

Date: 01/12/23
 City: Newport Beach, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
14:00	0	208	1	0	0	0	0	201	0	0	0	0	410
14:15	0	184	8	0	0	0	0	223	0	0	0	0	415
14:30	0	196	14	2	0	1	0	257	0	0	0	0	470
14:45	0	204	38	0	0	0	0	254	0	0	0	0	496
15:00	0	238	47	0	0	0	0	327	0	0	0	0	612
15:15	0	246	36	1	0	0	0	330	0	0	0	0	613
15:30	0	265	20	0	0	0	0	322	0	0	0	1	608
15:45	0	266	15	0	0	0	0	297	0	0	0	0	578
16:00	0	217	13	0	0	0	0	345	0	0	0	0	575
16:15	0	234	24	0	0	0	0	295	0	0	0	0	553
16:30	0	239	46	1	0	0	1	273	0	0	0	0	560
16:45	0	237	47	0	0	0	0	273	0	0	0	0	557

Total Volume:	0	2734	309	4	0	1	1	3397	0	0	0	1	6447
Approach %	0%	90%	10%	80%	0%	20%	0%	100%	0%	0%	0%	100%	

Peak Hr Begin:	15:00												
PHV	0	1015	118	1	0	0	0	1276	0	0	0	1	2411
PHF	0.994			0.250			0.967			0.250			0.983

Pedestrian/Bicycle Count Report

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0
7:30	0	0	0	0	0	0	0	0
7:45	0	0	1	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	0	0
8:30	0	0	0	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0
9:00	0	0	0	0	0	0	0	0
9:15	0	0	0	0	0	0	0	0
9:30	0	0	2	0	0	0	0	0
9:45	0	0	0	0	0	0	0	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
14:00	0	0	0	0	0	0	0	0
14:15	0	0	0	0	0	0	0	0
14:30	0	0	0	0	0	0	0	0
14:45	0	0	0	0	0	0	0	0
15:00	0	0	0	0	0	0	0	0
15:15	0	0	0	0	0	0	0	0
15:30	0	0	0	0	0	0	0	0
15:45	0	0	0	0	0	0	0	0
16:00	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0

Turning Movement Count Report AM

Location ID: 2
 North/South: Newport Coast Drive
 East/West: REF Driveway

Date: 01/19/23
 City: Newport Beach, CA

	Southbound			Westbound			Northbound			Eastbound			
	1	2	3	4	5	6	7	8	9	10	11	12	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	0	116	12	0	0	0	0	90	1	0	0	0	219
7:15	1	157	30	0	0	0	0	146	0	0	0	0	334
7:30	0	196	83	0	0	0	0	219	0	0	0	0	498
7:45	0	290	172	0	0	0	0	294	0	0	0	0	756
8:00	0	245	28	0	1	0	0	296	0	0	0	0	570
8:15	0	294	14	0	0	1	1	212	0	0	1	0	523
8:30	0	222	16	0	0	0	0	265	0	0	0	0	503
8:45	0	256	9	0	3	0	0	206	0	0	0	0	474
9:00	0	213	15	0	0	0	0	205	0	0	0	0	433
9:15	0	227	17	1	0	0	0	183	0	0	0	0	428
9:30	0	221	16	0	0	0	0	242	0	0	0	0	479
9:45	1	164	16	0	0	0	0	192	0	0	0	0	373

Total Volume:	2	2601	428	1	4	1	1	2550	1	0	1	0	5590
Approach %	0%	86%	14%	17%	67%	17%	0%	100%	0%	0%	100%	0%	

Peak Hr Begin:	7:45												
PHV	0	1051	230	0	1	1	1	1067	0	0	1	0	2352
PHF	0.693			0.500			0.902			0.250			0.778

Turning Movement Count Report PM

Location ID: 2
 North/South: Newport Coast Drive
 East/West: REF Driveway

Date: 01/19/23
 City: Newport Beach, CA

	Southbound			Westbound			Northbound			Eastbound			
	1	2	3	4	5	6	7	8	9	10	11	12	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
14:00	0	182	9	1	0	0	0	246	0	0	0	0	438
14:15	0	205	9	0	0	0	0	236	1	0	0	0	451
14:30	0	206	22	3	0	0	0	259	0	0	0	0	490
14:45	0	219	47	0	0	0	0	258	0	0	0	0	524
15:00	0	242	47	0	0	0	0	369	0	0	0	0	658
15:15	0	244	32	0	0	0	0	273	0	0	0	0	549
15:30	0	246	14	0	0	0	0	320	0	0	0	0	580
15:45	0	278	12	1	0	0	1	360	0	0	0	0	652
16:00	0	216	10	0	0	0	0	367	0	0	0	1	594
16:15	0	225	15	0	0	0	0	320	0	0	0	0	560
16:30	0	237	19	0	0	0	0	295	0	0	0	0	551
16:45	0	268	37	0	0	0	0	305	0	0	0	0	610

Total Volume:	0	2768	273	5	0	0	1	3608	1	0	0	1	6657
Approach %	0%	91%	9%	100%	0%	0%	0%	100%	0%	0%	0%	100%	

Peak Hr Begin:	15:00												
PHV	0	1010	105	1	0	0	1	1322	0	0	0	0	2439
PHF	0.961			0.250			0.896			0.000			0.927

Pedestrian/Bicycle Count Report

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0
7:30	0	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	0	0
8:30	0	0	0	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0
9:00	0	0	1	0	0	0	0	0
9:15	0	0	0	0	0	0	0	0
9:30	0	0	0	0	0	0	0	0
9:45	0	0	0	0	0	0	0	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
14:00	0	0	0	0	0	0	0	0
14:15	0	0	0	0	0	0	0	0
14:30	0	0	0	0	0	0	0	1
14:45	0	0	0	0	0	0	0	0
15:00	0	0	1	0	0	0	0	0
15:15	0	0	0	0	0	0	0	0
15:30	0	0	1	0	0	0	0	0
15:45	0	0	0	0	0	0	0	0
16:00	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0

Attachment B

AM & PM Peak Period Queuing Observation Data

**AM PEAK PERIOD PROJECT DRIVEWAY DROP-OFF/PICK-UP OBSERVATIONS
MAXIMUM QUEUE LENGTH SUMMARY @ FIVE MINUTE INTERVALS**

Time	1/11/2023	1/12/2023	1/19/2023
7:00 AM	*	*	*
7:05 AM	*	*	*
7:10 AM	*	*	*
7:15 AM	*	*	*
7:20 AM	*	*	*
7:25 AM	*	*	*
7:30 AM	*	*	*
7:35 AM	*	*	*
7:40 AM	*	*	*
7:45 AM	*	8	16
7:50 AM	*	13	19
7:55 AM	*	16	20
8:00 AM	*	7	9
8:05 AM	*	*	*
8:10 AM	*	*	*
8:15 AM	1	*	*
8:20 AM	2	*	*
8:25 AM	6	*	*
8:30 AM	3	*	*
8:35 AM	*	*	*
8:40 AM	*	*	*
8:45 AM	*	*	*
8:50 AM	*	*	*
8:55 AM	*	*	*
9:00 AM	*	*	*
9:05 AM	*	*	*
9:10 AM	*	*	*
9:15 AM	*	*	*
9:20 AM	*	*	*
9:25 AM	*	*	*
9:30 AM	*	*	*
9:35 AM	*	*	*
9:40 AM	*	*	*
9:45 AM	*	*	*
9:50 AM	*	*	*
9:55 AM	*	*	*
10:00 AM	*	*	*

Notes:

* The peak on-site driveway queuing observed during this period was essentially negligible and/or non-existent due to relatively low drop-off/pick-up demand.

**PM PEAK PERIOD PROJECT DRIVEWAY DROP-OFF/PICK-UP OBSERVATIONS
MAXIMUM QUEUE LENGTH SUMMARY @ FIVE MINUTE INTERVALS**

Time	1/11/2023	1/12/2023	1/19/2023
2:00 PM	*	*	*
2:05 PM	*	*	*
2:10 PM	*	*	*
2:15 PM	*	*	*
2:20 PM	*	*	*
2:25 PM	*	*	*
2:30 PM	*	*	*
2:35 PM	*	*	*
2:40 PM	*	*	*
2:45 PM	*	*	*
2:50 PM	*	13	17
2:55 PM	*	18	20
3:00 PM	*	3	3
3:05 PM	*	3	2
3:10 PM	*	2	2
3:15 PM	*	2	4
3:20 PM	*	*	*
3:25 PM	*	*	*
3:30 PM	*	*	*
3:35 PM	*	*	*
3:40 PM	*	*	*
3:45 PM	*	*	*
3:50 PM	*	*	*
3:55 PM	*	*	*
4:00 PM	*	*	*
4:05 PM	*	*	*
4:10 PM	*	*	*
4:15 PM	*	*	*
4:20 PM	*	*	*
4:25 PM	*	*	*
4:30 PM	*	*	*
4:35 AM	*	*	*
4:40 AM	*	*	*
4:45 AM	*	*	*
4:50 AM	*	*	*
4:55 AM	*	*	*
5:00 AM	*	*	*

Notes:



















* The peak on-site driveway queuing observed during this period was essentially negligible and/or non-existent due to relatively low drop-off/pick-up demand.

Attachment C
HCM Queuing Analysis Worksheets

HCM 6th Signalized Intersection Summary

2: Newport Coast Dr & Coyote Canyon Landfill/REF Facility



















02/23/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	1	0	0	955	0	313	888	1
Future Volume (veh/h)	0	0	0	0	1	0	0	955	0	313	888	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	5	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	0	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	0	0	0	1	0	0	1038	0	340	965	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	0	2	2	2	2	2
Cap, veh/h	0	5	0	0	5	0	0	3125	0	406	4667	5
Arrive On Green	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.62	0.00	0.07	0.29	0.29
Sat Flow, veh/h	0	1870	0	0	1870	0	0	5443	0	1781	5268	5
Grp Volume(v), veh/h	0	0	0	0	1	0	0	1038	0	340	624	342
Grp Sat Flow(s),veh/h/ln	0	1870	0	0	1870	0	0	1702	0	1781	1702	1869
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.1	0.0	0.0	11.6	0.0	22.7	16.6	16.6
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.1	0.0	0.0	11.6	0.0	22.7	16.6	16.6
Prop In Lane	0.00		0.00	0.00		0.00	0.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	0	5	0	0	5	0	0	3125	0	406	3016	1656
V/C Ratio(X)	0.00	0.00	0.00	0.00	0.22	0.00	0.00	0.33	0.00	0.84	0.21	0.21
Avail Cap(c_a), veh/h	0	156	0	0	156	0	0	3178	0	957	3016	1656
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.89	0.89	0.89
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	59.7	0.0	0.0	11.6	0.0	53.9	10.7	10.7
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	22.1	0.0	0.0	0.3	0.0	4.9	0.1	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.7	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	0.0	0.0	0.0	0.1	0.0	0.0	7.9	0.0	18.2	11.8	12.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	0.0	0.0	81.8	0.0	0.0	11.9	0.0	65.6	10.8	11.0
LnGrp LOS	A	A	A	A	F	A	A	B	A	E	B	B
Approach Vol, veh/h		0			1			1038			1306	
Approach Delay, s/veh		0.0			81.8			11.9			25.1	
Approach LOS					F			B			C	
Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		114.7		5.3	31.6	83.1		5.3				
Change Period (Y+Rc), s		* 8.4		5.0	5.5	* 8.4		5.0				
Max Green Setting (Gmax), s		* 97		10.0	64.5	* 27		10.0				
Max Q Clear Time (g_c+I1), s		18.6		2.1	24.7	13.6		0.0				
Green Ext Time (p_c), s		28.4		0.0	1.4	10.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay				19.3								
HCM 6th LOS				B								
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM 6th Signalized Intersection Summary

2: Newport Coast Dr & Coyote Canyon Landfill/REF Facility
























02/23/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	1	0	0	980	0	379	900	1
Future Volume (veh/h)	0	0	0	0	1	0	0	980	0	379	900	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	5	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	0	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	0	0	0	1	0	0	1065	0	412	978	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	0	2	2	2	2	2
Cap, veh/h	0	5	0	0	5	0	0	2907	0	482	4667	5
Arrive On Green	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.58	0.00	0.09	0.29	0.29
Sat Flow, veh/h	0	1870	0	0	1870	0	0	5443	0	1781	5268	5
Grp Volume(v), veh/h	0	0	0	0	1	0	0	1065	0	412	632	347
Grp Sat Flow(s),veh/h/ln	0	1870	0	0	1870	0	0	1702	0	1781	1702	1869
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.1	0.0	0.0	13.3	0.0	27.5	16.8	16.8
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.1	0.0	0.0	13.3	0.0	27.5	16.8	16.8
Prop In Lane	0.00		0.00	0.00		0.00	0.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	0	5	0	0	5	0	0	2907	0	482	3016	1656
V/C Ratio(X)	0.00	0.00	0.00	0.00	0.22	0.00	0.00	0.37	0.00	0.85	0.21	0.21
Avail Cap(c_a), veh/h	0	156	0	0	156	0	0	2959	0	957	3016	1656
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.89	0.89	0.89
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	59.7	0.0	0.0	14.3	0.0	53.0	10.8	10.8
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	22.1	0.0	0.0	0.4	0.0	4.7	0.1	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.3	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	0.0	0.0	0.0	0.1	0.0	0.0	9.0	0.0	21.0	12.0	13.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	0.0	0.0	81.8	0.0	0.0	14.6	0.0	63.0	10.9	11.0
LnGrp LOS	A	A	A	A	F	A	A	B	A	E	B	B
Approach Vol, veh/h	0			1			1065			1391		
Approach Delay, s/veh	0.0			81.8			14.6			26.4		
Approach LOS				F			B			C		
Timer - Assigned Phs	2			4		5		6		8		
Phs Duration (G+Y+Rc), s	114.7			5.3		36.8		77.9		5.3		
Change Period (Y+Rc), s	* 8.4			5.0		5.5		* 8.4		5.0		
Max Green Setting (Gmax), s	* 97			10.0		64.5		* 27		10.0		
Max Q Clear Time (g_c+I1), s	18.8			2.1		29.5		15.3		0.0		
Green Ext Time (p_c), s	28.9			0.0		1.8		9.0		0.0		
Intersection Summary												
HCM 6th Ctrl Delay			21.3									
HCM 6th LOS			C									
Notes												

HCM 6th Signalized Intersection Summary

2: Newport Coast Dr & Coyote Canyon Landfill/REF Facility



















02/23/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  		  	  	
Traffic Volume (veh/h)	0	0	0	0	1	0	0	1015	0	481	928	0
Future Volume (veh/h)	0	0	0	0	1	0	0	1015	0	481	928	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	5	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	0	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	0	0	0	1	0	0	1103	0	523	1009	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	0	2	2	2	2	2
Cap, veh/h	0	5	0	0	5	0	0	2573	0	599	4523	0
Arrive On Green	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.51	0.00	0.11	0.29	0.00
Sat Flow, veh/h	0	1870	0	0	1870	0	0	5443	0	1781	5274	0
Grp Volume(v), veh/h	0	0	0	0	1	0	0	1103	0	523	1009	0
Grp Sat Flow(s),veh/h/ln	0	1870	0	0	1870	0	0	1702	0	1781	1702	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.1	0.0	0.0	16.1	0.0	34.8	18.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.1	0.0	0.0	16.1	0.0	34.8	18.0	0.0
Prop In Lane	0.00		0.00	0.00		0.00	0.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	0	5	0	0	5	0	0	2573	0	599	4523	0
V/C Ratio(X)	0.00	0.00	0.00	0.00	0.22	0.00	0.00	0.43	0.00	0.87	0.22	0.00
Avail Cap(c_a), veh/h	0	156	0	0	156	0	0	2623	0	957	4523	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.82	0.82	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	59.7	0.0	0.0	19.0	0.0	51.5	11.2	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	22.1	0.0	0.0	0.5	0.0	5.1	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	0.0	0.0	0.0	0.1	0.0	0.0	10.7	0.0	25.2	12.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	0.0	0.0	81.8	0.0	0.0	19.5	0.0	60.6	11.3	0.0
LnGrp LOS	A	A	A	A	F	A	A	B	A	E	B	A
Approach Vol, veh/h		0			1			1103			1532	
Approach Delay, s/veh		0.0			81.8			19.5			28.1	
Approach LOS					F			B			C	
Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		114.7		5.3	44.7	70.0		5.3				
Change Period (Y+Rc), s		* 8.4		5.0	5.5	* 8.4		5.0				
Max Green Setting (Gmax), s		* 97		10.0	64.5	* 27		10.0				
Max Q Clear Time (g_c+I1), s		20.0		2.1	36.8	18.1		0.0				
Green Ext Time (p_c), s		31.1		0.0	2.4	7.1		0.0				
Intersection Summary												
HCM 6th Ctrl Delay				24.5								
HCM 6th LOS				C								
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM 6th Signalized Intersection Summary

2: Newport Coast Dr & Coyote Canyon Landfill/REF Facility

09/13/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	1	0	0	1015	0	481	928	0
Future Volume (veh/h)	0	0	0	0	1	0	0	1015	0	481	928	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	5	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	0	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	0	0	0	1	0	0	1103	0	523	1009	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	0	2	2	2	2	2
Cap, veh/h	0	5	0	0	5	0	0	1379	0	811	4238	0
Arrive On Green	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.27	0.00	0.15	0.27	0.00
Sat Flow, veh/h	0	1870	0	0	1870	0	0	5443	0	1781	5274	0
Grp Volume(v), veh/h	0	0	0	0	1	0	0	1103	0	523	1009	0
Grp Sat Flow(s),veh/h/ln	0	1870	0	0	1870	0	0	1702	0	1781	1702	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.1	0.0	22.1	12.3	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.1	0.0	22.1	12.3	0.0
Prop In Lane	0.00		0.00	0.00		0.00	0.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	0	5	0	0	5	0	0	1379	0	811	4238	0
V/C Ratio(X)	0.00	0.00	0.00	0.00	0.22	0.00	0.00	0.80	0.00	0.65	0.24	0.00
Avail Cap(c_a), veh/h	0	210	0	0	210	0	0	1379	0	811	4238	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.82	0.82	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	39.8	0.0	0.0	27.2	0.0	28.3	9.4	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	21.9	0.0	0.0	5.0	0.0	3.2	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	0.0	0.0	0.0	0.1	0.0	0.0	11.2	0.0	16.8	9.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	0.0	0.0	61.7	0.0	0.0	32.1	0.0	32.4	9.5	0.0
LnGrp LOS	A	A	A	A	E	A	A	C	A	C	A	A
Approach Vol, veh/h		0			1			1103			1532	
Approach Delay, s/veh		0.0			61.7			32.1			17.3	
Approach LOS					E			C			B	
Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		74.8		5.2	44.8	30.0		5.2				
Change Period (Y+Rc), s		* 8.4		5.0	* 8.4	* 8.4		5.0				
Max Green Setting (Gmax), s		* 58		9.0	* 31	* 22		9.0				
Max Q Clear Time (g_c+I1), s		14.3		2.0	24.1	18.1		0.0				
Green Ext Time (p_c), s		23.9		0.0	1.3	3.1		0.0				
Intersection Summary												
HCM 6th Ctrl Delay				23.5								
HCM 6th LOS				C								
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

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