

DEVELOPMENT OF REGIONAL IMPACT

TRAFFIC STUDY

FOR

KELLER MIXED-USE DEVELOPMENT AT

LITTLE NECK ROAD AND HIGHWAY 17

CHATHAM COUNTY, GEORGIA



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A & R Project # 23-078

EXECUTIVE SUMMARY

Traffic impacts were evaluated for the traffic from the proposed Keller mixed-use development that will be located in the northwest corner of the intersection of SR 25/US 17 (Ogeechee Road) at Little Neck Road in Savannah, Georgia. The development will consist of:

- Self-Storage: 36,000 sf
- Multifamily Housing: 534 units
- Senior Living: 308 units
- General Retail: 145,485 sf
- Beauty or Nail Salon: 6,477 sf
- Fast Casual Restaurant: 34,228 sf
- High-Turnover (Sit-Down) Restaurant: 5,600 sf
- Fast-Food Restaurant with Drive-Through Window: 6,300 sf
- Convenience Store/Gas Station: 5,670 sf store and 20 fueling positions.

The development proposes one full access driveway on SR 25/US 17 (Ogeechee Road) as well as two full access driveways and one right-in/right-out driveway on Little Neck Road. The middle (full access) driveway on Little Neck Road will be aligned with Al Henderson Boulevard. The development proposes to shift the existing median break on SR 25/US 17 (Ogeechee Road) at Grove Point Road north to align with its- Site Driveway 1 location.

Existing and future operations during the AM peak hour (7:00 AM – 9:00 AM) and PM peak hour (4:00 PM – 6:00 PM) before and after completion of the project were analyzed at the following intersections:

1. Little Neck Road @ Al Henderson Boulevard / Site Driveway 3 (Middle)
2. Little Neck Road @ Compassion Christian Church Driveway
3. SR 25/US 17 (Ogeechee Road) @ Site Driveway 1 / Cohen Street
4. Little Neck Road @ Site Driveway 2 (Southern)
5. Little Neck Road @ Site Driveway 4 (Northern, Right-in/right-out)

The results of the Future analysis indicate that all the study intersections will operate at level-of-service “D” or better in both the AM and PM peak hours except the stop-controlled driveway approach at the un-signalized intersection of Little Neck Road at Site Driveway 2 (southern) that will operate at LOS “F” in the PM peak hour. It is not unusual for stop-controlled side-streets along arterial roadways to have elevated delays during peak periods as delays are caused by side-street wait times to turn left onto the mainline.

1.1.1 Recommendations for Mitigation Improvements

A summary of the mitigation improvements is provided below.

- Install a traffic signal at Little Neck Road at Al Henderson Boulevard/Site driveway 3, if a traffic signal is warranted based on the detailed analysis and if approved.
- Install a traffic signal on SR 25/US 17 (Ogeechee Road) at Site driveway 1, if signal warrants are met and approved by GDOT.

- Move the existing median break on SR 25/US17 (Ogeechee Road) north to the proposed site driveway location.

Intersection 4: SR 25/US 17 (Ogeechee Road) @ Site Driveway # 1

- Install a traffic signal after completing an Intersection Control Evaluation and if warranted and approved by GDOT.

Intersection 1: Little Neck Road @ Al Henderson Blvd/Site Driveway # 3

- Install a traffic signal if warranted and approved.

Chatham County has impact fee ordinance in place. Off-site system improvements are covered through these impact fees implemented by the County.

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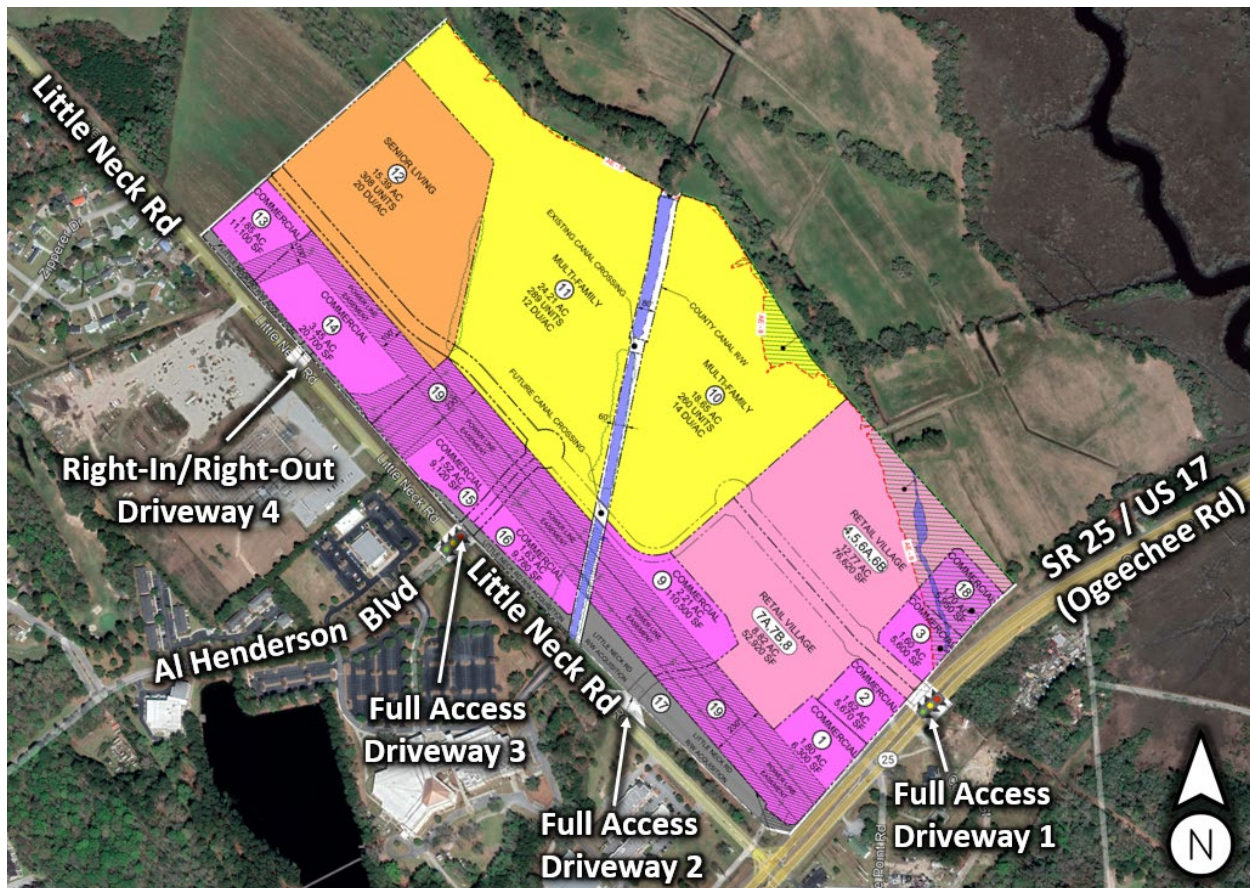
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2.0 INTRODUCTION

The purpose of this study is to determine the traffic impact from the proposed Keller mixed-use development located in the northwest corner of the intersection of SR 25/US 17 (Ogeechee Road) at Little Neck Road in Savannah, Georgia. The traffic analysis evaluates the current operations and the future conditions with the traffic generated by the development. The proposed development will consist of:

- Self-Storage: 36,000 sf
- Multifamily Housing: 534 units
- Senior Living: 308 units
- General Retail: 145,485 sf
- Beauty or Nail Salon: 6,477 sf
- Fast Casual Restaurant: 34,228 sf
- High-Turnover (Sit-Down) Restaurant: 5,600 sf
- Fast-Food Restaurant with Drive-Through Window: 6,300 sf
- Convenience Store/Gas Station: 5,670 sf store and 20 fueling positions.



The development proposes access at the following locations:

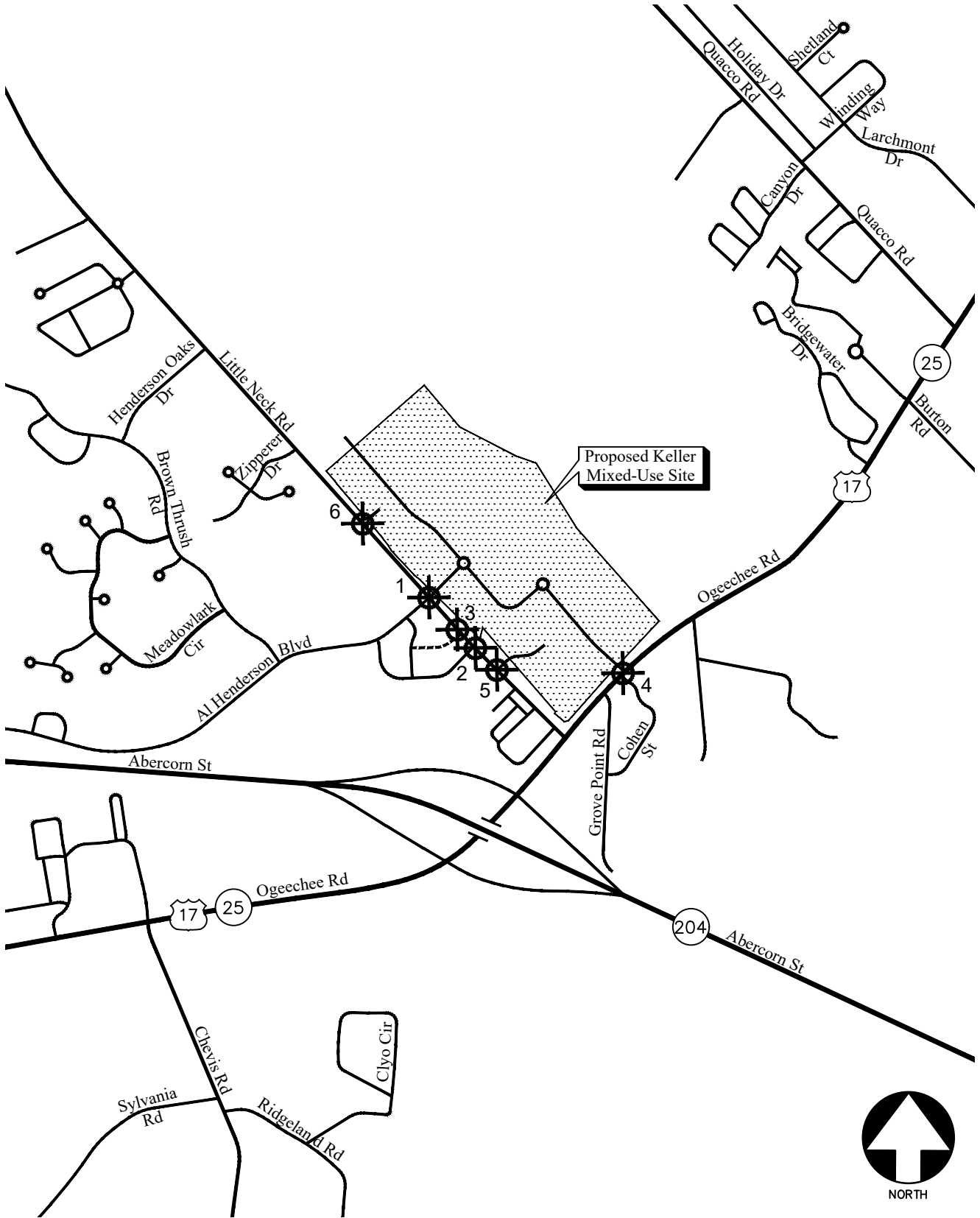
- Site Driveway 1: Full access driveway on SR 25/US 17 (Ogeechee Road)
- Site Driveway 2: Full access (southern) driveway on Little Neck Road
- Site Driveway 3: Full access (middle) driveway on Little Neck Road, aligned with Al Henderson Boulevard
- Site Driveway 4: Right-in/right-out (northern) driveway on Little Neck Road

The development proposes to shift the existing median break on SR 25/US 17 (Ogeechee Road) at Grove Point Road north to align with Site Driveway 1.

The AM and PM peak hours have been analyzed in this study. In addition to the site access points, this study includes the evaluation of traffic operations at the intersections of Little Neck Road @ Compassion Christian Church Driveway.

Recommendations to improve traffic operations have been identified as appropriate and are discussed in detail in the following sections of the report. The location of the development and the surrounding roadway network is shown in Figure 1.

⊕ Study Intersection



LOCATION MAP

FIGURE 1

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3.0 EXISTING FACILITIES / CONDITIONS

3.1 Roadway Facilities

The following is a brief description of each of the roadway facilities located in proximity to the site:

3.1.1 SR 25/US 17 (Ogeechee Road)

SR 25/US 17 (Ogeechee Road) is a north-south, four-lane, median-divided roadway with a posted speed limit of 45 mph in the vicinity of the site. Georgia Department of Transportation (GDOT) traffic counts (Station ID's 051-0194 & 051-0196) indicate that the daily traffic volume on SR 25/US 17 (Ogeechee Road) in 2022 was 35,100 vehicles southwest of SR 204 (Abercorn Street) and 34,400 vehicles southwest of Burton Road. GDOT classifies SR 25/US 17 (Ogeechee Road) as an Urban Principal Arterial roadway.

3.1.2 Little Neck Road

Little Neck Road is a north-south, two-lane, undivided roadway with a posted speed limit of 45 mph in the vicinity of the site. GDOT traffic counts (Station ID 051-0447) indicate that the daily traffic volume on Little Neck Road in 2022 was 6,530 vehicles northwest of SR 25/US 17 (Ogeechee Road). GDOT classifies Little Neck Road as an Urban Minor Arterial roadway.

3.1.3 Al Henderson Boulevard

Al Henderson Boulevard is a two-lane, undivided roadway with a posted speed limit of 35 mph in the vicinity of the site.

3.1.4 Cohen Street

Cohen Street is a dirt road between SR 25/US 17 (Ogeechee Road) and Grove Point Road.

4.0 STUDY METHODOLOGY

In this study, the methodology used for evaluating traffic operations at each of the subject intersections is based on the criteria set forth in the Transportation Research Board’s Highway Capacity Manual, 6th edition (HCM 6). Synchro software, which utilizes the HCM methodology, was used for the analysis. The following is a description of the methodology employed for the analysis of unsignalized and signalized intersections.

4.1 Unsignalized Intersections

For unsignalized intersections controlled by a stop sign on minor streets, the level-of-service (LOS) for motor vehicles with controlled movements is determined by the computed control delay according to the thresholds stated in Table 1 below. LOS is determined for each minor street movement (or shared movement), as well as major street left turns. LOS is not defined for the intersection as a whole or for major street approaches. The LOS of any controlled movement which experiences a volume to capacity ratio greater than 1 is designed as “F” regardless of the control delay.

Control delay for unsignalized intersections includes initial deceleration delay, queue move-up time, stopped delay and final acceleration delay. Several factors affect the control delay for unsignalized intersections, such as the availability and distribution of gaps in the conflicting traffic stream, critical gaps and follow-up time for a vehicle in the queue.

Level-of-service is assigned a letter designation from “A” through “F”. Level-of-service “A” indicates excellent operations with little delay to motorists, while level-of-service “F” exists when there are insufficient gaps of acceptable size to allow vehicles on the side street to cross the main road without experiencing long delays.

TABLE 1 — LEVEL-OF-SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS		
Control Delay (sec/vehicle)	LOS by Volume-to-Capacity Ratio*	
	v/c ≤ 1.0	v/c > 1.0
≤ 10	A	F
> 10 and ≤ 15	B	F
> 15 and ≤ 25	C	F
> 25 and ≤ 35	D	F
> 35 and ≤ 50	E	F
> 50	F	F

*The LOS criteria apply to each lane on a given approach and to each approach on the minor street. LOS is not calculated for major-street approaches or for the intersection.

Source: Highway Capacity Manual, 6th edition, Exhibit 20-2 *LOS Criteria: Motorized Vehicle Mode*

4.2 Signalized Intersections

According to HCM procedures, LOS can be calculated for the entire intersection, each intersection approach, and each lane group. HCM uses control delay alone to characterize LOS for the entire intersection or an approach. Control delay per vehicle is composed of initial deceleration delay, queue move-up time, stopped delay and final acceleration delay. Both control delay and volume-to-capacity ratio are used to characterize LOS for a lane group. A volume-to-capacity ratio greater than 1.0 for a lane group indicates failure from capacity perspective. Therefore, such a lane group is assigned LOS F regardless of the amount of control delay.

Table 2 below summarizes the LOS criteria from HCM for motorized vehicles at signalized intersections.

TABLE 2 — LEVEL-OF-SERVICE CRITERIA FOR SIGNALIZED INTERSECTIONS		
Control Delay (sec/vehicle)*	LOS for Lane Group by Volume-to-Capacity Ratio*	
	v/c ≤ 1.0	v/c > 1.0
≤ 10	A	F
> 10 and ≤ 20	B	F
> 20 and ≤ 35	C	F
> 35 and ≤ 55	D	F
> 55 and ≤ 80	E	F
> 80	F	F

*For approach-based and intersection wide assessments, LOS is defined solely by control delay

Source: Highway Capacity Manual, 6th edition, Exhibit 19-8 *LOS Criteria: Motorized Vehicle Mode*

LOS A is typically assigned when the volume-to-capacity (v/c) ratio is low and either progression is exceptionally favorable, or the cycle length is very short. LOS B is typically assigned when the v/c ratio is low and either progression is highly favorable, or the cycle length is short. However, more vehicles are stopped than with LOS A. LOS C is typically assigned when progression is favorable, or the cycle length is moderate. Individual cycle failures (one or more queued vehicles are not able to depart because of insufficient capacity during the cycle) may begin to appear at this level. Many vehicles still pass through the intersection without stopping, but the number of vehicles stopping is significant. LOS D is typically assigned when the v/c ratio is high and either progression is ineffective, or the cycle length is long. There are many vehicle-stops and individual cycle failures are noticeable. LOS E is typically assigned when the v/c ratio is high, progression is very poor, the cycle length is long, and individual cycle failures are frequent. LOS F is typically assigned when the v/c ratio is very high, progression is very poor, the cycle length is long, and most cycles fail to clear the queue.

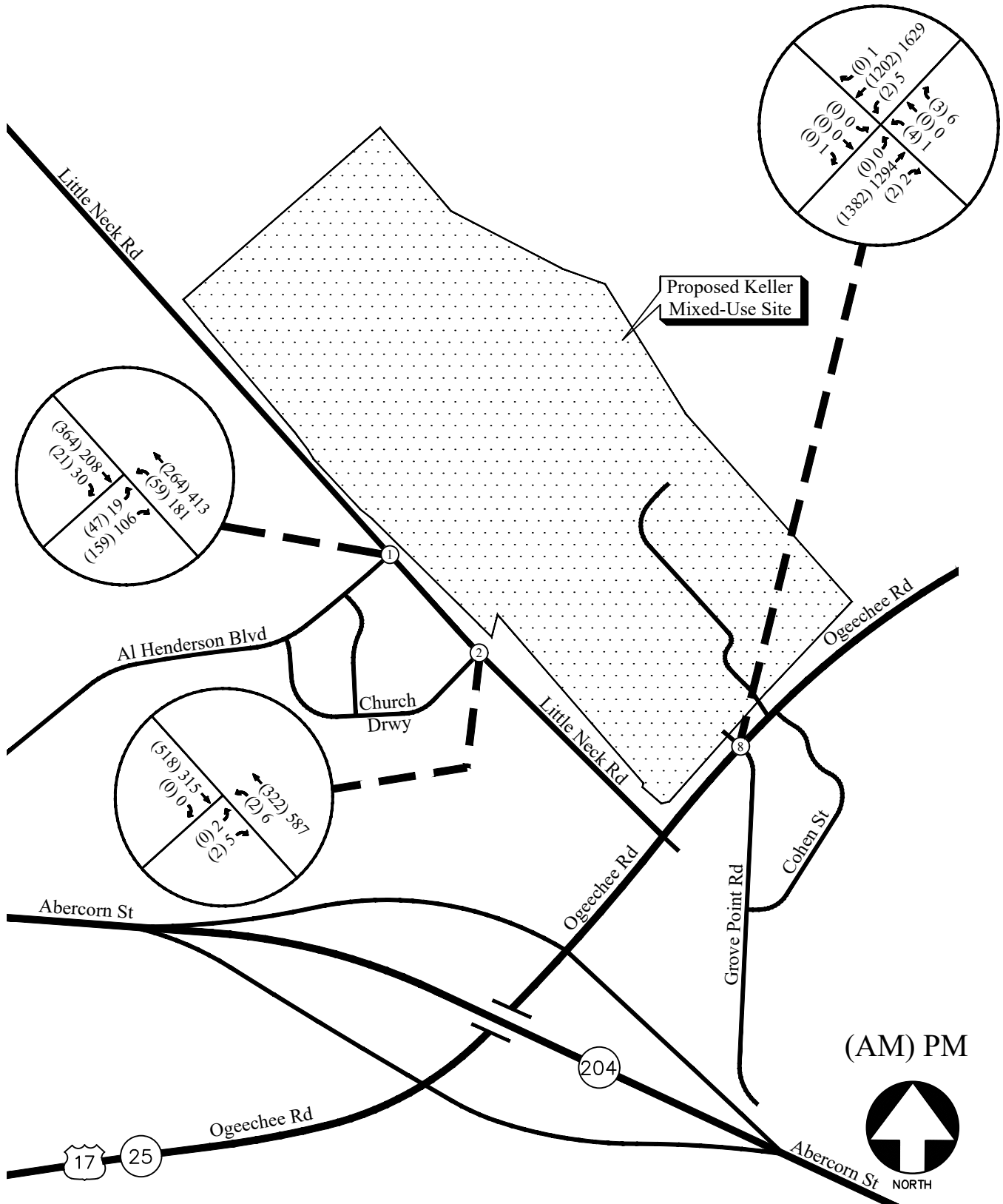
5.0 EXISTING 2023 TRAFFIC ANALYSIS

5.1 Existing Traffic Volumes

Existing traffic counts were obtained at the following study intersections:

- Little Neck Road @ Al Henderson Boulevard
- Little Neck Road @ Compassion Christian Church Driveway

Traffic counts were also obtained at the intersection of SR 25/US 17 (Ogeechee Road) at Grove Point Road to get the through volumes on SR 25/US 17 (Ogeechee Road) at the proposed development's site driveway. Turning movement counts were collected on Tuesday, May 9, 2023. All turning movement counts were recorded during the AM and PM peak hours between 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM, respectively. Truck data was included separately in the counts. The four consecutive 15-minute interval volumes that produced the highest volume at the intersections were then determined. These volumes make up the peak hour traffic volumes for the intersections counted and are shown in Figure 2. The existing traffic control and lane geometry for the intersections are shown in Figure 3.






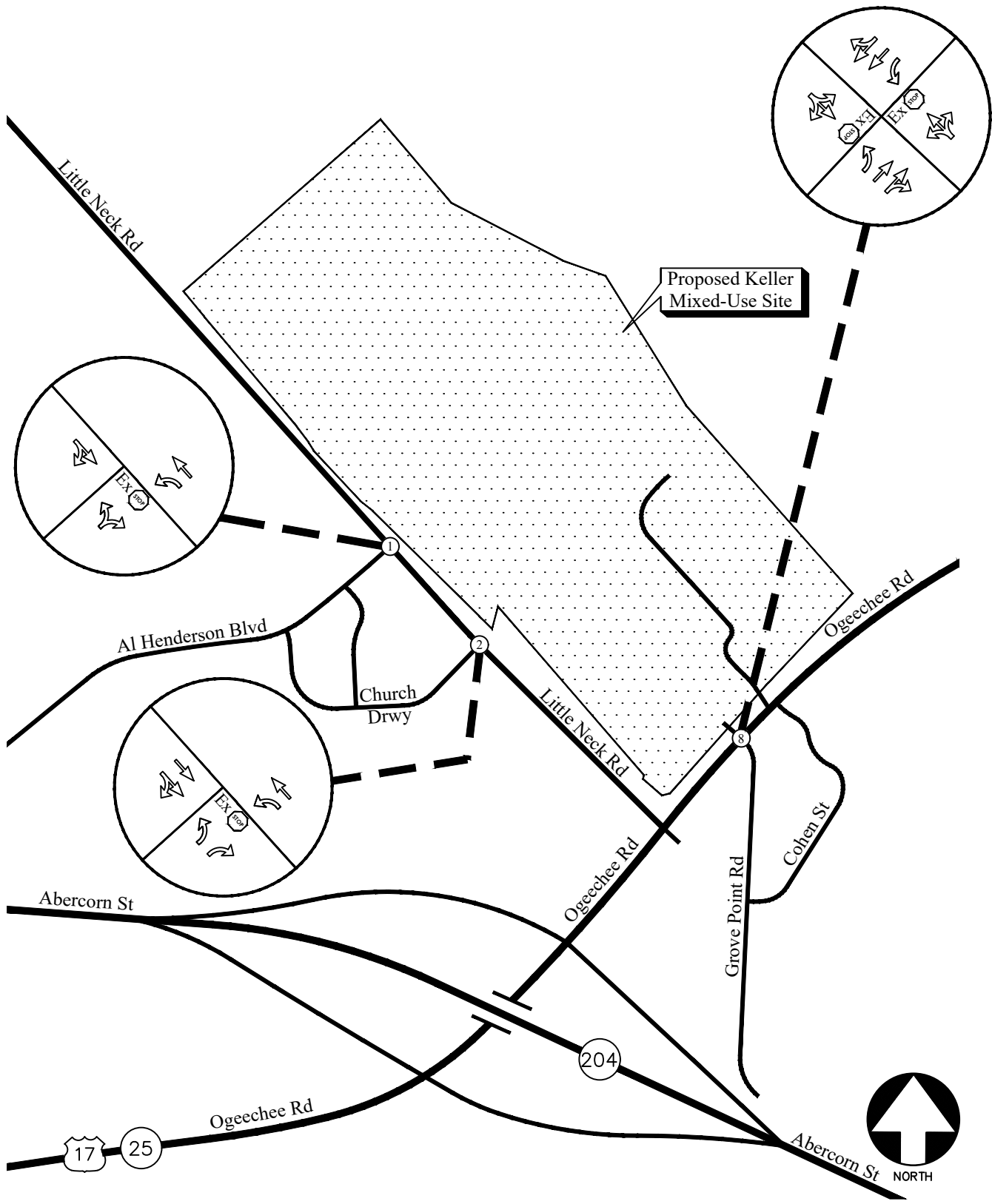
EXISTING WEEKDAY PEAK-HOUR VOLUMES

FIGURE 2

A&R Engineering Inc.

LEGEND

- Ex  Existing Signed Approach
-  Existing Lane Geometry
- Ex  Existing Traffic Signal



EXISTING TRAFFIC CONTROL AND LANE GEOMETRY

FIGURE 3

A&R Engineering Inc.

5.2 Existing Traffic Operations

Existing 2023 traffic operations were analyzed at the study intersections in accordance with the HCM methodology. The results of the analyses are shown in Table 3.

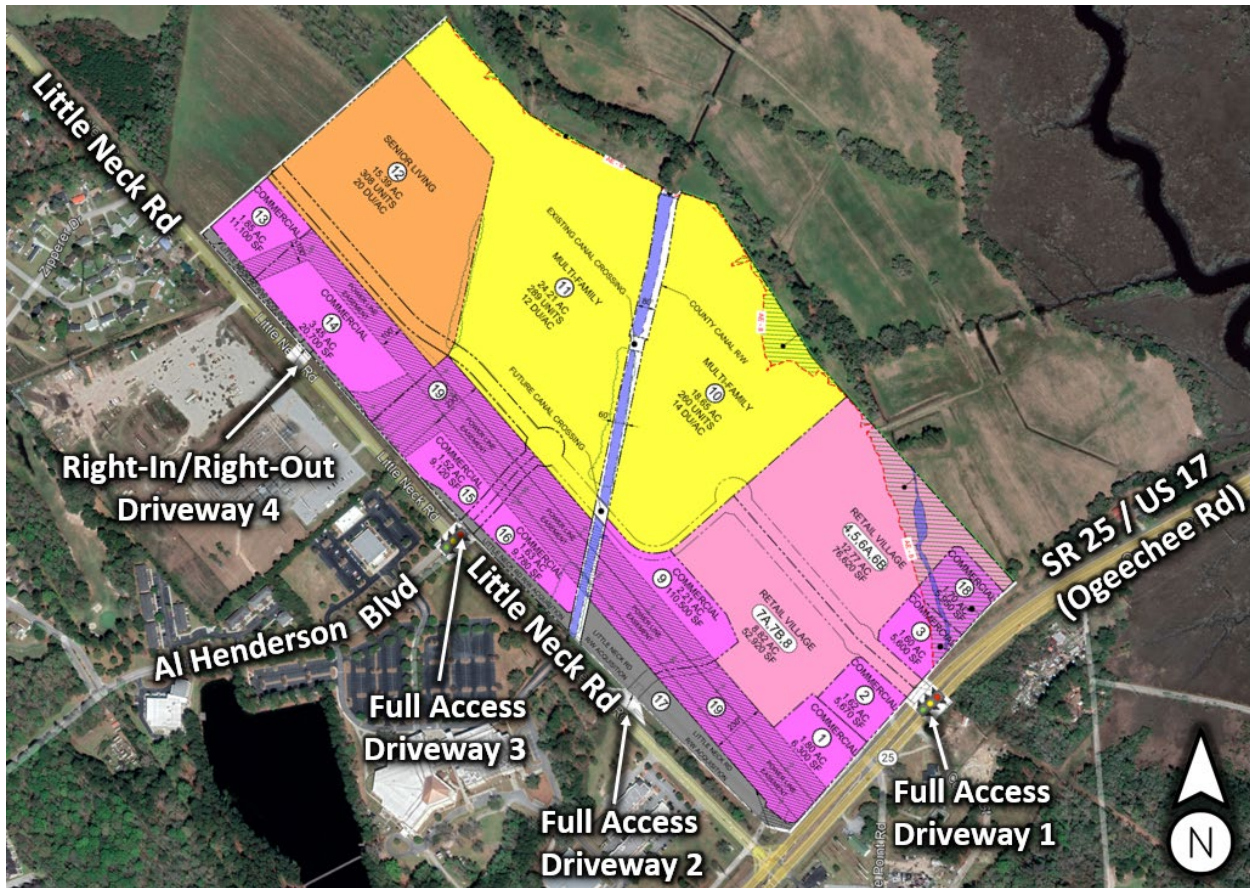
TABLE 3 – EXISTING INTERSECTION OPERATIONS				
Intersection		Traffic Control	LOS (Delay)	
			AM Peak Hour	PM Peak Hour
1	<u>Little Neck Road @ Al Henderson Boulevard</u>	Stop Controlled on EB Approach	C (17.3)	B (14.2)
	-Eastbound Approach -Northbound Left		A (8.4)	A (8.3)
2	<u>Little Neck Road @ Compassion Christian Church Drwy</u>	Stop Controlled on EB Approach	B (10.0)	B (12.3)
	-Eastbound Approach -Northbound Left		A (8.5)	A (8.0)

The results of existing traffic operations analysis indicate that all the stop-controlled approaches at both the un-signalized study intersections are operating at LOS “C” or better in both the AM and PM peak hours.

6.0 PROPOSED DEVELOPMENT

The proposed Keller mixed-use development will be located in the northwest corner of the intersection of SR 25/US 17 (Ogeechee Road) at Little Neck Road in Savannah, Chatham County, Georgia. The proposed development will consist of:

- Self-Storage: 36,000 sf
- Multifamily Housing: 534 units
- Senior Living: 308 units
- General Retail: 145,485 sf
- Beauty or Nail Salon: 6,477 sf
- Fast Casual Restaurant: 34,228 sf
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- Convenience Store/Gas Station: 5,670 sf store and 20 fueling positions.



The development proposes access at the following locations:

- Site Driveway 1: Full access driveway on SR 25/US 17 (Ogeechee Road)
- Site Driveway 2: Full access (southern) driveway on Little Neck Road
- Site Driveway 3: Full access (middle) driveway on Little Neck Road, aligned with Al Henderson Boulevard
- Site Driveway 4: Right-in/right-out (northern) driveway on Little Neck Road

The development proposes to shift the existing median break on SR 25/US 17 (Ogeechee Road) at Grove Point Road north to align with Site Driveway 1.

A site plan is shown in Figure 4.

DEVELOPMENT SUMMARY

Keller

Rezoning Acreage Calculation
274.52 Acres to be Rezoned

282.52 Acres Total
 (3.45 AC) County Canal R/W
 (4.59 AC) Little Neck Road Right-of-Way (R/W) Acquisition

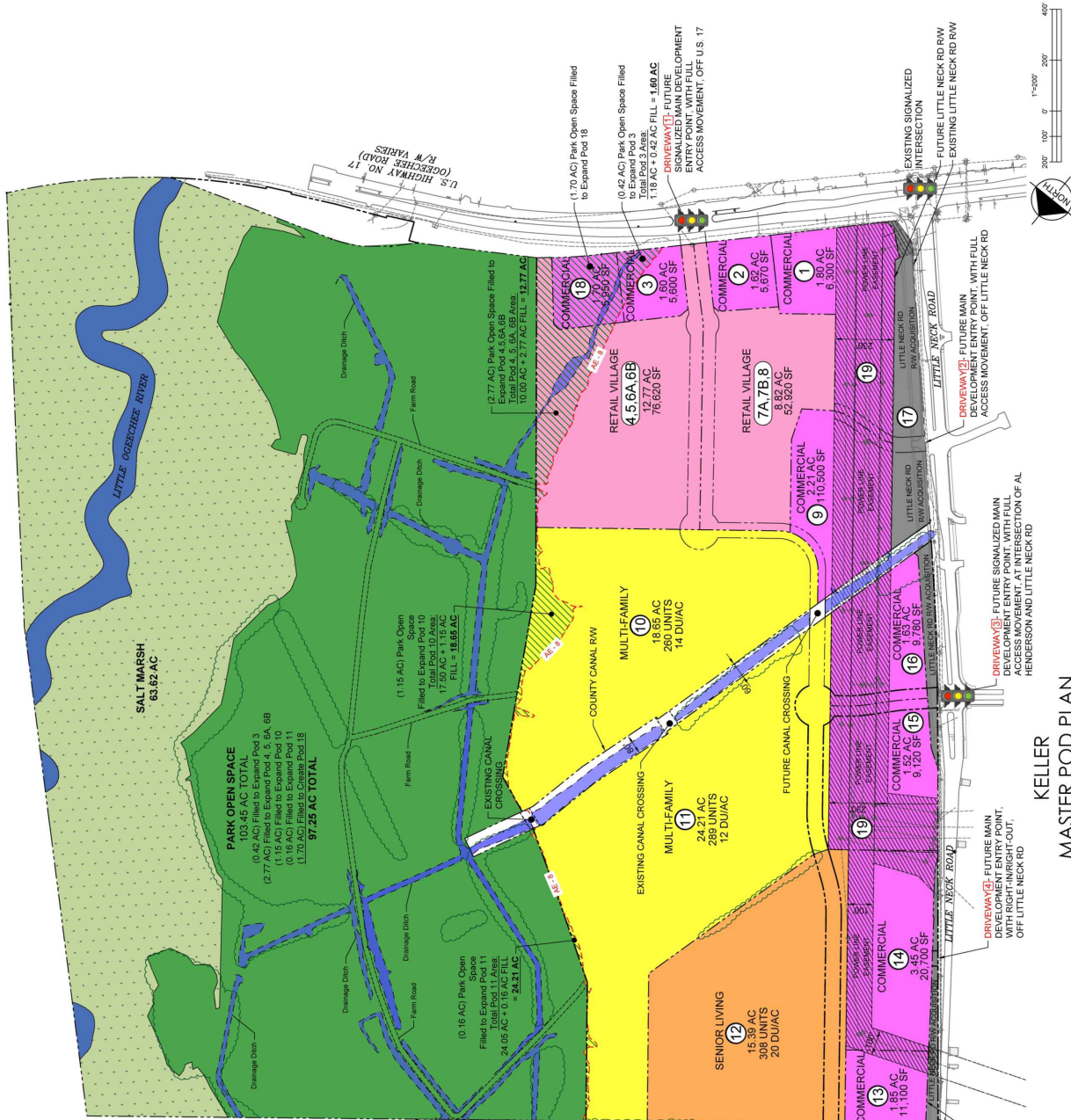
+/-274.52 Acres Total to be Rezoned

- (63.62 AC) Salt Marsh
- + 0.42 AC Park Open Space Filled to Expand Pod 3
- + 2.15 AC Park Open Space Filled to Expand Pod 6
- + 2.15 AC Park Open Space Filled to Expand Pod 11
- + 0.16 AC Park Open Space Filled to Expand Pod 11
- + 1.70 AC Park Open Space Filled to Expand Pod 18

+/-113.65 Acres to be Rezoned Excluding Park Open Space & Salt Marsh

SITE DATA

PARCEL	LAND USE	USEABLE AREA	DENSITY PER ACRE
1	COMMERCIAL	1.80 AC	3,500 SF/AC
2	COMMERCIAL	1.62 AC	3,500 SF/AC
3	COMMERCIAL	1.60 AC	3,500 SF/AC
4.5.6A.6B	RETAIL VILLAGE	12.77 AC	6,000 SF/AC
7A.7B.8	RETAIL VILLAGE	8.82 AC	6,000 SF/AC
9	COMMERCIAL	2.21 AC	50,000 SF/AC
10	MULTI-FAMILY	18.65 AC	14 DU/AC
11	MULTI-FAMILY	24.21 AC	12 DU/AC
12	SENIOR LIVING	15.39 AC	20 DU/AC
13	COMMERCIAL	1.85 AC	6,000 SF/AC
14	COMMERCIAL	3.45 AC	6,000 SF/AC
15	COMMERCIAL	1.52 AC	6,000 SF/AC
16	COMMERCIAL	1.63 AC	6,000 SF/AC
17	LITTLE NECK RD R/W ACQUISITION	(4.55 AC)	N/A
18	COMMERCIAL	1.70 AC	3,500 SF/AC
19	POWER LINE EASEMENT (COMMERCIAL)	16.43 AC	N/A
FINAL TOTAL ACRES TO BE REZONED EXCLUDING PARK OPEN SPACE & SALT MARSH		+/- 113.65 AC	
FINAL TOTAL PARK OPEN SPACE		+/- 97.25 AC	



KELLER
MASTER POD PLAN
REVISED - JULY 31, 2023

6.1 Trip Generation

Trip generation estimates for the project were based on the rates and equations published in the 11th edition of the Institute of Transportation Engineers (ITE) Trip Generation report. This reference contains traffic volume count data collected at similar facilities nationwide. The trip generation was based on the following ITE Land Uses: 151 – Mini-Warehouse, 220 – Multifamily Housing (Low-Rise) - Not Close to Rail Transit, 252 – Senior Adult Housing – Multifamily, 821 – Shopping Plaza (40-150k) - Supermarket – No, 918 – Hair Salon, 930 – Fast Casual Restaurant, 932 – High-Turnover (Sit-Down) Restaurant, 934 – Fast-Food Restaurant with Drive-Through Window and 945 – Convenience Store/Gas Station – GFA (5.5-10k). Due to the nature of the development, pass-by and mixed-use reductions have been applied per ITE standards. The calculated total trip generation for the proposed development is shown in Table 4.

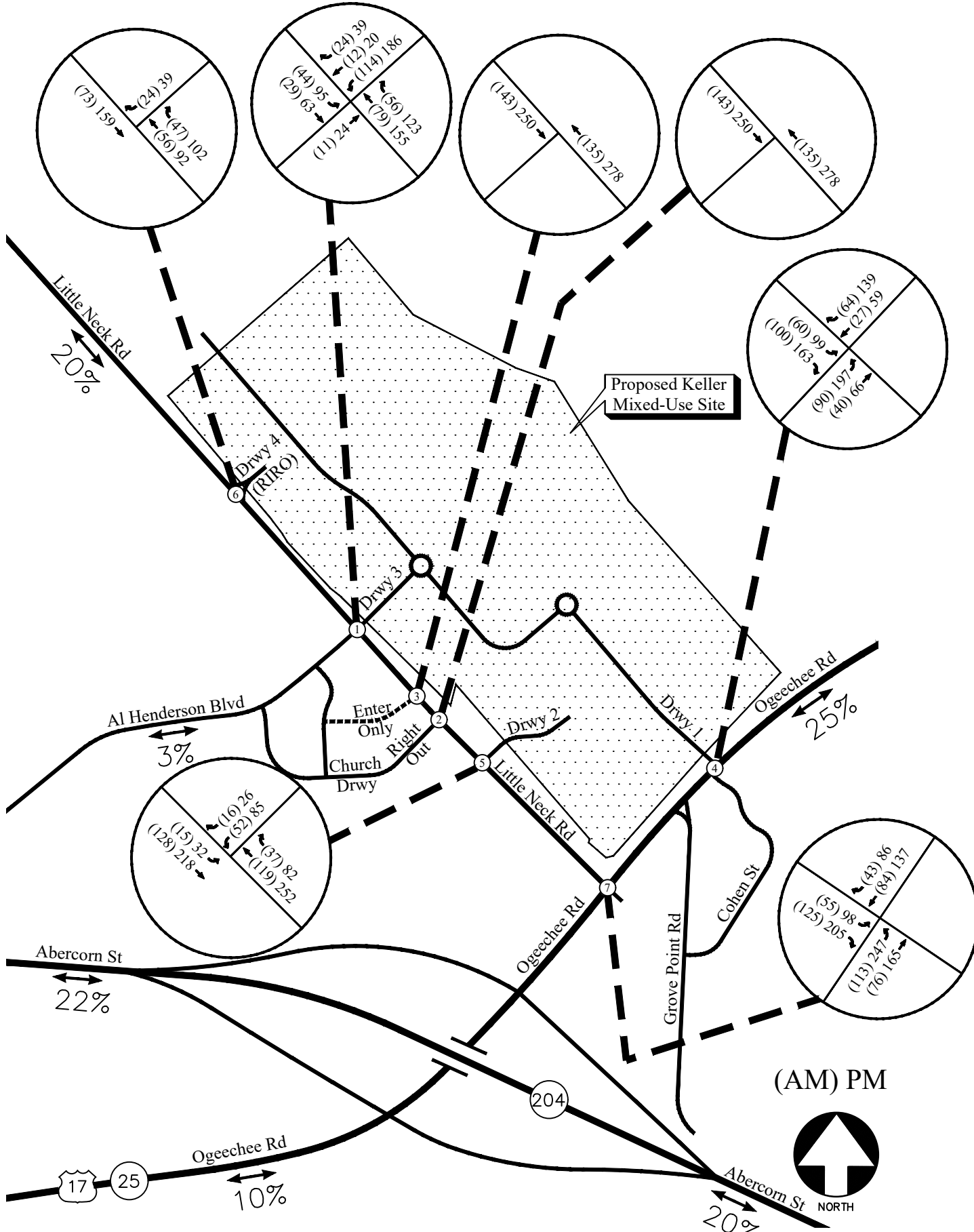
TABLE 4 – TRIP GENERATION FOR PROPOSED DEVELOPMENT								
Land Use	Size	AM Peak Hour			PM Peak Hour			24 Hour
		Enter	Exit	Total	Enter	Exit	Total	Two-way
ITE 151 – Mini-Warehouse	36,000 sf	2	1	3	3	2	5	52
Mixed-Use Reduction		0	0	0	0	0	0	-3
ITE 220 – Multifamily Housing (Low-Rise) - Not Close to Rail Transit	534 units	45	143	188	158	92	250	3,498
Mixed-Use Reduction		-16	-48	-64	-49	-53	-102	-1,241
ITE 252 – Senior Adult Housing - Multifamily	308 units	20	39	59	43	34	77	915
Mixed-Use Reduction		-4	-13	-17	-13	-14	-27	-325
ITE 821 – Shopping Plaza (40-150k) - Supermarket – No	145,485 sf	156	96	252	370	385	755	9,823
Mixed-Use Reduction		-25	-8	-33	-28	-26	-54	-649
Pass-by Trips (0%) 40%		0	0	0	-137	-144	-281*	-2,810
ITE 918 – Hair Salon	6,477 sf	4	4	8	2	7	9	47**
Mixed-Use Reduction		0	0	0	0	0	0	-3
ITE 930 – Fast Casual Restaurant	34,228 sf	24	25	49	329	270	599	3,325
Mixed-Use Reduction		-9	-3	-12	-9	-9	-18	-220
ITE 932 – High-Turnover (Sit-Down) Restaurant	5,600 sf	29	25	54	31	20	51	600
Mixed-Use Reduction		-2	-1	-3	-2	-2	-4	-40
Pass-by Trips (0%) 43%		0	0	0	-12	-8	-20	-200
ITE 934 – Fast-Food Rest - Drive-Thru	6,300 sf	143	138	281	108	100	208	2,945
Mixed-Use Reduction		-8	-2	-10	-8	-8	-16	-195
Pass-by Trips (50%) 55%		-68	-68	-136	-55	-51	-106*	-1,060
ITE 945 – Convenience Store/Gas Station - GFA (5.5-10k)	20 fueling positions	316	316	632	269	269	538	6,915
Mixed-Use Reduction		-17	-6	-23	-20	-17	-37	-456
Pass-by Trips (76%) 75%		-227	-236	-463	-187	-189	-376*	-3,760
Total Trips (without Reductions)		739	787	1,526	1,313	1,179	2,492	28,120
New External Trips (with Reductions)		363	402	765	793	658	1,451	17,158

*Daily pass-by volume reduction estimated to be ten times the PM pass-by volume

** Daily trips for Land Use 918 – Hair Salon estimated by assuming PM trips as 20% of daily trips

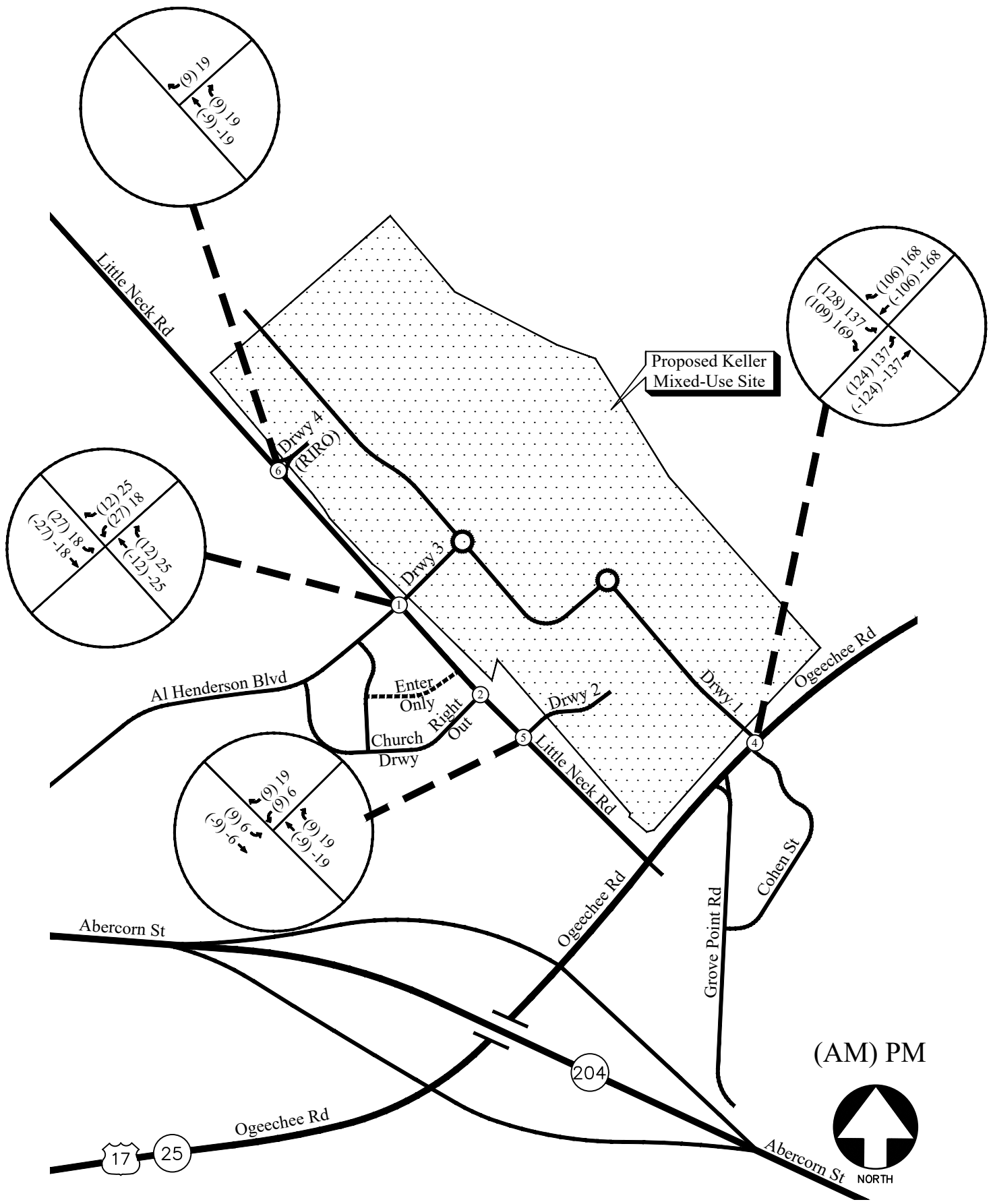
6.2 Trip Distribution

The trip distribution describes how traffic arrives and departs from the site. An overall trip distribution was developed for the site based on a review of the existing travel patterns in the area and the locations of major roadways and highways that will serve the development. The site-generated peak hour traffic volumes, shown in Table 4, were assigned to the study area intersections based on this distribution. The outer-leg distribution and AM and PM peak hour new traffic generated by the site are shown in Figure 5. Pass-by volumes have also been distributed based on existing travel patterns and are shown in Figure 6.



TRIP DISTRIBUTION AND NEW SITE-GENERATED WEEKDAY PEAK HOUR VOLUMES

FIGURE 5
A&R Engineering Inc.



SITE PEAK HOUR PASS-BY VOLUMES

FIGURE 6

A&R Engineering Inc.

7.0 FUTURE 2030 TRAFFIC ANALYSIS

The future 2030 traffic operations are analyzed for the “Build” and “No-Build” conditions.

7.1 Future “No-Build” Conditions

The “No-Build” (or background) conditions provide an assessment of how traffic will operate in the study horizon year without the study site being developed as proposed, with projected increases in through traffic volumes due to normal annual growth. The Future “No-Build” volumes consist of the existing traffic volumes (Figure 2) plus increases for annual growth of traffic.

7.1.1 Annual Traffic Growth

In order to evaluate future traffic operations in this area, a projection of normal traffic growth was applied to the existing volumes. The Georgia Department of Transportation recorded average daily traffic volumes at several locations in the vicinity of the site. Reviewing the growth over the last three years (2017-2019) revealed growth of approximately 3% in the area. This growth factor was applied to the existing traffic volumes to estimate the future year traffic volumes prior to the addition of site-generated traffic.

7.1.2 Planned Improvement Projects – Little Neck Road Widening

Chatham County’s widening project includes widening the section of Little Neck Road between SR 25/US 17 (Ogeechee Road) and Al Henderson Boulevard to 4-lane median divided roadway, and construction of a new 2-lane section between Al Henderson Boulevard and I-95. The project is estimated to be completed by 2026.

We have incorporated the following improvements in the future conditions as per Drawings # 26-001 and 26-002 Signing & Marking Plans prepared by Hussey Gay Bell for Chatham County (copies are attached):

Little Neck Road @ Al Henderson Boulevard

- Addition of a median on Little Neck Road making it a divided roadway.
- Addition of a northbound through lane on Little Neck Road.
- Addition of a southbound through lane on Little Neck Road to the east of the intersection.
- Addition of a southbound right turn lane and a northbound left-turn lane on Little Neck Road.

Little Neck Road @ Compassion Christian Church Driveway

- Addition of a through lane in each direction on Little Neck Road with a median making it a four-lane, divided roadway.
- Converting the existing church driveway into a right-out driveway prohibiting all other turning movements.
- Construction of a new enter-only driveway with a partial median-break to the north/west of the existing church driveway.

Shifted Church Driveway Entering and Left-Out Exiting Trips

Due to the installation of a median on Little Neck Road and the changes to the existing church driveway, there will be a shift in the entering and left-out exiting movements of the church. The calculated shifted church trips are shown in Figure 7.

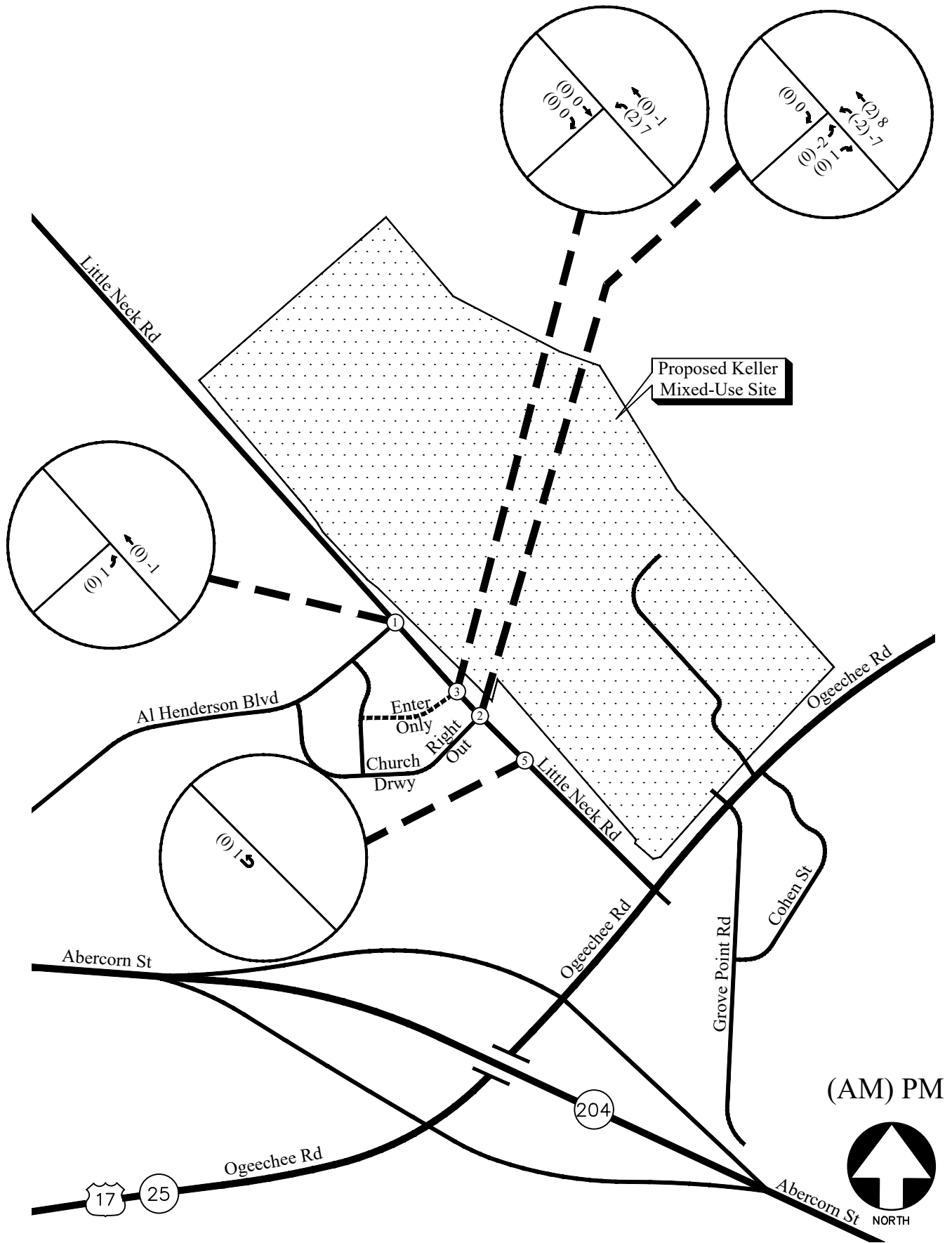
The shifted church driveway trips (Figure 7) were added to the future year traffic volumes prior to the addition of site-generated traffic and the resulting Future “No-Build” volumes on the roadway are shown in Figure 8.

7.2 Future “Build” Conditions

The “Build” or development conditions include the estimated background traffic from the “No-Build” conditions plus the traffic from the proposed development. In order to evaluate future traffic operations in this area, the additional traffic volumes from the site (Figure 5) and pass-by volumes (Figure 6) were added to base traffic volumes (Figure 8) to calculate the future traffic volumes after the construction of the development. These total future “Build” traffic volumes are shown in Figure 10.

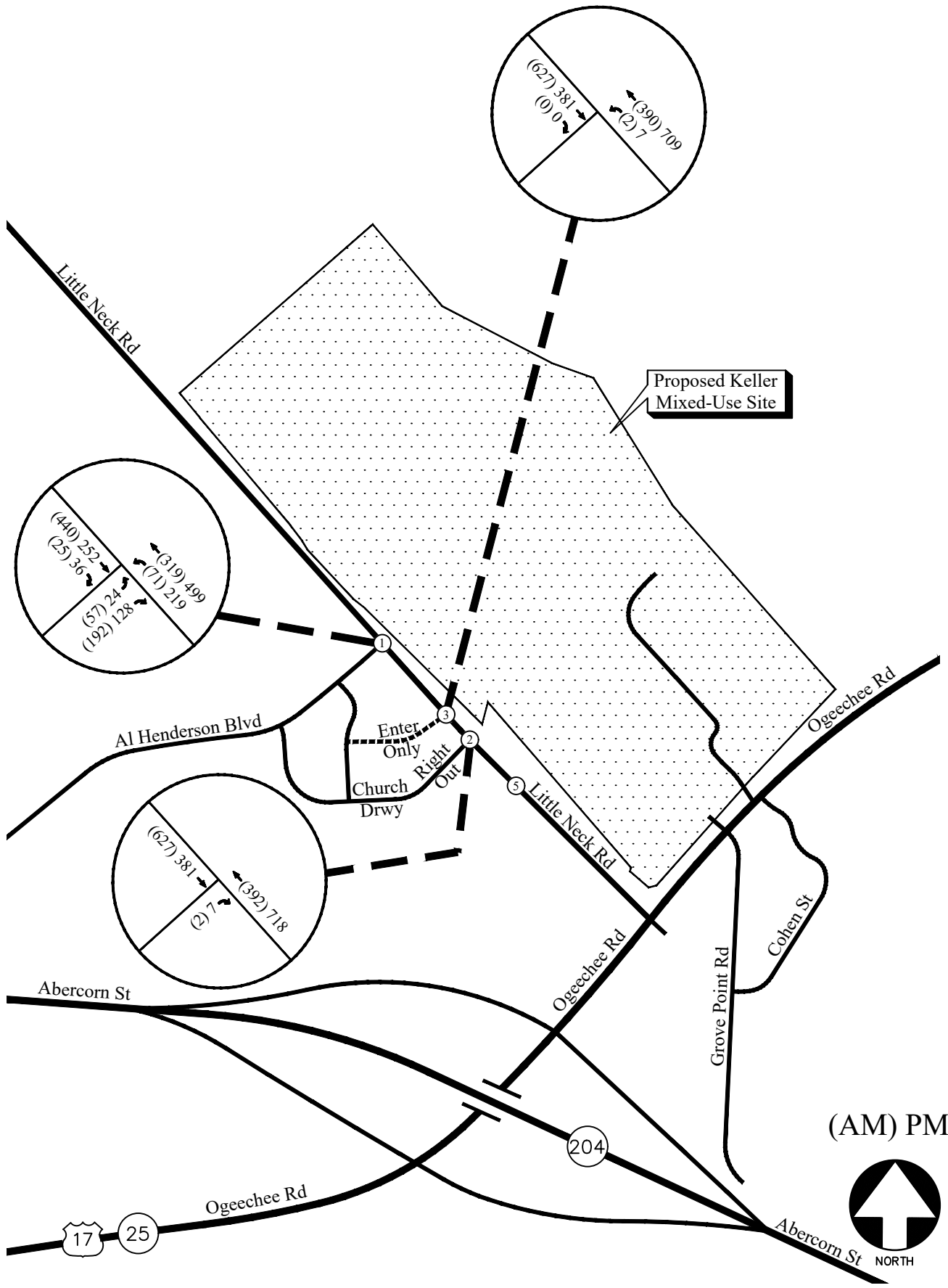
Shifted Grove Point Road Left Turn Volumes

The development proposes to shift the existing median break on SR 25/US 17 (Ogeechee Road) at Grove Point Road north to align with Site Driveway 1 across from Cohen Street and convert Grove Point Road to a right-in/right-out approach. The existing left turn volumes at the Grove Point Road intersection will be shifted to the relocated median break at Site Driveway 1/Cohen Street intersection. This shifted left turn traffic is shown in Figure 9 and is accounted for in the future “Build” traffic volumes in Figure 10.



SHIFTED COMPASSION CHRISTIAN CHURCH DRIVEWAY
 ENTERING AND LEFT-OUT EXITING TRIPS

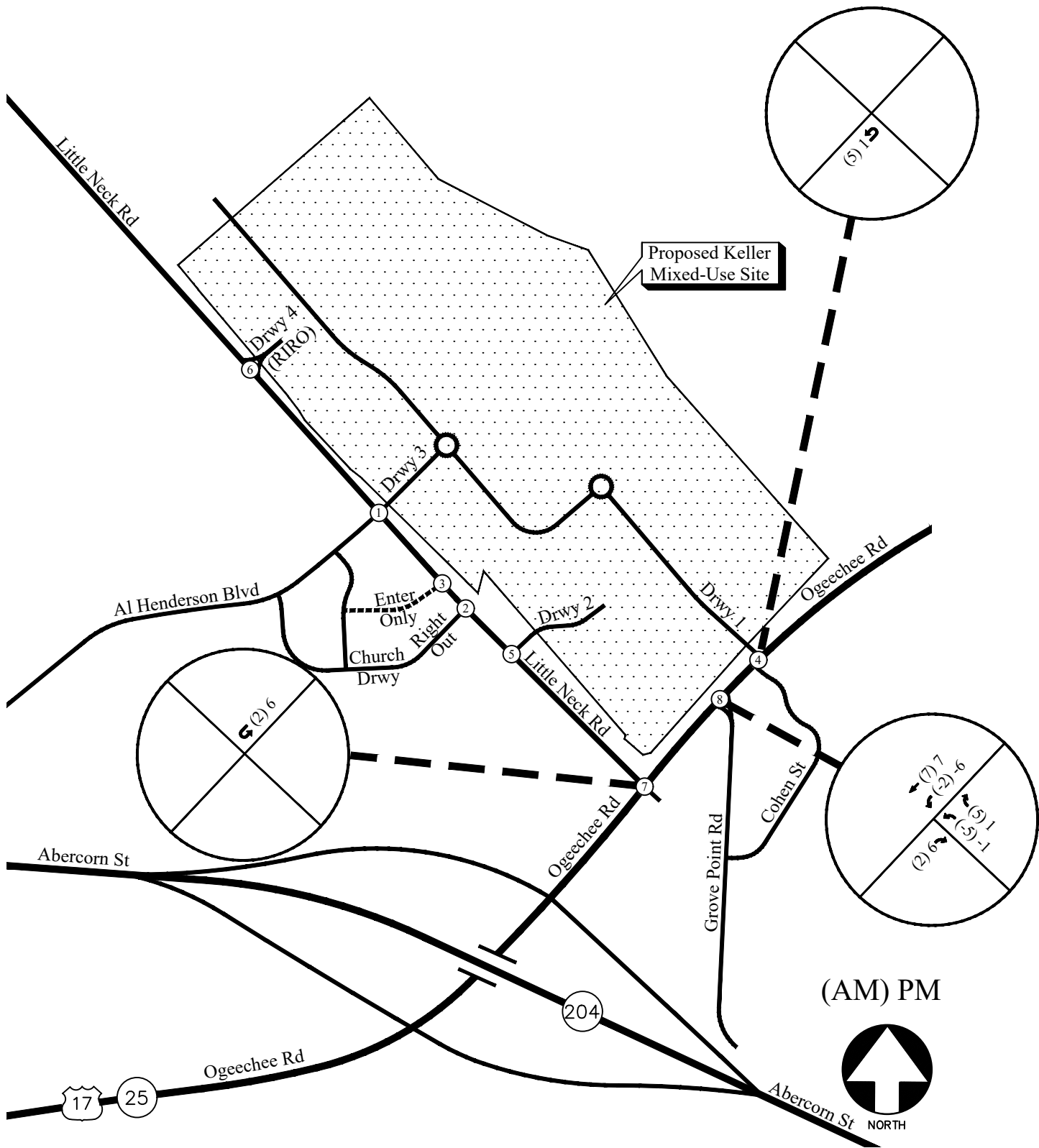
FIGURE 7
 A&R Engineering Inc.



FUTURE (NO-BUILD) WEEKDAY PEAK HOUR VOLUMES

FIGURE 8

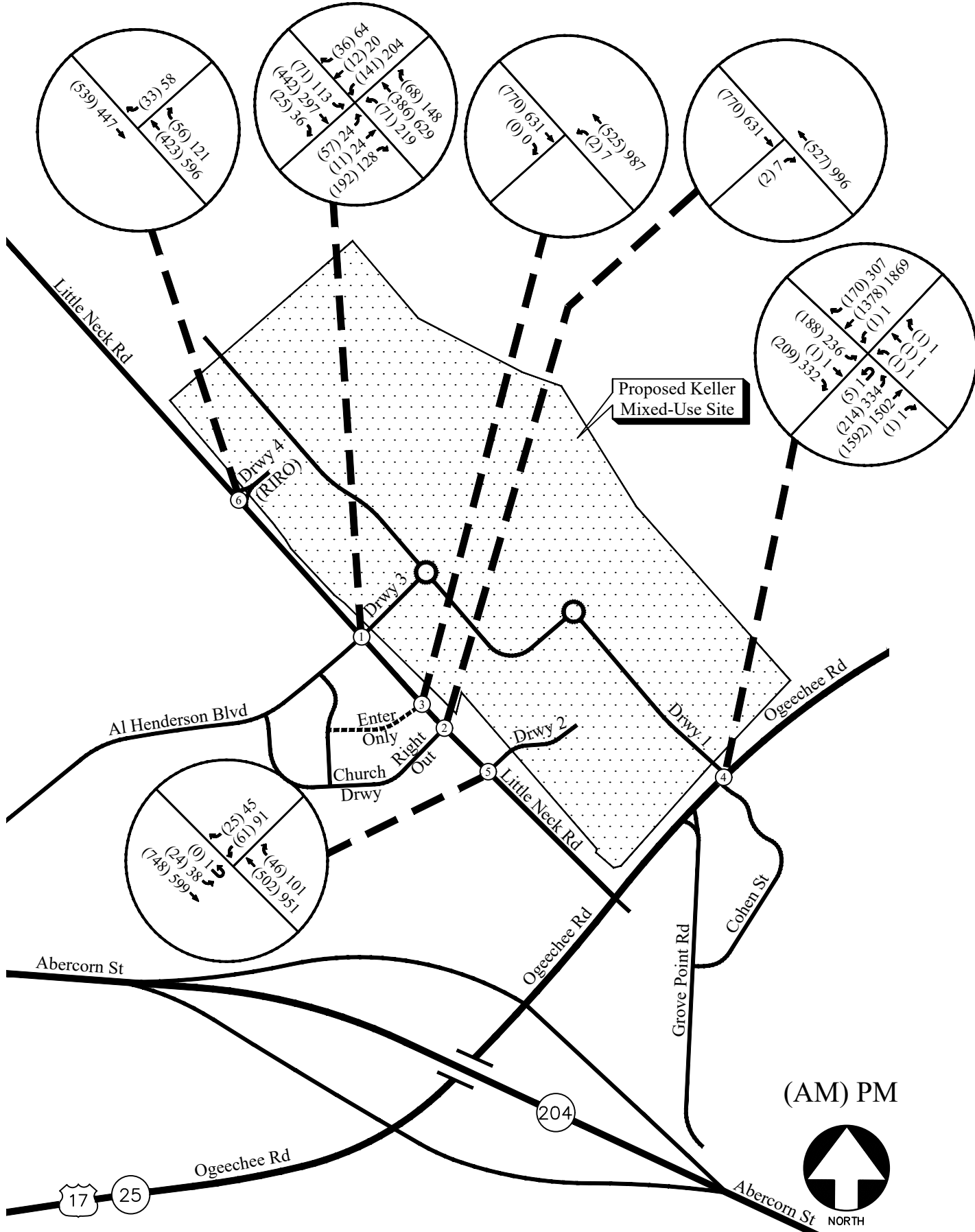
A&R Engineering Inc.



SHIFTED GROVE POINT ROAD LEFT TURN VOLUMES
DUE TO MEDIAN BREAK RELOCATION

FIGURE 9

A&R Engineering Inc.



FUTURE (BUILD) WEEKDAY PEAK HOUR VOLUMES

FIGURE 10

A&R Engineering Inc.

7.3 Auxiliary Lane Analysis

Included below are analyses for left-turn lanes and deceleration lanes for all site driveways per GDOT standards. The analyses below are based off the trip distribution included in Section 5.2. According to the trip distribution, the total 24-hour two-way volume entering and exiting the site is 28,120 vehicles.

Left Turn Lane Analysis

For four lane roadways with AADT's greater than 10,000 vehicles and a posted speed limit of 45 mph, the daily site generated traffic left-turn movements threshold to warrant a left-turn lane is 250 left-turning vehicles a day. For two lane roadways with AADT's more than 6,000 vehicles and a posted speed limit of 45 mph, the daily site generated traffic left-turn movement's threshold to warrant a left-turn lane is 175 left-turning vehicles a day. The projected left-turn volumes per day for each driveway is included in Table 5 below.

TABLE 5 – GDOT REQUIREMENTS FOR LEFT TURN LANES

Intersection	Left turn traffic (% total entering)	Left-turn Volume (vehicles/day)	Roadway Speed/ # lanes / ADT	GDOT Threshold (vehicles/day)	Warrants met?
SR 25/US 17 (Ogeechee Road) @ Site Driveway 1 / Cohen Street	24.8%	3,099 (total trips) ÷ 2 × 0.248 = (24,988) ÷ 2 × 0.248 = 3,099	45 mph / 4-Lane / > 10,000	250	Yes
Little Neck Road @ Site Driveway 2 (Southern)	4%	500 (total trips) ÷ 2 × 0.04 = (24,988) ÷ 2 × 0.04 = 500	45 mph / 4-Lane / > 10,000	250	Yes
Little Neck Road @ Al Henderson Boulevard / Site Driveway 3 (Middle)	12%	1,499 (total trips) ÷ 2 × 0.12 = (24,988) ÷ 2 × 0.12 = 1,499	45 mph / 2-Lane / > 6,000	175	Yes

* Pass-by reductions included, mixed use reductions not included

A left-turn lane is warranted at all the proposed full access site driveways per GDOT standards.

Right-Turn Turn Lane Analysis

For four lane roadways with AADT's greater than 10,000 vehicles and for two lane roadways with AADT's more than 6,000 vehicles and a posted speed limit of 45 mph, the daily site generated traffic right-turn movements threshold to warrant a right-turn lane is 75 right turning vehicles a day. The projected right-turn volumes per day for each driveway is included in Table 6 below.

TABLE 6 – GDOT REQUIREMENTS FOR DECELERATION LANES					
Intersection	Right-turn traffic (% total entering)	Right-turn Volume (vehicles/day)	Roadway Speed/ # lanes / ADT	GDOT Threshold (vehicles/day)	Warrants met?
SR 25/US 17 (Ogeechee Road) @ Site Driveway 1 / Cohen Street	17.5%	2,186 (total trips) ÷ 2 × 0.175 = (24,988) ÷ 2 × 0.175 = 2,186	45 mph / 4-Lane / > 10,000	75	Yes
Little Neck Road @ Site Driveway 2 (Southern)	10.3%	1,287 (total trips) ÷ 2 × 0.103 = (24,988) ÷ 2 × 0.103 = 1,287	45 mph / 4-Lane / > 10,000	75	Yes
Little Neck Road @ Al Henderson Boulevard / Site Driveway 3 (Middle)	15.5%	1,937 (total trips) ÷ 2 × 0.155 = (24,988) ÷ 2 × 0.155 = 1,937	45 mph / 4-Lane / > 10,000	75	Yes
Little Neck Road @ Site Driveway 4 (Northern, RIRO)	12.9%	1,612 (total trips) ÷ 2 × 0.129 = (24,988) ÷ 2 × 0.129 = 1,612	45 mph / 2-Lane / > 6,000	75	Yes

*Pass-by reductions included, mixed use reductions not included

A right-turn lane is warranted at all the proposed site driveways per GDOT standards.

7.4 Future Traffic Operations

The future “No-Build” and “Build” traffic operations were analyzed using the volumes in Figure 8 and Figure 10, respectively. The results of the future traffic operations analysis are shown below in Table 7.

TABLE 7 – FUTURE INTERSECTION OPERATIONS					
Intersection		LOS (Delay)			
		NO-BUILD		BUILD	
		AM Peak	PM Peak	AM Peak	PM Peak
1	<u>Little Neck Road @ Al Henderson Boulevard / Site Driveway 3 (Middle)</u>			<u>C (26.2)</u>	<u>C (24.6)</u>
	-Eastbound Approach	C (22.3)	C (15.8)	D (54.6)	E (58.7)
	-Westbound Approach	-	-	D (37.5)	D (40.1)
	-Northbound Left / Approach	A (8.7)	A (8.6)	B (15.2)	B (16.7)
	-Southbound Approach	-	-	B (19.2)	B (18.7)
2	<u>Little Neck Road @ Compassion Christian Church Existing Driveway (Future Right-Out)</u>				
	-Eastbound Approach	B (10.4)	A (9.6)	B (12.1)	B (11.6)
4	<u>SR 25/US 17 (Ogeechee Rd) @ Site Driveway 1/ Cohen Street</u>			<u>B (14.7)</u>	<u>D (46.8)</u>
	-Eastbound Approach	-	-	D (54.4)	D (53.8)
	-Westbound Approach	-	-	D (42.9)	D (39.3)
	-Northbound Approach	-	-	B (10.7)	D (39.2)
	-Southbound Approach	-	-	B (14.5)	D (53.4)
5	<u>Little Neck Road @ Site Driveway 2 (Southern)</u>				
	-Westbound Approach	-	-	C (21.8)	F (85.8)
	-Southbound Left	-	-	A (8.8)	B (11.6)
6	<u>Little Neck Road @ Site Drwy 4 (Northern, RIRO)</u>				
	-Westbound Approach	-	-	B (11.4)	B (13.8)

*HCM 2000 results reported

Since the site plan shows traffic signals at site driveways 1 and 3, these two driveways have been assumed to have traffic signal as traffic control in the future “Build” conditions. However, detailed signal warrant analysis will have to be completed at these two driveways.

The results of the Future analysis indicate that all the study intersections will operate at level-of-service “D” or better in both the AM and PM peak hours except the stop-controlled driveway approach at the un-signalized intersection of Little Neck Road at Site Driveway 2 (southern) that will operate at LOS “F” in the PM peak hour. It is not unusual for stop-controlled side-streets along arterial roadways to have elevated delays during peak periods as delays are caused by side-street wait times to turn left onto the mainline.

7.4.1 Recommendations for Mitigation Improvements

A summary of the mitigation improvements is provided below.

- Install a traffic signal at Little Neck Road at Al Henderson Boulevard/Site driveway 3 if signal warrants are met and a traffic signal is approved.
- Install a traffic signal on SR 25/US 17 (Ogeechee Road) at Site driveway 1 if signal warrants are met and approved by GDOT.
- Move the existing median break on SR 25/US17 (Ogeechee Road) north to the proposed site driveway location.

Intersection 4: SR 25/US 17 (Ogeechee Road) @ Site Driveway # 1

- Install a traffic signal after completing an Intersection Control Evaluation and if warranted and approved by GDOT.








Intersection 1: Little Neck Road @ Al Henderson Blvd/Site Driveway # 3

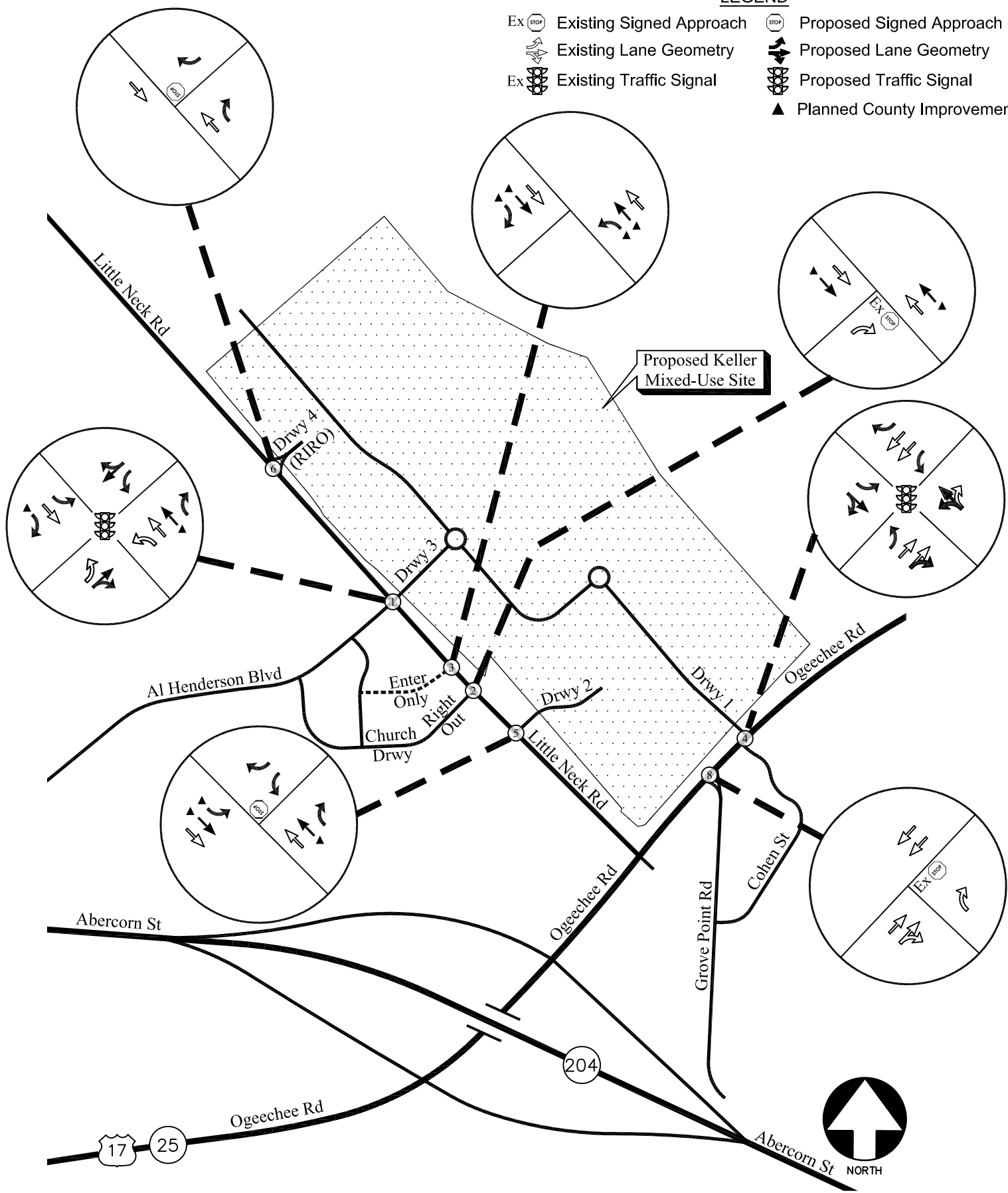
- Install a traffic signal if warranted and approved.

Chatham County has impact fee ordinance in place. Off-site system improvements are covered through these impact fees implemented by the County.

Recommendations on future traffic control and lane geometry are shown in Figure 11.

LEGEND

- | | |
|--|--|
| Ex  Existing Signed Approach |  Proposed Signed Approach |
|  Existing Lane Geometry |  Proposed Lane Geometry |
| Ex  Existing Traffic Signal |  Proposed Traffic Signal |
| |  Planned County Improvement |



FUTURE TRAFFIC CONTROL AND LANE GEOMETRY

FIGURE 11

A&R Engineering Inc.

8.0 CONCLUSIONS AND RECOMMENDATIONS

Traffic impacts were evaluated for the traffic from the proposed Keller mixed-use development that will be located in the northwest corner of the intersection of SR 25/US 17 (Ogeechee Road) at Little Neck Road in Savannah, Georgia. The development will consist of:

- Self-Storage: 36,000 sf
- Multifamily Housing: 534 units
- Senior Living: 308 units
- General Retail: 145,485 sf
- Beauty or Nail Salon: 6,477 sf
- Fast Casual Restaurant: 34,228 sf
- High-Turnover (Sit-Down) Restaurant: 5,600 sf
- Fast-Food Restaurant with Drive-Through Window: 6,300 sf
- Convenience Store/Gas Station: 5,670 sf store and 20 fueling positions.

The development proposes one full access driveway on SR 25/US 17 (Ogeechee Road) as well as two full access driveways and one right-in/right-out driveway on Little Neck Road. The middle (full access) driveway on Little Neck Road will be aligned with Al Henderson Boulevard. The development proposes to shift the existing median break on SR 25/US 17 (Ogeechee Road) at Grove Point Road north to align with its Site Driveway 1.

Existing and future operations after completion of the project for the AM and PM peak hours were analyzed at the intersections of:

1. Little Neck Road @ Al Henderson Boulevard / Site Driveway 3 (Middle)
2. Little Neck Road @ Compassion Christian Church Driveway
3. SR 25/US 17 (Ogeechee Road) @ Site Driveway 1 / Cohen Street
4. Little Neck Road @ Site Driveway 2 (Southern)
5. Little Neck Road @ Site Driveway 4 (Northern, Right-in/right-out)

The analysis included the evaluation of Future operations for “No-Build” and “Build” conditions, both of which account for increases in annual growth of through traffic.

In our analysis, we have assumed traffic signals as a traffic control at site driveway 1 (Ogeechee Road) and site driveway 3 (Little Neck Road) intersections in the future “Build” conditions. However, Intersection Control Evaluation/signal warrant analysis will have to be completed at these two driveways.

The results of the Future analysis indicate that all the study intersections will operate at level-of-service “D” or better in both the AM and PM peak hours except the stop-controlled driveway approach at the un-signalized intersection of Little Neck Road at Site Driveway 2 (southern) that will operate at LOS “F” in the PM peak hour. It is not unusual for stop-controlled side-streets along arterial roadways to have elevated delays during peak periods as delays are caused by side-street wait times to turn left onto the mainline.

8.1.1 Recommendations for Mitigation Improvements

A summary of the mitigation improvements is provided below.

- Install a traffic signal at Little Neck Road at Al Henderson Boulevard/Site driveway 3 if signal warrants are met and a traffic signal is approved.
- Install a traffic signal on SR 25/US 17 (Ogeechee Road) at Site driveway 1 if signal warrants are met and approved by GDOT.
- Move the existing median break on SR 25/US17 (Ogeechee Road) north to the proposed site driveway location.

Intersection 4: SR 25/US 17 (Ogeechee Road) @ Site Driveway # 1

- Install a traffic signal after completing an Intersection Control Evaluation and if warranted and approved by GDOT.

Intersection 1: Little Neck Road @ Al Henderson Blvd/Site Driveway # 3

- Install a traffic signal if warranted and approved.

Chatham County has impact fee ordinance in place. Off-site system improvements are covered through these impact fees implemented by the County.

8.2 Recommendations for Site Access Configuration

The following access configuration is recommended for the proposed site driveway intersections.

- Site Driveway 1: Full access driveway on SR 25/US 17 (Ogeechee Rd)
 - Two entering and two (one left turn and one shared through/right turn) exiting lanes.
 - Left Turn Lane and Right Turn Lane on SR 25/US 17 (Ogeechee Road) for entering traffic.
 - Traffic signal with “protected-permissive Leading” phasing for northbound left turn vehicles on SR 25/US 17(Ogeechee Road).
 - Provide adequate sight distance per AASHTO standards.
- Site Driveway 2: Full access (southern) driveway on Little Neck Road
 - One entering and two (separate left and right turn) exiting lanes.
 - Stop-sign controlled driveway approach with Little Neck Road remaining free flow.
 - Left Turn Lane and Right Turn Lane on Little Neck Road for entering traffic.
 - Provide adequate sight distance per AASHTO standards.
- Site Driveway 3: Full access (middle) driveway on Little Neck Road, aligned with Al Henderson Boulevard
 - One entering and two (one left turn and one shared through/right turn) exiting lanes.
 - Traffic signal with “protected-permissive Leading” phasing for northbound left turn, “protected-permissive Lagging” for southbound left turn and “protective-permissive Leading” for westbound left turn vehicles.
 - Left Turn Lane and Right Turn Lane on Little Neck Road for entering traffic.

- Eastbound Al Henderson Blvd to have a left turn lane and a shared through/right turn lane.
- Provide adequate sight distance per AASHTO standards.
- Site Driveway 4: Right-in/right-out (northern) driveway on Little Neck Road
 - One entering and one exiting lane.
 - Stop-sign controlled driveway approach with Little Neck Road remaining free flow.
 - Right Turn Lane on Little Neck Road for entering traffic.
 - Provide adequate sight distance per AASHTO standards.

Appendix

Existing Intersection Traffic Counts	
Linear Regression of Daily Traffic.....	
Existing Intersection Analysis.....	
Future “No-Build” Intersection Analysis	
Future “Build” Intersection Analysis	
Left Turn Phase Analysis	
Traffic Volume Worksheets	

EXISTING INTERSECTION TRAFFIC COUNTS

SHORT COUNTS, LLC

735 Maryland St
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File Name : Little Neck Rd @ Al Henderson Blvd

Site Code :

Start Date : 05/09/2023

Page No : 1

Groups Printed- Passenger Vehicles - Heavy Vehicles - Buses

Start Time	Little Neck Rd Southbound				Westbound				Little Neck Rd Northbound				Al Henderson Blvd Eastbound				Int. Total
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
07:00	0	83	5	0	0	0	0	0	8	48	0	0	4	0	24	0	172
07:15	0	98	7	0	0	0	0	0	4	47	0	0	5	0	26	0	187
07:30	0	124	6	0	0	0	0	0	14	49	0	0	14	0	44	0	251
07:45	0	91	7	0	0	0	0	0	15	50	0	0	13	0	33	0	209
Total	0	396	25	0	0	0	0	0	41	194	0	0	36	0	127	0	819
08:00	0	78	2	0	0	0	0	0	14	77	0	0	18	0	42	0	231
08:15	0	71	6	0	0	0	0	0	16	88	0	0	2	0	40	0	223
08:30	0	94	5	0	0	0	0	0	13	54	0	0	4	0	21	0	191
08:45	0	70	0	0	0	0	0	0	28	54	0	0	5	0	36	0	193
Total	0	313	13	0	0	0	0	0	71	273	0	0	29	0	139	0	838
16:00	0	43	4	0	0	0	0	0	38	87	0	0	3	0	21	0	196
16:15	0	40	6	0	0	0	0	0	25	98	0	0	8	0	21	0	198
16:30	0	49	5	0	0	0	0	0	40	97	0	0	5	0	21	0	217
16:45	0	57	5	0	0	0	0	0	48	90	0	0	6	0	32	0	238
Total	0	189	20	0	0	0	0	0	151	372	0	0	22	0	95	0	849
17:00	0	52	13	0	0	0	0	0	47	113	0	0	7	0	36	0	268
17:15	0	50	7	0	0	0	0	0	46	113	0	0	1	0	17	0	234
17:30	0	46	10	0	0	0	0	0	41	75	0	0	4	0	22	0	198
17:45	0	50	5	0	0	0	0	0	37	74	0	0	2	0	13	0	181
Total	0	198	35	0	0	0	0	0	171	375	0	0	14	0	88	0	881
Grand Total	0	1096	93	0	0	0	0	0	434	1214	0	0	101	0	449	0	3387
Apprch %	0	92.2	7.8	0	0	0	0	0	26.3	73.7	0	0	18.4	0	81.6	0	
Total %	0	32.4	2.7	0	0	0	0	0	12.8	35.8	0	0	3	0	13.3	0	
Passenger Vehicles	0	973	85	0	0	0	0	0	424	1109	0	0	99	0	430	0	3120
% Passenger Vehicles	0	88.8	91.4	0	0	0	0	0	97.7	91.4	0	0	98	0	95.8	0	92.1
Heavy Vehicles	0	113	4	0	0	0	0	0	7	98	0	0	2	0	14	0	238
% Heavy Vehicles	0	10.3	4.3	0	0	0	0	0	1.6	8.1	0	0	2	0	3.1	0	7
Buses	0	10	4	0	0	0	0	0	3	7	0	0	0	0	5	0	29
% Buses	0	0.9	4.3	0	0	0	0	0	0.7	0.6	0	0	0	0	1.1	0	0.9

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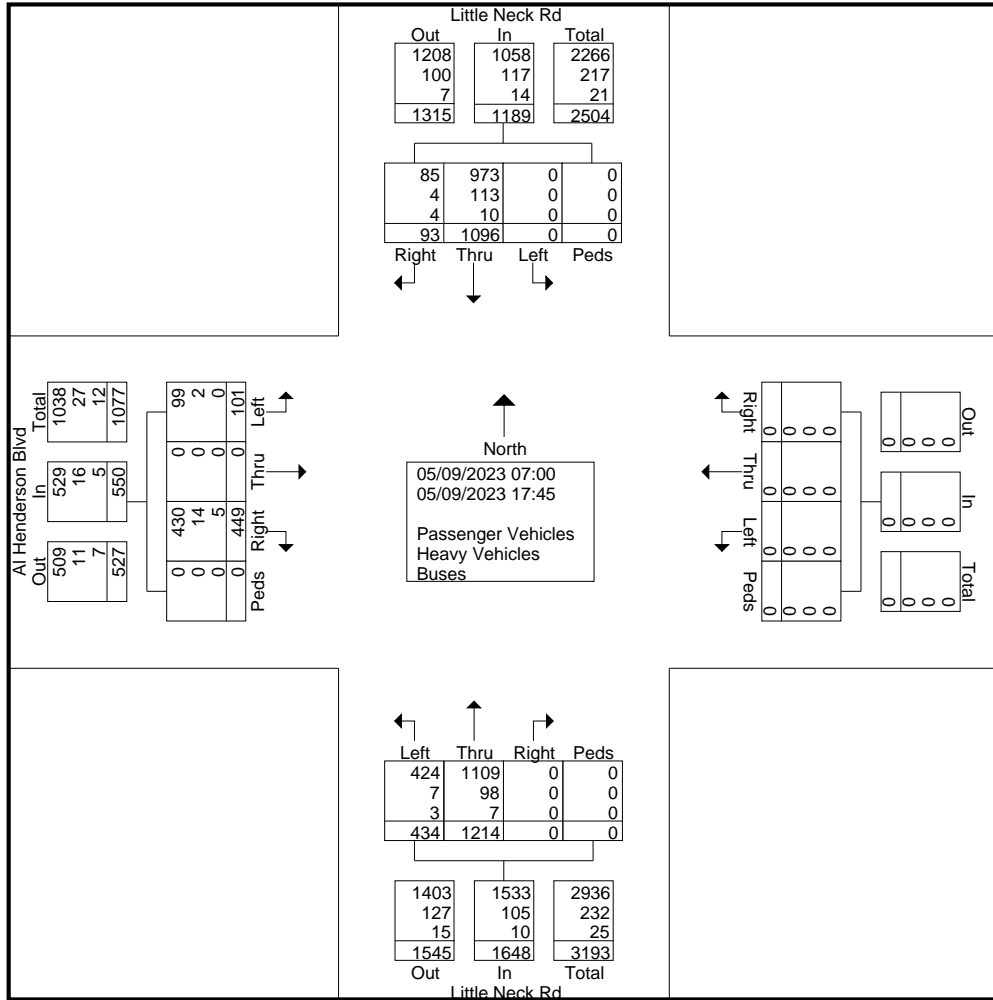
We can't say we're the Best, but you Can!

File Name : Little Neck Rd @ Al Henderson Blvd

Site Code :

Start Date : 05/09/2023

Page No : 2



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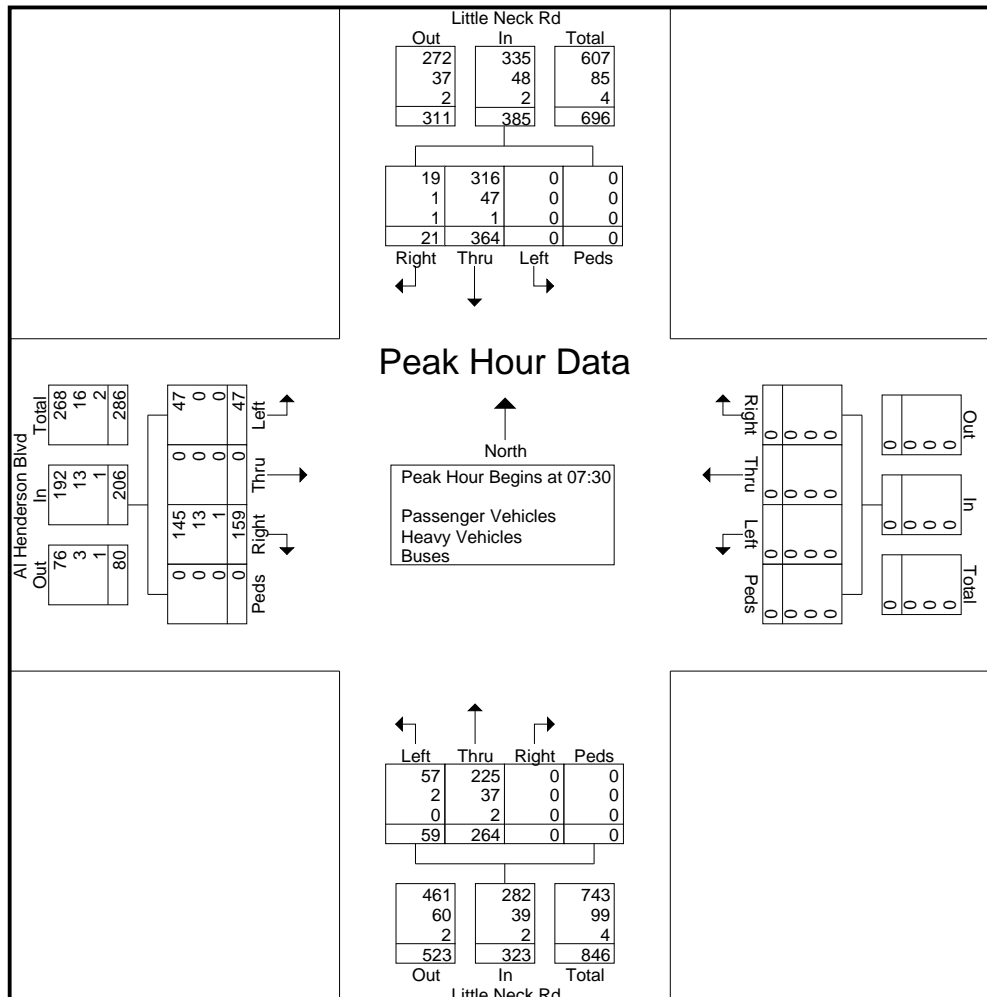
File Name : Little Neck Rd @ Al Henderson Blvd

Site Code :

Start Date : 05/09/2023

Page No : 3

Start Time	Little Neck Rd Southbound					Westbound					Little Neck Rd Northbound					Al Henderson Blvd Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30																					
07:30	0	124	6	0	130	0	0	0	0	0	14	49	0	0	63	14	0	44	0	58	251
07:45	0	91	7	0	98	0	0	0	0	0	15	50	0	0	65	13	0	33	0	46	209
08:00	0	78	2	0	80	0	0	0	0	0	14	77	0	0	91	18	0	42	0	60	231
08:15	0	71	6	0	77	0	0	0	0	0	16	88	0	0	104	2	0	40	0	42	223
Total Volume	0	364	21	0	385	0	0	0	0	0	59	264	0	0	323	47	0	159	0	206	914
% App. Total	0	94.5	5.5	0		0	0	0	0	0	18.3	81.7	0	0		22.8	0	77.2	0		
PHF	.000	.734	.750	.000	.740	.000	.000	.000	.000	.000	.922	.750	.000	.000	.776	.653	.000	.903	.000	.858	.910
Passenger Vehicles	0	316	19	0	335	0	0	0	0	0	57	225	0	0	282	47	0	145	0	192	809
% Passenger Vehicles																					
Heavy Vehicles	0	47	1	0	48	0	0	0	0	0	2	37	0	0	39	0	0	13	0	13	100
% Heavy Vehicles	0	12.9	4.8	0	12.5	0	0	0	0	0	3.4	14.0	0	0	12.1	0	0	8.2	0	6.3	10.9
Buses	0	1	1	0	2	0	0	0	0	0	0	2	0	0	2	0	0	1	0	1	5
% Buses	0	0.3	4.8	0	0.5	0	0	0	0	0	0	0.8	0	0	0.6	0	0	0.6	0	0.5	0.5



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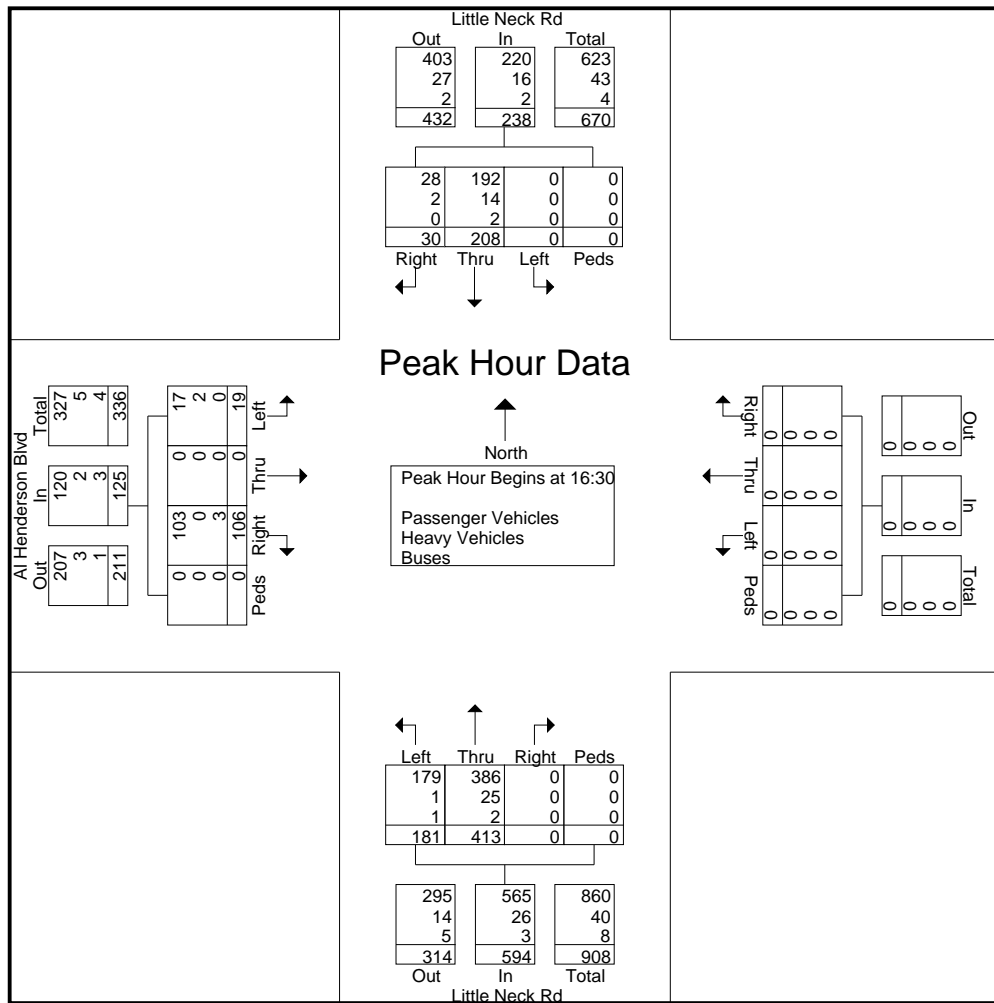
File Name : Little Neck Rd @ Al Henderson Blvd

Site Code :

Start Date : 05/09/2023

Page No : 4

Start Time	Little Neck Rd Southbound					Westbound					Little Neck Rd Northbound					Al Henderson Blvd Eastbound					Int. Total
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Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:30																					
16:30	0	49	5	0	54	0	0	0	0	0	40	97	0	0	137	5	0	21	0	26	217
16:45	0	57	5	0	62	0	0	0	0	0	48	90	0	0	138	6	0	32	0	38	238
17:00	0	52	13	0	65	0	0	0	0	0	47	113	0	0	160	7	0	36	0	43	268
17:15	0	50	7	0	57	0	0	0	0	0	46	113	0	0	159	1	0	17	0	18	234
Total Volume	0	208	30	0	238	0	0	0	0	0	181	413	0	0	594	19	0	106	0	125	957
% App. Total	0	87.4	12.6	0		0	0	0	0	0	30.5	69.5	0	0		15.2	0	84.8	0		
PHF	.000	.912	.577	.000	.915	.000	.000	.000	.000	.000	.943	.914	.000	.000	.928	.679	.000	.736	.000	.727	.893
Passenger Vehicles	0	192	28	0	220	0	0	0	0	0	179	386	0	0	565	17	0	103	0	120	905
% Passenger Vehicles																					
Heavy Vehicles	0	14	2	0	16	0	0	0	0	0	1	25	0	0	26	2	0	0	0	2	44
% Heavy Vehicles	0	6.7	6.7	0	6.7	0	0	0	0	0	0.6	6.1	0	0	4.4	10.5	0	0	0	1.6	4.6
Buses	0	2	0	0	2	0	0	0	0	0	1	2	0	0	3	0	0	3	0	3	8
% Buses	0	1.0	0	0	0.8	0	0	0	0	0	0.6	0.5	0	0	0.5	0	0	2.8	0	2.4	0.8



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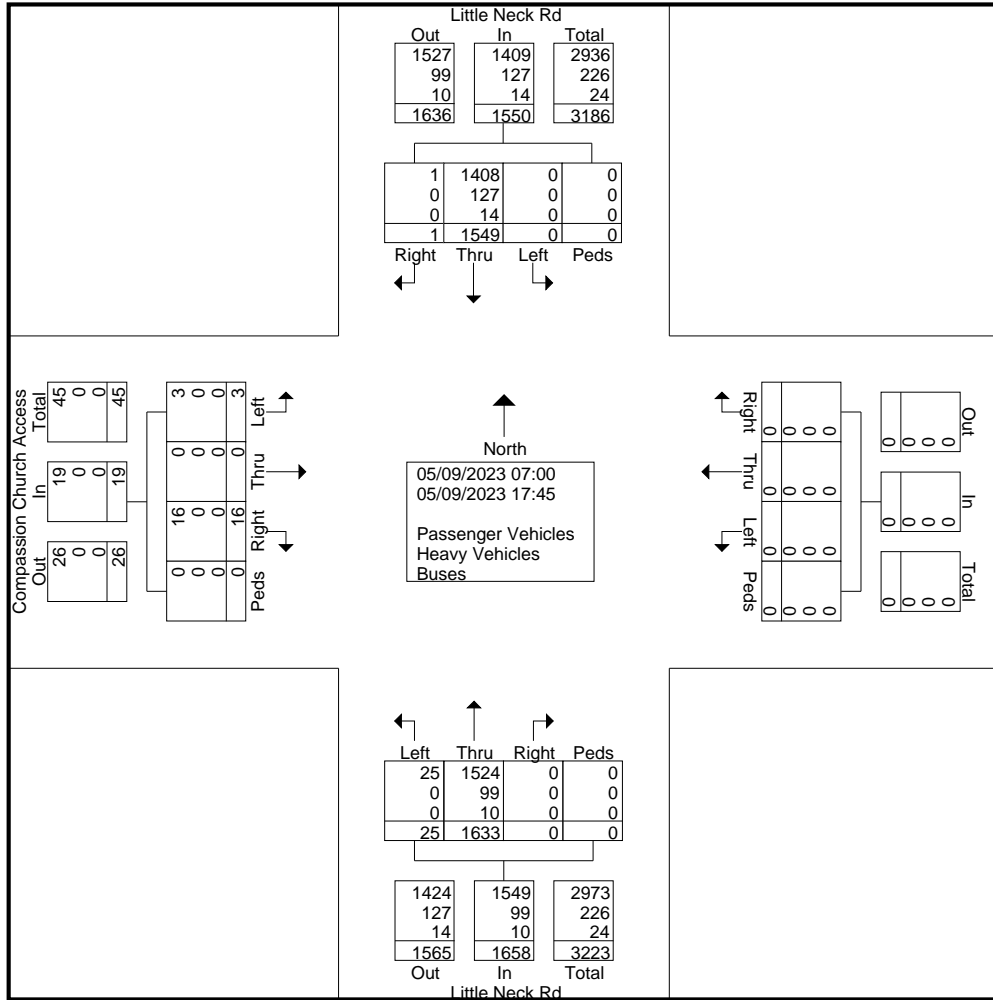
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File Name : Little Neck Rd @ Compassion Church Access

Site Code :

Start Date : 05/09/2023

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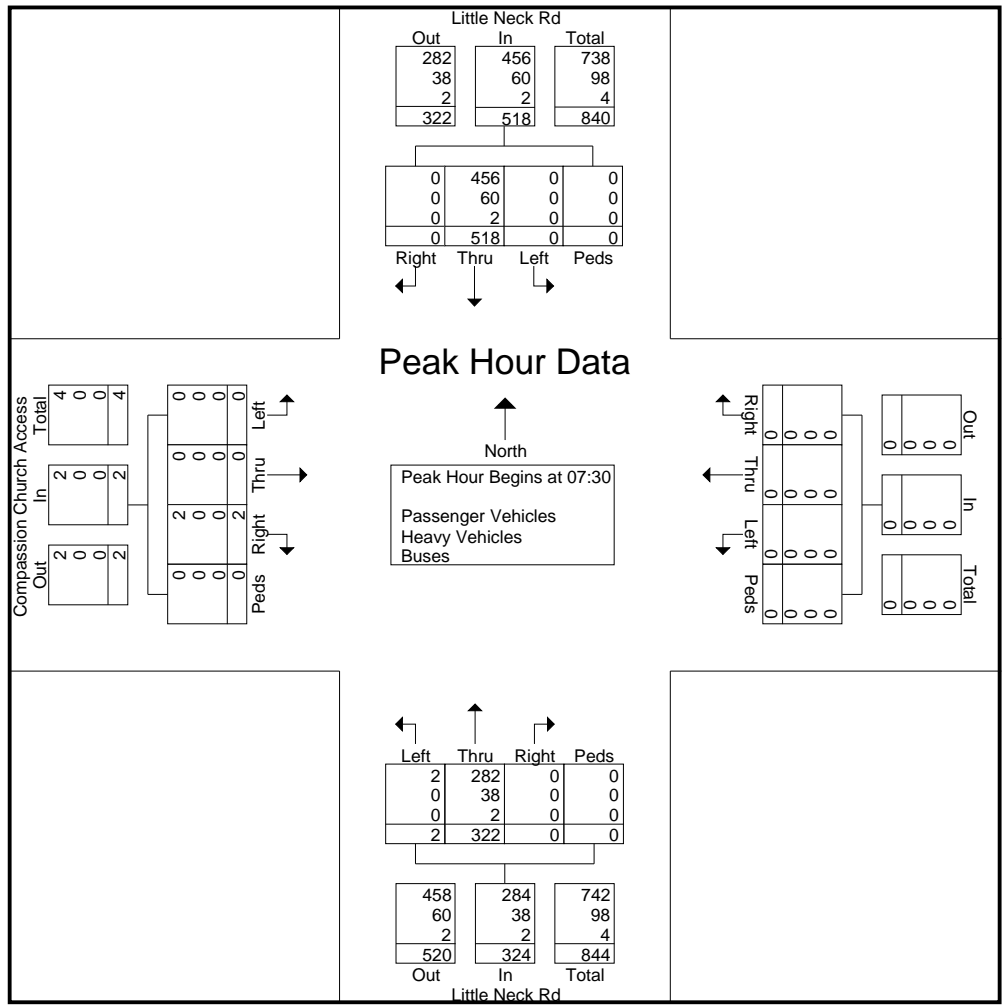
File Name : Little Neck Rd @ Compassion Church Access

Site Code :

Start Date : 05/09/2023

Page No : 3

	Little Neck Rd Southbound					Westbound					Little Neck Rd Northbound					Compassion Church Access Eastbound					Int. Total
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30																					
07:30	0	163	0	0	163	0	0	0	0	0	0	63	0	0	63	0	0	0	0	0	226
07:45	0	124	0	0	124	0	0	0	0	0	1	71	0	0	72	0	0	0	0	0	196
08:00	0	119	0	0	119	0	0	0	0	0	1	89	0	0	90	0	0	1	0	1	210
08:15	0	112	0	0	112	0	0	0	0	0	0	99	0	0	99	0	0	1	0	1	212
Total Volume	0	518	0	0	518	0	0	0	0	0	2	322	0	0	324	0	0	2	0	2	844
% App. Total	0	100	0	0	100	0	0	0	0	0	0.6	99.4	0	0	100	0	0	100	0	0	100
PHF	.000	.794	.000	.000	.794	.000	.000	.000	.000	.000	.500	.813	.000	.000	.818	.000	.000	.500	.000	.500	.934
Passenger Vehicles	0	456	0	0	456	0	0	0	0	0	2	282	0	0	284	0	0	2	0	2	742
% Passenger Vehicles																					
Heavy Vehicles	0	60	0	0	60	0	0	0	0	0	0	38	0	0	38	0	0	0	0	0	98
% Heavy Vehicles	0	11.6	0	0	11.6	0	0	0	0	0	0	11.8	0	0	11.7	0	0	0	0	0	11.6
Buses	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	4
% Buses	0	0.4	0	0	0.4	0	0	0	0	0	0	0.6	0	0	0.6	0	0	0	0	0	0.5



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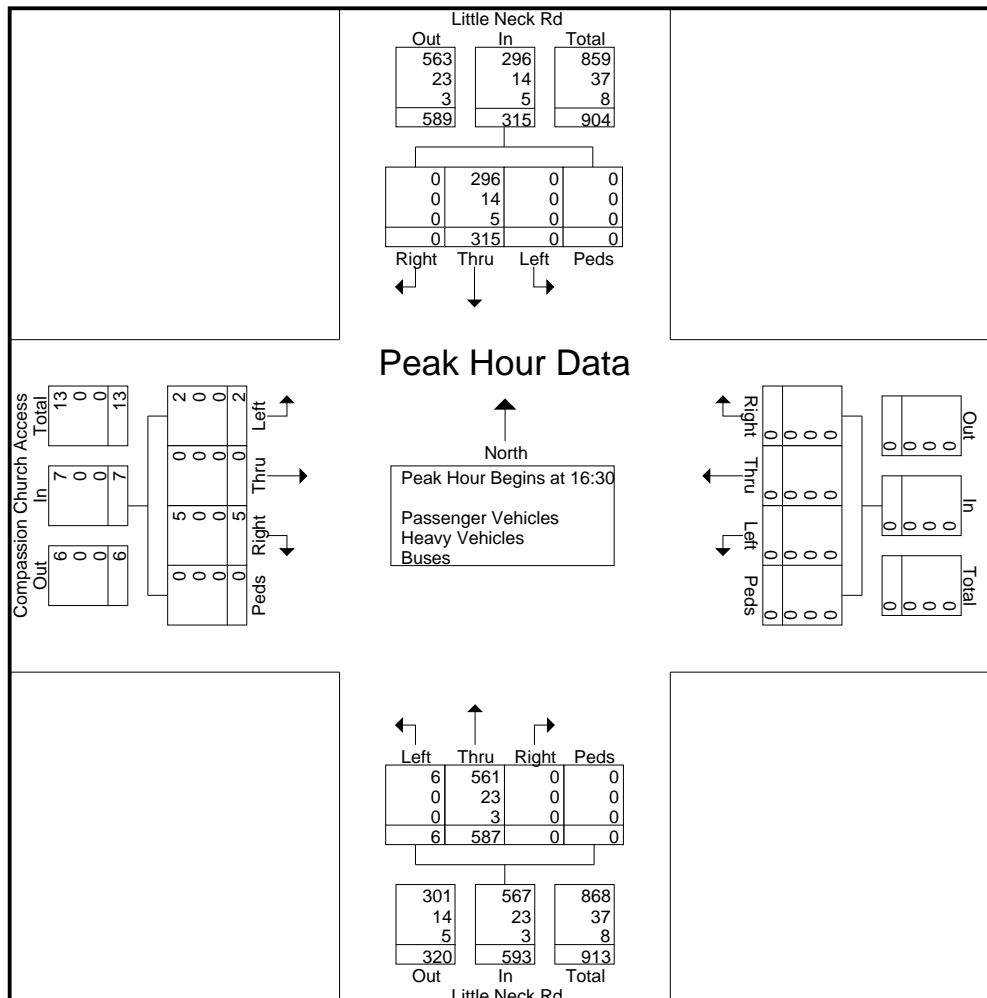
File Name : Little Neck Rd @ Compassion Church Access

Site Code :

Start Date : 05/09/2023

Page No : 4

Start Time	Little Neck Rd Southbound					Westbound					Little Neck Rd Northbound					Compassion Church Access Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:30																					
16:30	0	71	0	0	71	0	0	0	0	0	0	135	0	0	135	0	0	2	0	2	208
16:45	0	90	0	0	90	0	0	0	0	0	2	138	0	0	140	0	0	1	0	1	231
17:00	0	87	0	0	87	0	0	0	0	0	2	166	0	0	168	1	0	2	0	3	258
17:15	0	67	0	0	67	0	0	0	0	0	2	148	0	0	150	1	0	0	0	1	218
Total Volume	0	315	0	0	315	0	0	0	0	0	6	587	0	0	593	2	0	5	0	7	915
% App. Total	0	100	0	0	0	0	0	0	0	0	1	99	0	0	0	28.6	0	71.4	0	0	0
PHF	.000	.875	.000	.000	.875	.000	.000	.000	.000	.000	.750	.884	.000	.000	.882	.500	.000	.625	.000	.583	.887
Passenger Vehicles	0	296	0	0	296	0	0	0	0	0	6	561	0	0	567	2	0	5	0	7	870
% Passenger Vehicles																					
Heavy Vehicles	0	14	0	0	14	0	0	0	0	0	0	23	0	0	23	0	0	0	0	0	37
% Heavy Vehicles	0	4.4	0	0	4.4	0	0	0	0	0	0	3.9	0	0	3.9	0	0	0	0	0	4.0
Buses	0	5	0	0	5	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	8
% Buses	0	1.6	0	0	1.6	0	0	0	0	0	0	0.5	0	0	0.5	0	0	0	0	0	0.9



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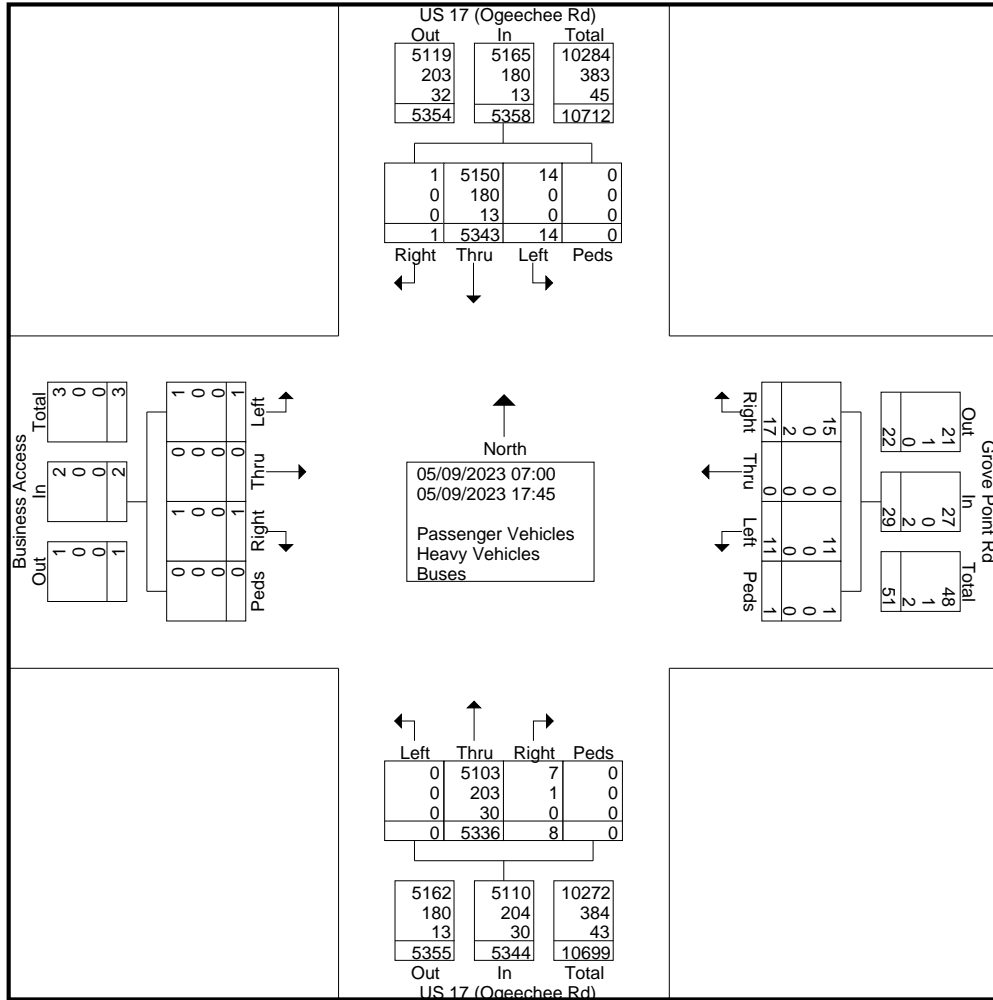
We can't say we're the Best, but you Can!

File Name : US 17 @ Grove Point Rd

Site Code :

Start Date : 05/09/2023

Page No : 2



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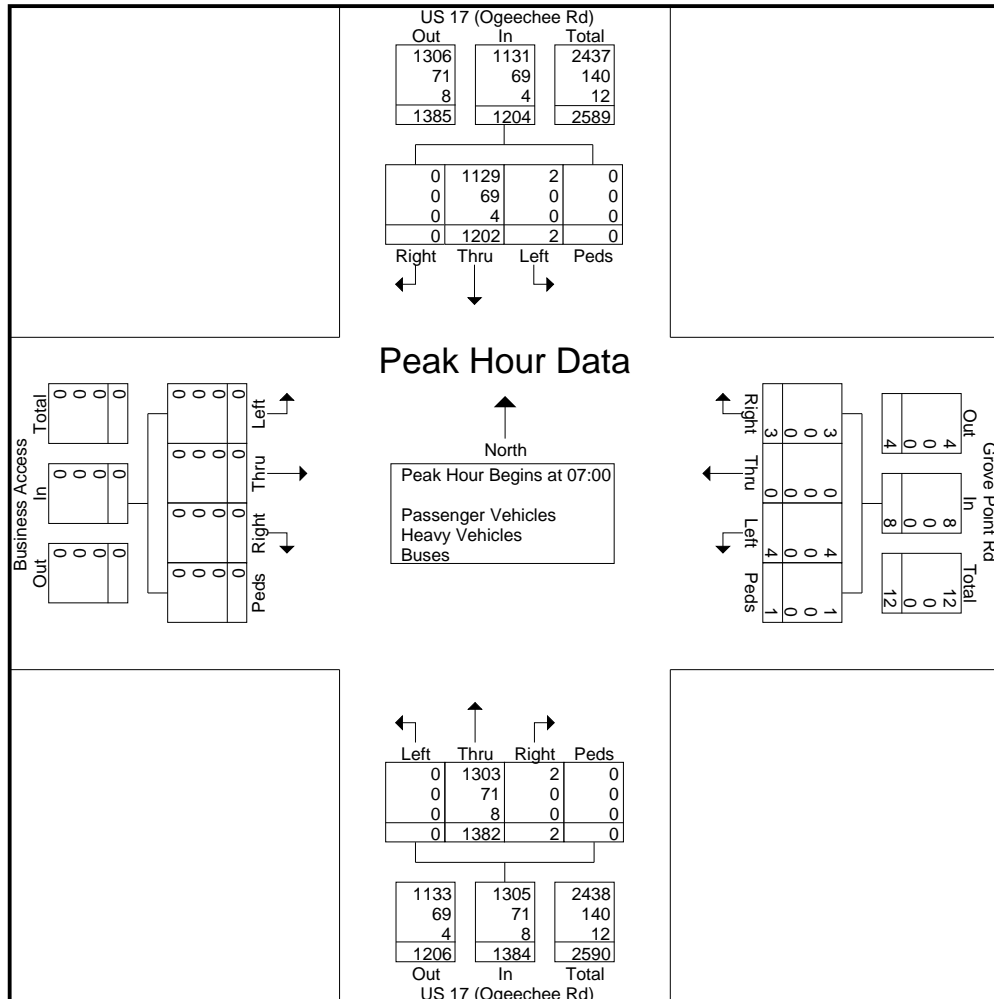
File Name : US 17 @ Grove Point Rd

Site Code :

Start Date : 05/09/2023

Page No : 3

Start Time	US 17 (Ogeechee Rd) Southbound					Grove Point Rd Westbound					US 17 (Ogeechee Rd) Northbound					Business Access Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00																					
07:00	1	301	0	0	302	2	0	1	1	4	0	315	0	0	315	0	0	0	0	0	621
07:15	1	315	0	0	316	1	0	1	0	2	0	372	1	0	373	0	0	0	0	0	691
07:30	0	303	0	0	303	0	0	1	0	1	0	357	0	0	357	0	0	0	0	0	661
07:45	0	283	0	0	283	1	0	0	0	1	0	338	1	0	339	0	0	0	0	0	623
Total Volume	2	1202	0	0	1204	4	0	3	1	8	0	1382	2	0	1384	0	0	0	0	0	2596
% App. Total	0.2	99.8	0	0		50	0	37.5	12.5		0	99.9	0.1	0		0	0	0	0		
PHF	.500	.954	.000	.000	.953	.500	.000	.750	.250	.500	.000	.929	.500	.000	.928	.000	.000	.000	.000	.000	.939
Passenger Vehicles	2	1129									1303										
% Passenger Vehicles	100	93.9	0	0	93.9	100	0	100	100	100	0	94.3	100	0	94.3	0	0	0	0	0	94.1
Heavy Vehicles	0	69	0	0	69	0	0	0	0	0	0	71	0	0	71	0	0	0	0	0	140
% Heavy Vehicles	0	5.7	0	0	5.7	0	0	0	0	0	0	5.1	0	0	5.1	0	0	0	0	0	5.4
Buses	0	4	0	0	4	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	12
% Buses	0	0.3	0	0	0.3	0	0	0	0	0	0	0.6	0	0	0.6	0	0	0	0	0	0.5



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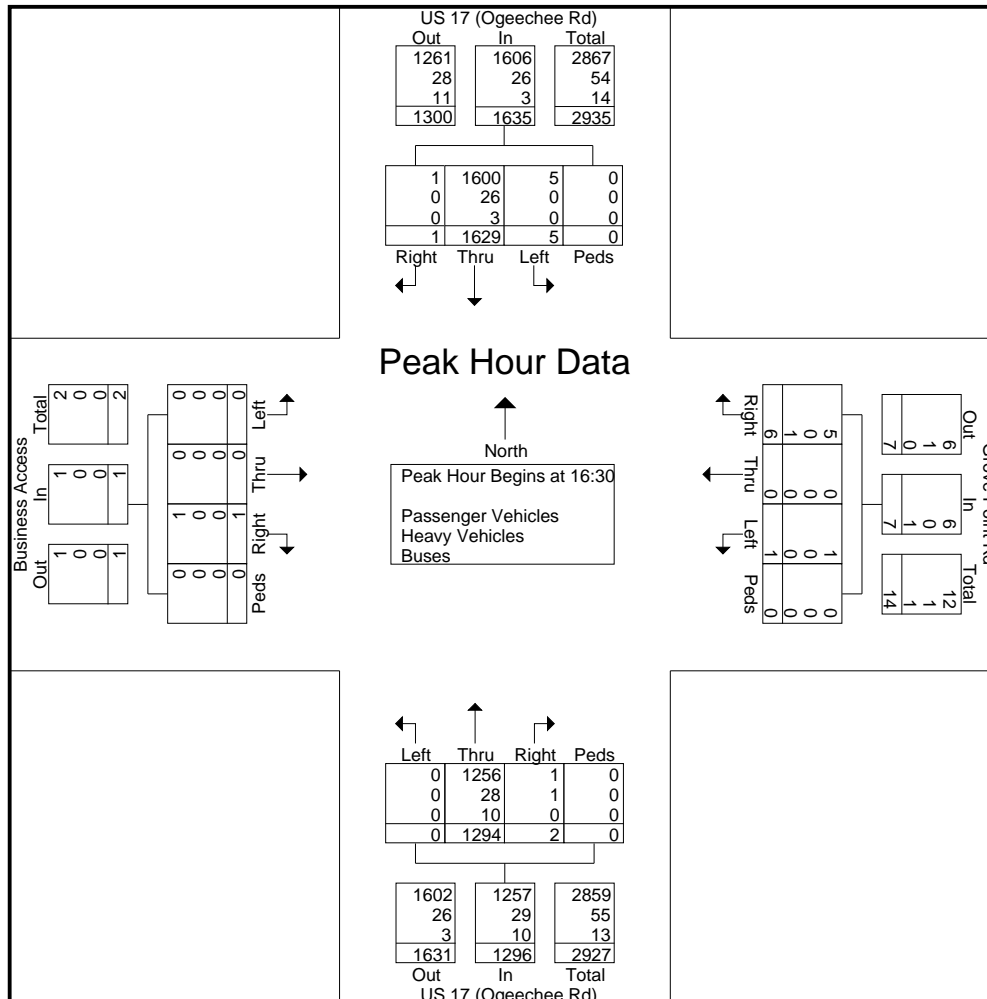
File Name : US 17 @ Grove Point Rd

Site Code :

Start Date : 05/09/2023

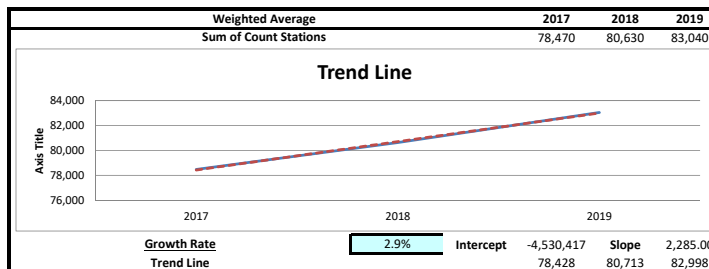
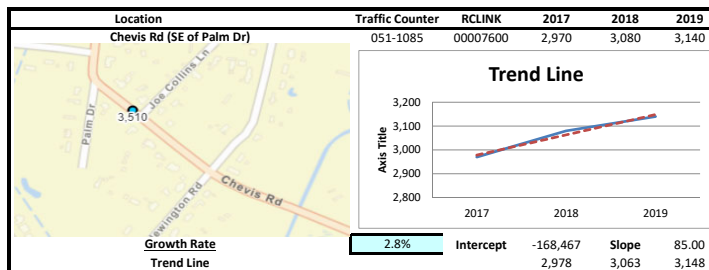
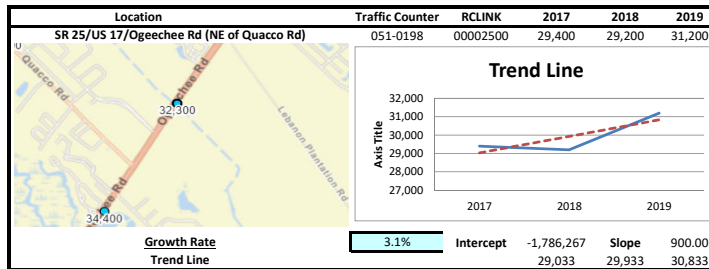
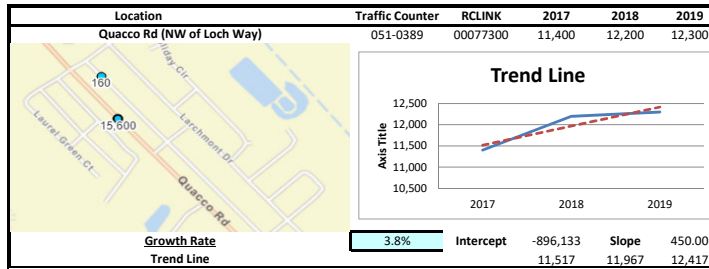
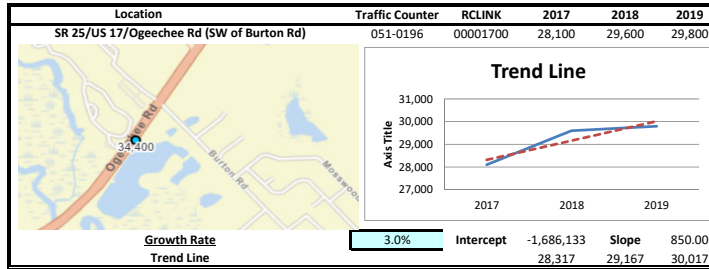
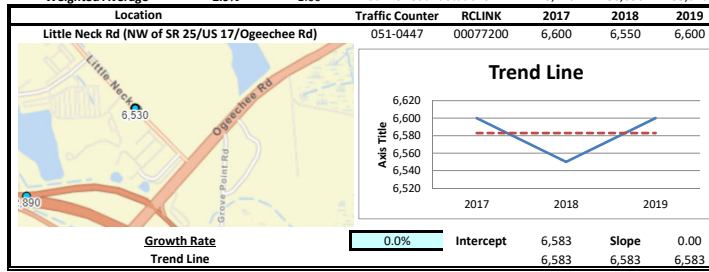
Page No : 4

Start Time	US 17 (Ogeechee Rd) Southbound					Grove Point Rd Westbound					US 17 (Ogeechee Rd) Northbound					Business Access Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:30																					
16:30	0	371	0	0	371	0	0	2	0	2	0	327	0	0	327	0	0	0	0	0	700
16:45	1	414	0	0	415	1	0	1	0	2	0	337	2	0	339	0	0	0	0	0	756
17:00	3	428	1	0	432	0	0	1	0	1	0	306	0	0	306	0	0	1	0	1	740
17:15	1	416	0	0	417	0	0	2	0	2	0	324	0	0	324	0	0	0	0	0	743
Total Volume	5	1629	1	0	1635	1	0	6	0	7	0	1294	2	0	1296	0	0	1	0	1	2939
% App. Total	0.3	99.6	0.1	0		14.3	0	85.7	0		0	99.8	0.2	0		0	0	100	0		
PHF	.417	.952	.250	.000	.946	.250	.000	.750	.000	.875	.000	.960	.250	.000	.956	.000	.000	.250	.000	.250	.972
Passenger Vehicles	5 1600					1256					1256					100					97.7
% Passenger Vehicles	100	98.2	100	0	98.2	100	0	83.3	0	85.7	0	97.1	50.0	0	97.0	0	0	100	0	100	97.7
Heavy Vehicles	0	26	0	0	26	0	0	0	0	0	0	28	1	0	29	0	0	0	0	0	55
% Heavy Vehicles	0	1.6	0	0	1.6	0	0	0	0	0	0	2.2	50.0	0	2.2	0	0	0	0	0	1.9
Buses	0	3	0	0	3	0	0	1	0	1	0	10	0	0	10	0	0	0	0	0	14
% Buses	0	0.2	0	0	0.2	0	0	16.7	0	14.3	0	0.8	0	0	0.8	0	0	0	0	0	0.5



LINEAR REGRESSION OF DAILY TRAFFIC

Location	Growth Rate	R Squared	Station ID	Route	2017	2018	2019
Little Neck Rd (NW of SR 25/US	0.0%	0.00	051-0447	00077200	6,600	6,550	6,600
SR 25/US 17/Ogeechee Rd (SW	3.0%	0.84	051-0196	00001700	28,100	29,600	29,800
Quacco Rd (NW of Loch Way)	3.8%	0.83	051-0389	00077300	11,400	12,200	12,300
SR 25/US 17/Ogeechee Rd (NE	3.1%	0.67	051-0198	00002500	29,400	29,200	31,200
Chevis Rd (SE of Palm Dr)	2.8%	0.97	051-1085	00007600	2,970	3,080	3,140
Weighted Average	2.9%	1.00	Sum of Count Stations =		78,470	80,630	83,040



EXISTING INTERSECTION ANALYSIS

Intersection						
Int Delay, s/veh	4.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	47	159	59	264	364	21
Future Vol, veh/h	47	159	59	264	364	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	150	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	8	3	14	13	5
Mvmt Flow	52	175	65	290	400	23

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	832	412	423	0	-	0
Stage 1	412	-	-	-	-	-
Stage 2	420	-	-	-	-	-
Critical Hdwy	6.4	6.28	4.13	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.372	2.227	-	-	-
Pot Cap-1 Maneuver	342	627	1131	-	-	-
Stage 1	673	-	-	-	-	-
Stage 2	667	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	323	627	1131	-	-	-
Mov Cap-2 Maneuver	323	-	-	-	-	-
Stage 1	635	-	-	-	-	-
Stage 2	667	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.3	1.5	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1131	-	516	-	-
HCM Lane V/C Ratio	0.057	-	0.439	-	-
HCM Control Delay (s)	8.4	-	17.3	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.2	-	2.2	-	-

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	2	2	322	518	0
Future Vol, veh/h	0	2	2	322	518	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	85	390	-	-	185
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	12	12	0
Mvmt Flow	0	2	2	346	557	0

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	907	279	557	0	-	0
Stage 1	557	-	-	-	-	-
Stage 2	350	-	-	-	-	-
Critical Hdwy	6.6	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	293	724	1024	-	-	-
Stage 1	543	-	-	-	-	-
Stage 2	718	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	292	724	1024	-	-	-
Mov Cap-2 Maneuver	292	-	-	-	-	-
Stage 1	542	-	-	-	-	-
Stage 2	718	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1024	-	-	724	-	-
HCM Lane V/C Ratio	0.002	-	-	0.003	-	-
HCM Control Delay (s)	8.5	-	0	10	-	-
HCM Lane LOS	A	-	A	B	-	-
HCM 95th %tile Q(veh)	0	-	-	0	-	-

Intersection						
Int Delay, s/veh	3.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔		↔	↑	↑	
Traffic Vol, veh/h	19	106	181	413	208	30
Future Vol, veh/h	19	106	181	413	208	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	150	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	11	0	1	6	7	7
Mvmt Flow	21	119	203	464	234	34

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	1121	251	268	0	0
Stage 1	251	-	-	-	-
Stage 2	870	-	-	-	-
Critical Hdwy	6.51	6.2	4.11	-	-
Critical Hdwy Stg 1	5.51	-	-	-	-
Critical Hdwy Stg 2	5.51	-	-	-	-
Follow-up Hdwy	3.599	3.3	2.209	-	-
Pot Cap-1 Maneuver	219	793	1302	-	-
Stage 1	770	-	-	-	-
Stage 2	395	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	185	793	1302	-	-
Mov Cap-2 Maneuver	185	-	-	-	-
Stage 1	650	-	-	-	-
Stage 2	395	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.2	2.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1302	-	529	-	-
HCM Lane V/C Ratio	0.156	-	0.265	-	-
HCM Control Delay (s)	8.3	-	14.2	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.6	-	1.1	-	-

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	5	6	587	315	0
Future Vol, veh/h	2	5	6	587	315	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	85	390	-	-	185
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	4	4	0
Mvmt Flow	2	6	7	660	354	0

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1028	177	354	0	-	0
Stage 1	354	-	-	-	-	-
Stage 2	674	-	-	-	-	-
Critical Hdwy	6.6	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	247	842	1216	-	-	-
Stage 1	687	-	-	-	-	-
Stage 2	510	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	246	842	1216	-	-	-
Mov Cap-2 Maneuver	246	-	-	-	-	-
Stage 1	683	-	-	-	-	-
Stage 2	510	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.3	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1216	-	246	842	-	-
HCM Lane V/C Ratio	0.006	-	0.009	0.007	-	-
HCM Control Delay (s)	8	-	19.8	9.3	-	-
HCM Lane LOS	A	-	C	A	-	-
HCM 95th %tile Q(veh)	0	-	0	0	-	-

**FUTURE “NO-BUILD” INTERSECTION
ANALYSIS**

Intersection						
Int Delay, s/veh	5.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	↑↑	↑	Y
Traffic Vol, veh/h	57	192	71	319	440	25
Future Vol, veh/h	57	192	71	319	440	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	275	-	-	175
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	8	3	14	13	5
Mvmt Flow	63	211	78	351	484	27

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	816	484	511	0	-	0
Stage 1	484	-	-	-	-	-
Stage 2	332	-	-	-	-	-
Critical Hdwy	6.6	6.32	4.145	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.376	2.2285	-	-	-
Pot Cap-1 Maneuver	334	567	1046	-	-	-
Stage 1	624	-	-	-	-	-
Stage 2	705	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	309	567	1046	-	-	-
Mov Cap-2 Maneuver	309	-	-	-	-	-
Stage 1	577	-	-	-	-	-
Stage 2	705	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	22.3	1.6	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1046	-	476	-	-
HCM Lane V/C Ratio	0.075	-	0.575	-	-
HCM Control Delay (s)	8.7	-	22.3	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.2	-	3.6	-	-

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑↑	↑↑	
Traffic Vol, veh/h	0	2	0	392	627	0
Future Vol, veh/h	0	2	0	392	627	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	20	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	12	12	0
Mvmt Flow	0	2	0	422	674	0

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	-	337	-	0	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-
Pot Cap-1 Maneuver	0	665	0	-	-
Stage 1	0	-	0	-	-
Stage 2	0	-	0	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	-	665	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.4	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT EBLn1	SBT
Capacity (veh/h)	- 665	-
HCM Lane V/C Ratio	- 0.003	-
HCM Control Delay (s)	- 10.4	-
HCM Lane LOS	- B	-
HCM 95th %tile Q(veh)	- 0	-

HCM Unsignalized Intersection Capacity Analysis
 3: Little Neck Rd & Church Enter-Only Drwy

2a. No-Build 2030 AM
 08/05/2023



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations			↘	↑↑	↑↑	↗
Traffic Volume (veh/h)	0	0	2	390	627	0
Future Volume (Veh/h)	0	0	2	390	627	0
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	2	424	682	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None	None		
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	898	341	682			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	898	341	682			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	278	655	907			
Direction, Lane #	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	2	212	212	341	341	0
Volume Left	2	0	0	0	0	0
Volume Right	0	0	0	0	0	0
cSH	907	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.12	0.12	0.20	0.20	0.00
Queue Length 95th (ft)	0	0	0	0	0	0
Control Delay (s)	9.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A					
Approach Delay (s)	0.0		0.0			
Approach LOS						
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			27.3%		ICU Level of Service	
Analysis Period (min)			15			
						A

Intersection						
Int Delay, s/veh	3.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	↑↑	↑	Y
Traffic Vol, veh/h	24	128	219	499	252	36
Future Vol, veh/h	24	128	219	499	252	36
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	275	-	-	175
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	11	0	1	6	7	7
Mvmt Flow	27	144	246	561	283	40

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	1056	283	323	0	0
Stage 1	283	-	-	-	-
Stage 2	773	-	-	-	-
Critical Hdwy	6.765	6.2	4.115	-	-
Critical Hdwy Stg 1	5.565	-	-	-	-
Critical Hdwy Stg 2	5.965	-	-	-	-
Follow-up Hdwy	3.6045	3.3	2.2095	-	-
Pot Cap-1 Maneuver	222	761	1242	-	-
Stage 1	741	-	-	-	-
Stage 2	399	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	178	761	1242	-	-
Mov Cap-2 Maneuver	178	-	-	-	-
Stage 1	594	-	-	-	-
Stage 2	399	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.8	2.6	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1242	-	502	-	-
HCM Lane V/C Ratio	0.198	-	0.34	-	-
HCM Control Delay (s)	8.6	-	15.8	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.7	-	1.5	-	-

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑↑	↑↑	
Traffic Vol, veh/h	0	7	0	718	381	0
Future Vol, veh/h	0	7	0	718	381	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	20	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	4	4	0
Mvmt Flow	0	8	0	807	428	0

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	-	214	-	0	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-
Pot Cap-1 Maneuver	0	797	0	-	-
Stage 1	0	-	0	-	-
Stage 2	0	-	0	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	-	797	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.6	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT EBLn1	SBT
Capacity (veh/h)	- 797	-
HCM Lane V/C Ratio	- 0.01	-
HCM Control Delay (s)	- 9.6	-
HCM Lane LOS	- A	-
HCM 95th %tile Q(veh)	- 0	-

HCM Unsignalized Intersection Capacity Analysis
 3: Little Neck Rd & Church Enter-Only Drwy

2b. No-Build 2030 PM
 08/05/2023



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations			↵	↑↑	↑↑	↵
Traffic Volume (veh/h)	2	6	7	709	381	0
Future Volume (Veh/h)	2	6	7	709	381	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	7	8	771	414	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	816	207	414			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	816	207	414			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	99	99			
cM capacity (veh/h)	313	799	1141			
Direction, Lane #	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	8	386	386	207	207	0
Volume Left	8	0	0	0	0	0
Volume Right	0	0	0	0	0	0
cSH	1141	1700	1700	1700	1700	1700
Volume to Capacity	0.01	0.23	0.23	0.12	0.12	0.00
Queue Length 95th (ft)	1	0	0	0	0	0
Control Delay (s)	8.2	0.0	0.0	0.0	0.0	0.0
Lane LOS	A					
Approach Delay (s)	0.1			0.0		
Approach LOS						
Intersection Summary						
Average Delay				Err		
Intersection Capacity Utilization	22.9%			ICU Level of Service		A
Analysis Period (min)	15					

FUTURE "BUILD" INTERSECTION ANALYSIS

Timings

1: Little Neck Rd & Al Henderson Blvd/Site Drwy 3 (Middle)



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↖	↗	↖	↗	↗	↖	↗	↗
Traffic Volume (vph)	57	11	141	12	71	386	68	71	442	25
Future Volume (vph)	57	11	141	12	71	386	68	71	442	25
Lane Group Flow (vph)	62	221	153	52	77	420	74	77	480	27
Turn Type	Perm	NA	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4	3	8	1	6		5	2	
Permitted Phases	4		8		6		6	2		2
Detector Phase	4	4	3	8	1	6	6	5	2	2
Switch Phase										
Minimum Initial (s)	6.0	6.0	5.0	6.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	31.5	31.5	15.0	30.5	15.0	28.5	28.5	15.0	28.5	28.5
Total Split (s)	38.0	38.0	20.0	58.0	18.0	44.0	44.0	18.0	44.0	44.0
Total Split (%)	31.7%	31.7%	16.7%	48.3%	15.0%	36.7%	36.7%	15.0%	36.7%	36.7%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lag	Lag	Lead		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
v/c Ratio	0.50	0.68	0.60	0.12	0.15	0.23	0.08	0.12	0.50	0.03
Control Delay	64.5	18.9	46.7	14.0	9.1	14.6	0.6	8.9	19.8	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.5	18.9	46.7	14.0	9.1	14.6	0.6	8.9	19.8	0.0
Queue Length 50th (ft)	47	9	97	8	20	85	0	20	227	0
Queue Length 95th (ft)	90	85	149	37	43	134	6	43	372	0
Internal Link Dist (ft)		534		368		366			359	
Turn Bay Length (ft)					275		175	235		175
Base Capacity (vph)	372	562	270	744	581	1819	962	692	964	934
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.39	0.57	0.07	0.13	0.23	0.08	0.11	0.50	0.03

Intersection Summary

Cycle Length: 120

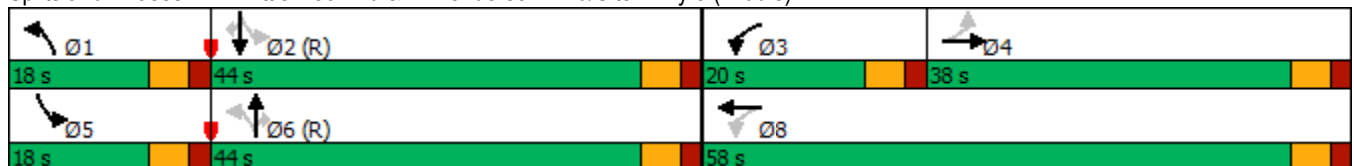
Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Splits and Phases: 1: Little Neck Rd & Al Henderson Blvd/Site Drwy 3 (Middle)



HCM 6th Signalized Intersection Summary
 1: Little Neck Rd & AI Henderson Blvd/Site Drwy 3 (Middle)

3a. Build 2030 AM
 08/15/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↘		↗	↘		↗	↑↑	↗	↘	↑	↗
Traffic Volume (veh/h)	57	11	192	141	12	36	71	386	68	71	442	25
Future Volume (veh/h)	57	11	192	141	12	36	71	386	68	71	442	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	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	1900	1870	1781	1870	1870	1870	1856	1693	1870	1870	1707	1826
Adj Flow Rate, veh/h	62	12	209	153	13	39	77	420	74	77	480	27
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, %	0	2	8	2	2	2	3	14	2	2	13	5
Cap, veh/h	282	14	244	245	121	363	435	1705	840	544	905	820
Arrive On Green	0.16	0.16	0.16	0.09	0.29	0.29	0.04	0.53	0.53	0.04	0.53	0.53
Sat Flow, veh/h	1374	87	1512	1781	412	1236	1767	3216	1585	1781	1707	1547
Grp Volume(v), veh/h	62	0	221	153	0	52	77	420	74	77	480	27
Grp Sat Flow(s),veh/h/ln	1374	0	1598	1781	0	1648	1767	1608	1585	1781	1707	1547
Q Serve(g_s), s	4.8	0.0	16.1	8.3	0.0	2.8	2.4	8.5	2.8	2.3	22.0	1.0
Cycle Q Clear(g_c), s	4.8	0.0	16.1	8.3	0.0	2.8	2.4	8.5	2.8	2.3	22.0	1.0
Prop In Lane	1.00		0.95	1.00		0.75	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	282	0	258	245	0	484	435	1705	840	544	905	820
V/C Ratio(X)	0.22	0.00	0.86	0.62	0.00	0.11	0.18	0.25	0.09	0.14	0.53	0.03
Avail Cap(c_a), veh/h	432	0	433	307	0	721	551	1705	840	661	905	820
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.2	0.0	48.9	37.1	0.0	30.9	13.9	15.2	13.9	12.0	18.4	13.5
Incr Delay (d2), s/veh	0.4	0.0	8.5	2.6	0.0	0.1	0.2	0.3	0.2	0.1	2.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	7.0	3.8	0.0	1.1	0.9	3.0	1.0	0.9	8.6	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.6	0.0	57.4	39.7	0.0	31.0	14.1	15.6	14.1	12.1	20.6	13.6
LnGrp LOS	D	A	E	D	A	C	B	B	B	B	C	B
Approach Vol, veh/h		283			205			571			584	
Approach Delay, s/veh		54.6			37.5			15.2			19.2	
Approach LOS		D			D			B			B	
Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s	10.1	69.1	15.9	24.9	10.1	69.1		40.8				
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5	5.5	5.5		5.5				
Max Green Setting (Gmax), s	12.5	38.5	14.5	32.5	12.5	38.5		52.5				
Max Q Clear Time (g_c+I1), s	4.4	24.0	10.3	18.1	4.3	10.5		4.8				
Green Ext Time (p_c), s	0.1	4.4	0.1	1.2	0.1	5.6		0.3				
Intersection Summary												
HCM 6th Ctrl Delay			26.2									
HCM 6th LOS			C									

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑↑	↑↑↑	
Traffic Vol, veh/h	0	2	0	527	770	0
Future Vol, veh/h	0	2	0	527	770	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	10	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	12	12	0
Mvmt Flow	0	2	0	567	828	0

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	-	414	-	0	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	7.1	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.9	-	-	-
Pot Cap-1 Maneuver	0	506	0	-	-
Stage 1	0	-	0	-	-
Stage 2	0	-	0	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	-	506	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.1	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT EBLn1	SBT
Capacity (veh/h)	- 506	-
HCM Lane V/C Ratio	- 0.004	-
HCM Control Delay (s)	- 12.1	-
HCM Lane LOS	- B	-
HCM 95th %tile Q(veh)	- 0	-

Timings
4: SR 25/US 17 (Ogeechee Rd) & Site Drwy 1/Cohen St

3a. Build 2030 AM
08/15/2023

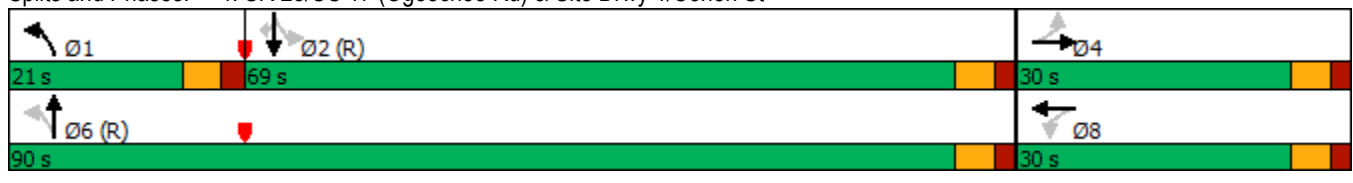


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	188	1	1	1	219	1592	1	1378	170
Future Volume (vph)	188	1	1	1	219	1592	1	1378	170
Lane Group Flow (vph)	198	221	0	3	231	1677	1	1451	179
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	Perm	NA	Perm
Protected Phases		4		8	1	6		2	
Permitted Phases	4		8		6		2		2
Detector Phase	4	4	8	8	1	6	2	2	2
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	15.0	15.0	15.0	15.0
Minimum Split (s)	23.5	23.5	23.5	23.5	15.0	28.5	28.5	28.5	28.5
Total Split (s)	30.0	30.0	30.0	30.0	21.0	90.0	69.0	69.0	69.0
Total Split (%)	25.0%	25.0%	25.0%	25.0%	17.5%	75.0%	57.5%	57.5%	57.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5		5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag					Lead		Lag	Lag	Lag
Lead-Lag Optimize?					Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	C-Min	C-Min	C-Min
v/c Ratio	0.81	0.48		0.01	0.75	0.66	0.01	0.74	0.19
Control Delay	72.1	9.2		34.0	35.4	10.4	14.0	23.1	5.6
Queue Delay	0.0	0.0		0.0	0.0	0.2	0.0	0.0	0.0
Total Delay	72.1	9.2		34.0	35.4	10.6	14.0	23.1	5.6
Queue Length 50th (ft)	147	1		1	86	326	0	447	21
Queue Length 95th (ft)	#241	66		10	#186	427	3	567	59
Internal Link Dist (ft)		516		370		234		1227	
Turn Bay Length (ft)							150		175
Base Capacity (vph)	287	498		338	331	2526	142	1956	959
Starvation Cap Reductn	0	0		0	0	236	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.69	0.44		0.01	0.70	0.73	0.01	0.74	0.19

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 4: SR 25/US 17 (Ogeechee Rd) & Site Drwy 1/Cohen St



HCM 6th Signalized Intersection Summary
 4: SR 25/US 17 (Ogeechee Rd) & Site Drwy 1/Cohen St

3a. Build 2030 AM
 08/15/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	188	1	209	1	1	1	219	1592	1	1	1378	170
Future Volume (veh/h)	188	1	209	1	1	1	219	1592	1	1	1378	170
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	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	1870	1826	1870	1870	1811	1870
Adj Flow Rate, veh/h	198	1	0	1	1	1	231	1676	1	1	1451	0
Peak Hour Factor	0.95	0.92	0.95	0.92	0.92	0.92	0.95	0.95	0.92	0.92	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	5	2	2	6	2
Cap, veh/h	281	291		106	104	85	311	2678	2	217	2222	
Arrive On Green	0.16	0.16	0.00	0.16	0.16	0.16	0.06	0.75	0.75	0.65	0.65	0.00
Sat Flow, veh/h	1415	1870	0	422	669	546	1781	3558	2	295	3441	1585
Grp Volume(v), veh/h	198	1	0	3	0	0	231	817	860	1	1451	0
Grp Sat Flow(s),veh/h/ln	1415	1870	0	1637	0	0	1781	1735	1826	295	1721	1585
Q Serve(g_s), s	16.3	0.1	0.0	0.0	0.0	0.0	4.9	26.4	26.4	0.2	31.0	0.0
Cycle Q Clear(g_c), s	16.4	0.1	0.0	0.2	0.0	0.0	4.9	26.4	26.4	13.8	31.0	0.0
Prop In Lane	1.00		0.00	0.33		0.33	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	281	291		295	0	0	311	1306	1374	217	2222	
V/C Ratio(X)	0.71	0.00		0.01	0.00	0.00	0.74	0.63	0.63	0.00	0.65	
Avail Cap(c_a), veh/h	349	382		373	0	0	432	1306	1374	217	2222	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	49.7	42.8	0.0	42.8	0.0	0.0	17.3	6.9	6.9	13.2	13.0	0.0
Incr Delay (d2), s/veh	4.7	0.0	0.0	0.0	0.0	0.0	4.4	2.3	2.2	0.0	1.5	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.2	0.0	0.0	0.1	0.0	0.0	3.9	8.0	8.4	0.0	10.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.4	42.8	0.0	42.9	0.0	0.0	21.7	9.2	9.1	13.2	14.5	0.0
LnGrp LOS	D	D		D	A	A	C	A	A	B	B	
Approach Vol, veh/h		199			3			1908			1452	
Approach Delay, s/veh		54.4			42.9			10.7			14.5	
Approach LOS		D			D			B			B	
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	12.8	83.0		24.2		95.8		24.2				
Change Period (Y+Rc), s	5.5	5.5		5.5		5.5		5.5				
Max Green Setting (Gmax), s	15.5	63.5		24.5		84.5		24.5				
Max Q Clear Time (g_c+I1), s	6.9	33.0		18.4		28.4		2.2				
Green Ext Time (p_c), s	0.4	21.2		0.3		37.7		0.0				

Intersection Summary

HCM 6th Ctrl Delay	14.7
HCM 6th LOS	B

Notes

Unsignalized Delay for [EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection						
Int Delay, s/veh	1.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↘	↗	↑↑	↗	↘	↑↑
Traffic Vol, veh/h	61	25	502	46	24	748
Future Vol, veh/h	61	25	502	46	24	748
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	175	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	12	2	2	12
Mvmt Flow	66	27	546	50	26	813

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1005	273	0	0	596	0
Stage 1	546	-	-	-	-	-
Stage 2	459	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	238	725	-	-	976	-
Stage 1	544	-	-	-	-	-
Stage 2	603	-	-	-	-	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	232	725	-	-	976	-
Mov Cap-2 Maneuver	232	-	-	-	-	-
Stage 1	544	-	-	-	-	-
Stage 2	587	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	21.8	0	0.3
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	232	725	976	-
HCM Lane V/C Ratio	-	-	0.286	0.037	0.027	-
HCM Control Delay (s)	-	-	26.6	10.2	8.8	-
HCM Lane LOS	-	-	D	B	A	-
HCM 95th %tile Q(veh)	-	-	1.1	0.1	0.1	-

Intersection						
Int Delay, s/veh	0.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↗	↗		↗
Traffic Vol, veh/h	0	33	423	56	0	539
Future Vol, veh/h	0	33	423	56	0	539
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Free	-	None
Storage Length	-	0	-	175	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	13	2	2	11
Mvmt Flow	0	36	460	61	0	586

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	-	460	0	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.22	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.318	-	-	-	-
Pot Cap-1 Maneuver	0	601	-	0	0	-
Stage 1	0	-	-	0	0	-
Stage 2	0	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	-	601	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.4	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBTWBLn1	SBT
Capacity (veh/h)	- 601	-
HCM Lane V/C Ratio	- 0.06	-
HCM Control Delay (s)	- 11.4	-
HCM Lane LOS	- B	-
HCM 95th %tile Q(veh)	- 0.2	-

Timings

1: Little Neck Rd & Al Henderson Blvd/Site Drwy 3 (Middle)



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↖	↗	↖	↗	↗	↖	↗	↗
Traffic Volume (vph)	24	24	204	20	219	629	148	113	297	36
Future Volume (vph)	24	24	204	20	219	629	148	113	297	36
Lane Group Flow (vph)	26	165	222	92	238	684	161	123	323	39
Turn Type	Perm	NA	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4	3	8	1	6		5	2	
Permitted Phases	4		8		6		6	2		2
Detector Phase	4	4	3	8	1	6	6	5	2	2
Switch Phase										
Minimum Initial (s)	6.0	6.0	5.0	6.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	31.5	31.5	15.0	30.5	15.0	28.5	28.5	15.0	28.5	28.5
Total Split (s)	30.0	30.0	25.0	55.0	21.0	47.0	47.0	18.0	44.0	44.0
Total Split (%)	25.0%	25.0%	20.8%	45.8%	17.5%	39.2%	39.2%	15.0%	36.7%	36.7%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lag	Lag	Lead		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
v/c Ratio	0.29	0.65	0.70	0.19	0.37	0.38	0.18	0.27	0.38	0.05
Control Delay	59.0	25.1	48.6	11.3	11.5	19.1	3.4	11.5	23.5	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.0	25.1	48.6	11.3	11.5	19.1	3.4	11.5	23.5	0.1
Queue Length 50th (ft)	20	19	145	13	71	160	0	34	156	0
Queue Length 95th (ft)	48	86	202	49	129	247	40	70	272	0
Internal Link Dist (ft)		534		368		366			359	
Turn Bay Length (ft)					275		175	235		175
Base Capacity (vph)	243	448	339	721	665	1783	905	512	853	788
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.37	0.65	0.13	0.36	0.38	0.18	0.24	0.38	0.05

Intersection Summary

Cycle Length: 120

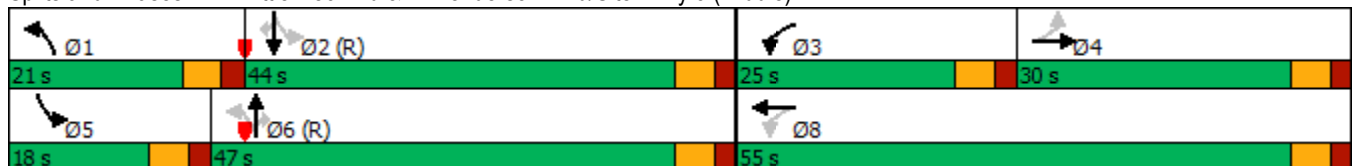
Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 90























Control Type: Actuated-Coordinated

Splits and Phases: 1: Little Neck Rd & Al Henderson Blvd/Site Drwy 3 (Middle)



HCM 6th Signalized Intersection Summary
 1: Little Neck Rd & Al Henderson Blvd/Site Drwy 3 (Middle)

3b. Build 2030 PM
 08/15/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	24	128	204	20	64	219	629	148	113	297	36
Future Volume (veh/h)	24	24	128	204	20	64	219	629	148	113	297	36
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	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	1737	1870	1900	1870	1870	1870	1885	1811	1870	1870	1796	1796
Adj Flow Rate, veh/h	26	26	139	222	22	70	238	684	161	123	323	39
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, %	11	2	0	2	2	2	1	6	2	2	7	7
Cap, veh/h	207	31	166	308	115	365	596	1789	824	412	874	741
Arrive On Green	0.12	0.12	0.12	0.12	0.29	0.29	0.08	0.52	0.52	0.05	0.49	0.49
Sat Flow, veh/h	1211	256	1368	1781	393	1252	1795	3441	1585	1781	1796	1522
Grp Volume(v), veh/h	26	0	165	222	0	92	238	684	161	123	323	39
Grp Sat Flow(s),veh/h/ln	1211	0	1624	1781	0	1645	1795	1721	1585	1781	1796	1522
Q Serve(g_s), s	2.3	0.0	11.9	12.6	0.0	5.0	7.8	14.3	6.5	4.1	13.5	1.6
Cycle Q Clear(g_c), s	2.3	0.0	11.9	12.6	0.0	5.0	7.8	14.3	6.5	4.1	13.5	1.6
Prop In Lane	1.00		0.84	1.00		0.76	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	207	0	198	308	0	479	596	1789	824	412	874	741
V/C Ratio(X)	0.13	0.00	0.83	0.72	0.00	0.19	0.40	0.38	0.20	0.30	0.37	0.05
Avail Cap(c_a), veh/h	307	0	332	377	0	679	677	1789	824	507	874	741
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.3	0.0	51.5	38.3	0.0	31.9	13.6	17.3	15.4	14.3	19.3	16.2
Incr Delay (d2), s/veh	0.3	0.0	8.9	5.2	0.0	0.2	0.4	0.6	0.5	0.4	1.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	5.3	6.0	0.0	2.1	3.0	5.5	2.4	1.6	5.6	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.6	0.0	60.4	43.4	0.0	32.1	14.0	17.9	15.9	14.7	20.5	16.4
LnGrp LOS	D	A	E	D	A	C	B	B	B	B	C	B
Approach Vol, veh/h		191			314			1083			485	
Approach Delay, s/veh		58.7			40.1			16.7			18.7	
Approach LOS		E			D			B			B	
Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s	15.6	63.9	20.4	20.1	11.6	67.9		40.5				
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5	5.5	5.5		5.5				
Max Green Setting (Gmax), s	15.5	38.5	19.5	24.5	12.5	41.5		49.5				
Max Q Clear Time (g_c+I1), s	9.8	15.5	14.6	13.9	6.1	16.3		7.0				
Green Ext Time (p_c), s	0.3	3.6	0.3	0.7	0.1	9.7		0.6				
Intersection Summary												
HCM 6th Ctrl Delay				24.6								
HCM 6th LOS				C								

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑↑	↑↑↑	
Traffic Vol, veh/h	0	7	0	996	631	0
Future Vol, veh/h	0	7	0	996	631	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	10	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	4	4	0
Mvmt Flow	0	8	0	1119	709	0

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	-	355	-	0	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	7.1	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.9	-	-	-
Pot Cap-1 Maneuver	0	552	0	-	-
Stage 1	0	-	0	-	-
Stage 2	0	-	0	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	-	552	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.6	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT EBLn1	SBT
Capacity (veh/h)	- 552	-
HCM Lane V/C Ratio	- 0.014	-
HCM Control Delay (s)	- 11.6	-
HCM Lane LOS	- B	-
HCM 95th %tile Q(veh)	- 0	-

Timings
4: SR 25/US 17 (Ogeechee Rd) & Site Drwy 1/Cohen St

3b. Build 2030 PM
08/15/2023



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↖	↗		↕	↖	↗	↖	↕	↗
Traffic Volume (vph)	236	1	1	1	335	1502	1	1869	307
Future Volume (vph)	236	1	1	1	335	1502	1	1869	307
Lane Group Flow (vph)	248	350	0	3	353	1582	1	1967	323
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	Perm	NA	Perm
Protected Phases		4		8	1	6		2	
Permitted Phases	4		8		6		2		2
Detector Phase	4	4	8	8	1	6	2	2	2
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	15.0	15.0	15.0	15.0
Minimum Split (s)	23.5	23.5	23.5	23.5	15.0	28.5	28.5	28.5	28.5
Total Split (s)	34.0	34.0	34.0	34.0	21.0	86.0	65.0	65.0	65.0
Total Split (%)	28.3%	28.3%	28.3%	28.3%	17.5%	71.7%	54.2%	54.2%	54.2%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5		5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag					Lead		Lag	Lag	Lag
Lead-Lag Optimize?					Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	C-Min	C-Min	C-Min
v/c Ratio	0.84	0.68		0.01	1.05	0.64	0.01	1.12	0.38
Control Delay	68.5	21.5		31.0	98.6	12.0	16.0	92.7	11.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.5	21.5		31.0	98.6	12.0	16.0	92.7	11.0
Queue Length 50th (ft)	179	80		1	~282	348	0	~924	75
Queue Length 95th (ft)	#296	187		10	#476	422	4	#1062	142
Internal Link Dist (ft)		516		370		234		1227	
Turn Bay Length (ft)							150		175
Base Capacity (vph)	334	550		390	337	2467	143	1754	860
Starvation Cap Reductn	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.74	0.64		0.01	1.05	0.64	0.01	1.12	0.38

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
 Natural Cycle: 120
 Control Type: Actuated-Coordinated
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 4: SR 25/US 17 (Ogeechee Rd) & Site Drwy 1/Cohen St



HCM 6th Signalized Intersection Summary
 4: SR 25/US 17 (Ogeechee Rd) & Site Drwy 1/Cohen St

3b. Build 2030 PM
 08/15/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗			↔		↖	↗		↖	↗	↖
Traffic Volume (veh/h)	236	1	332	1	1	1	335	1502	1	1	1869	307
Future Volume (veh/h)	236	1	332	1	1	1	335	1502	1	1	1869	307
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	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	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	248	1	0	1	1	1	353	1581	1	1	1967	0
Peak Hour Factor	0.95	0.92	0.95	0.92	0.92	0.92	0.95	0.95	0.92	0.92	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	331	357		124	123	104	290	2614	2	222	1927	
Arrive On Green	0.19	0.19	0.00	0.19	0.19	0.19	0.13	0.72	0.72	0.54	0.54	0.00
Sat Flow, veh/h	1415	1870	0	442	645	544	1781	3644	2	323	3554	1585
Grp Volume(v), veh/h	248	1	0	3	0	0	353	771	811	1	1967	0
Grp Sat Flow(s),veh/h/ln	1415	1870	0	1631	0	0	1781	1777	1870	323	1777	1585
Q Serve(g_s), s	20.4	0.1	0.0	0.0	0.0	0.0	15.5	26.0	26.0	0.2	65.1	0.0
Cycle Q Clear(g_c), s	20.6	0.1	0.0	0.2	0.0	0.0	15.5	26.0	26.0	5.2	65.1	0.0
Prop In Lane	1.00		0.00	0.33		0.33	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	331	357		352	0	0	290	1274	1341	222	1927	
V/C Ratio(X)	0.75	0.00		0.01	0.00	0.00	1.22	0.60	0.60	0.00	1.02	
Avail Cap(c_a), veh/h	397	444		426	0	0	290	1274	1341	222	1927	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	47.6	39.3	0.0	39.3	0.0	0.0	42.9	8.5	8.5	15.0	27.5	0.0
Incr Delay (d2), s/veh	6.4	0.0	0.0	0.0	0.0	0.0	124.8	2.1	2.0	0.0	25.9	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.9	0.0	0.0	0.1	0.0	0.0	18.5	8.7	9.2	0.0	31.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.9	39.3	0.0	39.3	0.0	0.0	167.7	10.6	10.5	15.1	53.4	0.0
LnGrp LOS	D	D		D	A	A	F	B	B	B	F	
Approach Vol, veh/h		249			3			1935			1968	
Approach Delay, s/veh		53.8			39.3			39.2			53.4	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	21.0	70.6		28.4		91.6		28.4				
Change Period (Y+Rc), s	5.5	5.5		5.5		5.5		5.5				
Max Green Setting (Gmax), s	15.5	59.5		28.5		80.5		28.5				
Max Q Clear Time (g_c+I1), s	17.5	67.1		22.6		28.0		2.2				
Green Ext Time (p_c), s	0.0	0.0		0.4		33.2		0.0				

Intersection Summary

HCM 6th Ctrl Delay	46.8
HCM 6th LOS	D

Notes

Unsignalized Delay for [EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection							
Int Delay, s/veh	6.6						
Movement	WBL	WBR	NBT	NBR	SBU	SBL	SBT
Lane Configurations	↘	↗	↕	↗		↘	↕
Traffic Vol, veh/h	91	45	951	101	1	38	599
Future Vol, veh/h	91	45	951	101	1	38	599
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	-	None
Storage Length	0	0	-	175	-	0	-
Veh in Median Storage, #	0	-	0	-	-	-	0
Grade, %	0	-	0	-	-	-	0
Peak Hour Factor	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	4	2	2	2	4
Mvmt Flow	99	49	1034	110	1	41	651

Major/Minor	Minor1	Major1	Major2				
Conflicting Flow All	1444	517	0	0	1034	1144	0
Stage 1	1034	-	-	-	-	-	-
Stage 2	410	-	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	6.44	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.52	2.22	-
Pot Cap-1 Maneuver	123	503	-	-	316	606	-
Stage 1	304	-	-	-	-	-	-
Stage 2	638	-	-	-	-	-	-
Platoon blocked, %			-	-			-
Mov Cap-1 Maneuver	114	503	-	-	589	589	-
Mov Cap-2 Maneuver	114	-	-	-	-	-	-
Stage 1	304	-	-	-	-	-	-
Stage 2	593	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	85.8	0	0.7
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	114	503	589
HCM Lane V/C Ratio	-	-	0.868	0.097	0.072
HCM Control Delay (s)	-	-	121.8	12.9	11.6
HCM Lane LOS	-	-	F	B	B
HCM 95th %tile Q(veh)	-	-	5.2	0.3	0.2

Intersection						
Int Delay, s/veh	0.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↗	↗		↗
Traffic Vol, veh/h	0	58	596	121	0	447
Future Vol, veh/h	0	58	596	121	0	447
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Free	-	None
Storage Length	-	0	-	175	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	7
Mvmt Flow	0	63	648	132	0	486

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	-	648	0	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.22	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.318	-	-	-	-
Pot Cap-1 Maneuver	0	470	-	0	0	-
Stage 1	0	-	-	0	0	-
Stage 2	0	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	-	470	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

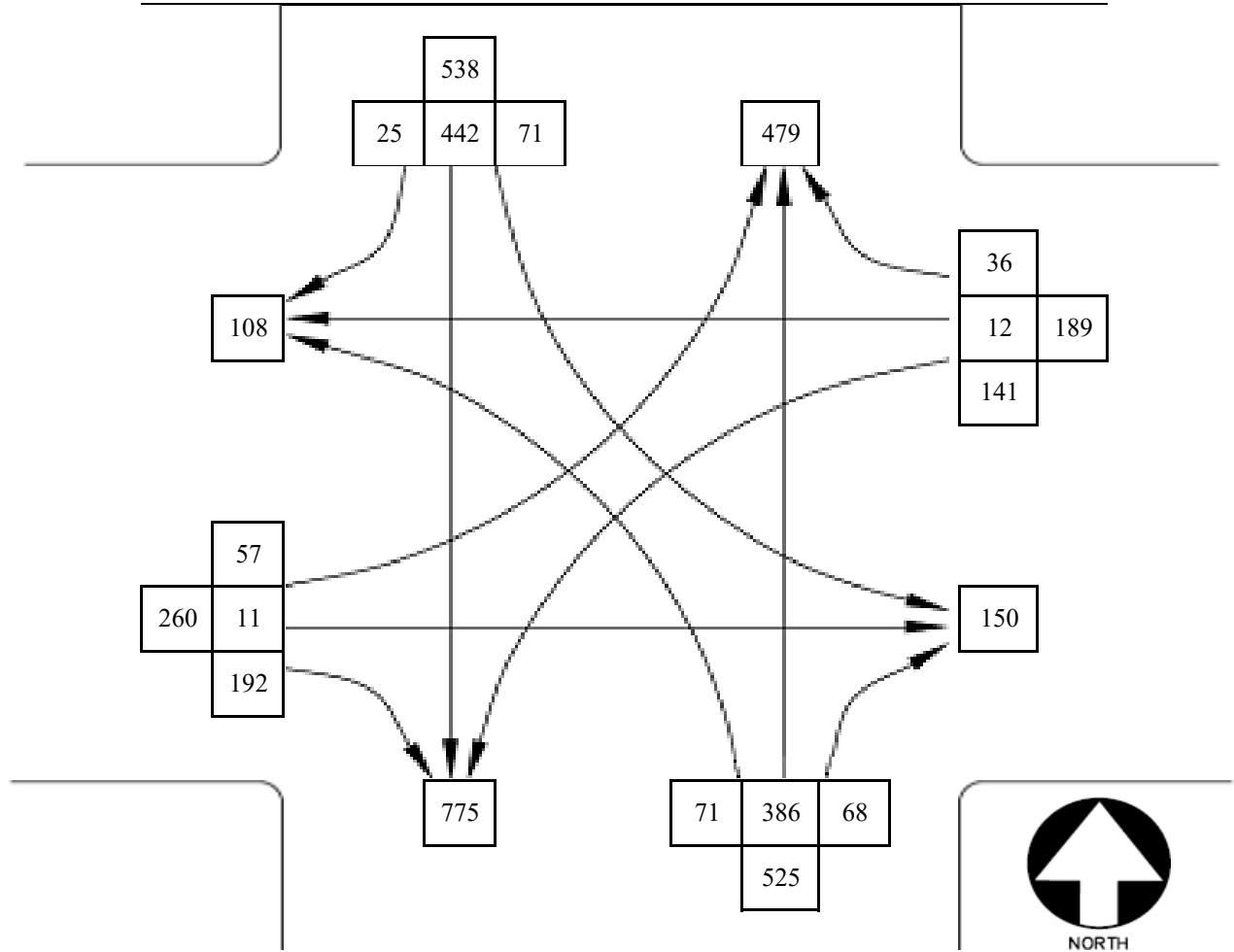
Approach	WB	NB	SB
HCM Control Delay, s	13.8	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBTWBLn1	SBT
Capacity (veh/h)	- 470	-
HCM Lane V/C Ratio	- 0.134	-
HCM Control Delay (s)	- 13.8	-
HCM Lane LOS	- B	-
HCM 95th %tile Q(veh)	- 0.5	-

LEFT TURN PHASE ANALYSIS

Future Traffic Count Summary Sheet

Peak Hour Count (AM)



Little Neck Rd @ Al Henderson Blvd / Site Driveway 3 (Middle)

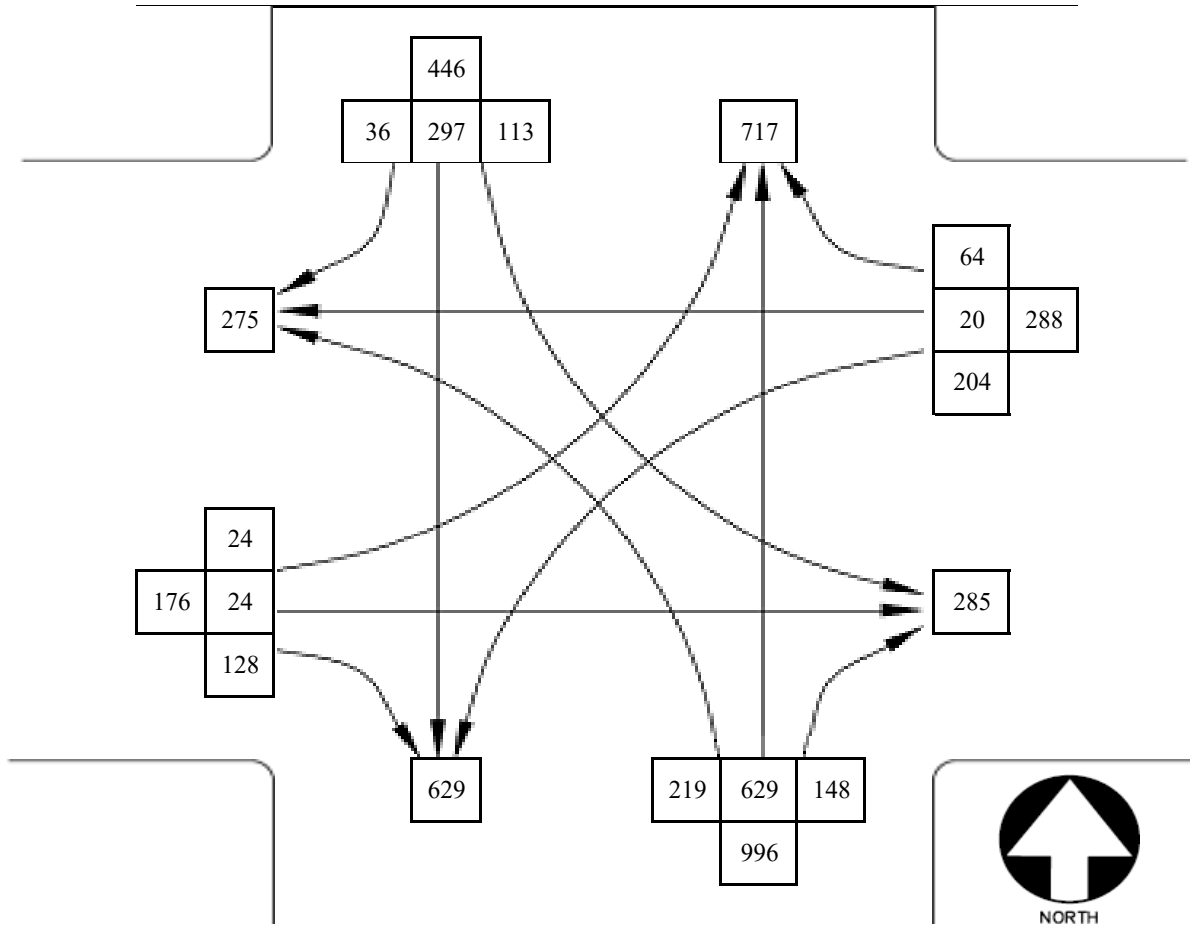
Conflicting Movements	Through Volume (V_o)	Left Turn Volume (V_{lt})	Opposing Lanes (N_o)	Cross-Product ($V_o \times V_{lt} + N_o$)	Cross-Product Warrant?	Peak Volume Warrant?	Turn Phase Recommended?
NBL & SBT	442	71	1	31,382	Lagging Phase	NO	YES, Lagging
SBL & NBT	386	71	2	13,703	NO	NO	NO
EBL & WBT	12	57	1	684	NO	NO	NO
WBL & EBT	11	141	1	1,551	NO	YES	YES, Leading

LEFT TURN CRITERIA - AM PEAK HOUR

A&R Engineering Inc.

Future Traffic Count Summary Sheet

Peak Hour Count (PM)



Little Neck Rd @ Al Henderson Blvd / Site Driveway 3 (Middle)

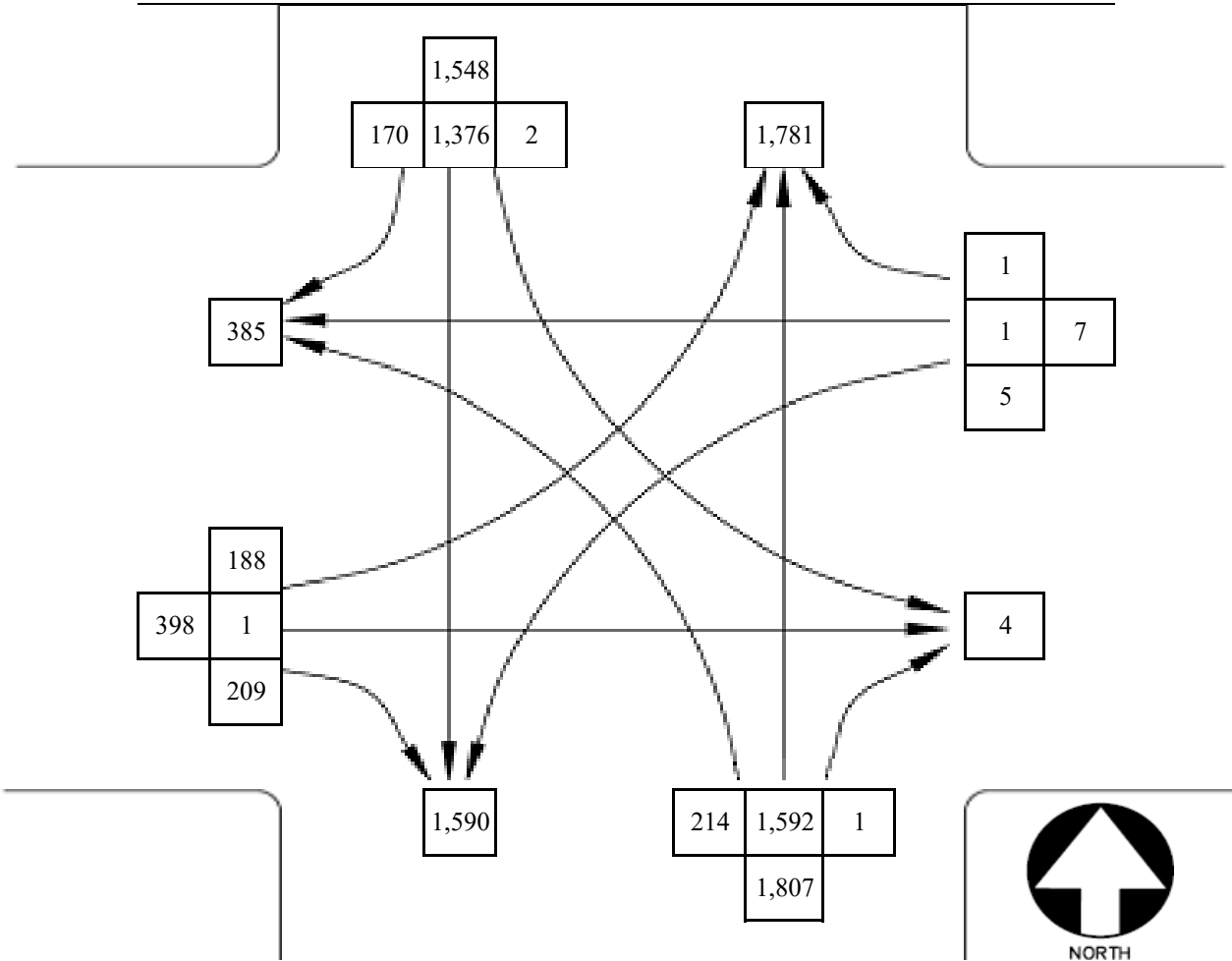
Conflicting Movements	Through Volume (V_o)	Left Turn Volume (V_{lt})	Opposing Lanes (N_o)	Cross-Product ($V_o \times V_{lt} + N_o$)	Cross-Product Warrant?	Peak Volume Warrant?	Turn Phase Recommended?
NBL & SBT	297	219	1	65,043	YES	YES	YES, Leading
SBL & NBT	629	113	2	35,539	Lagging Phase	Lagging Phase	YES, Lagging
EBL & WBT	20	24	1	480	NO	NO	NO
WBL & EBT	24	204	1	4,896	NO	YES	YES, Leading

LEFT TURN CRITERIA - PM PEAK HOUR

A&R Engineering Inc.

Future Traffic Count Summary Sheet

Peak Hour Count (AM)



SR 25/US 17 (Ogeechee Rd) @ Site Driveway 1 / Cohen Street

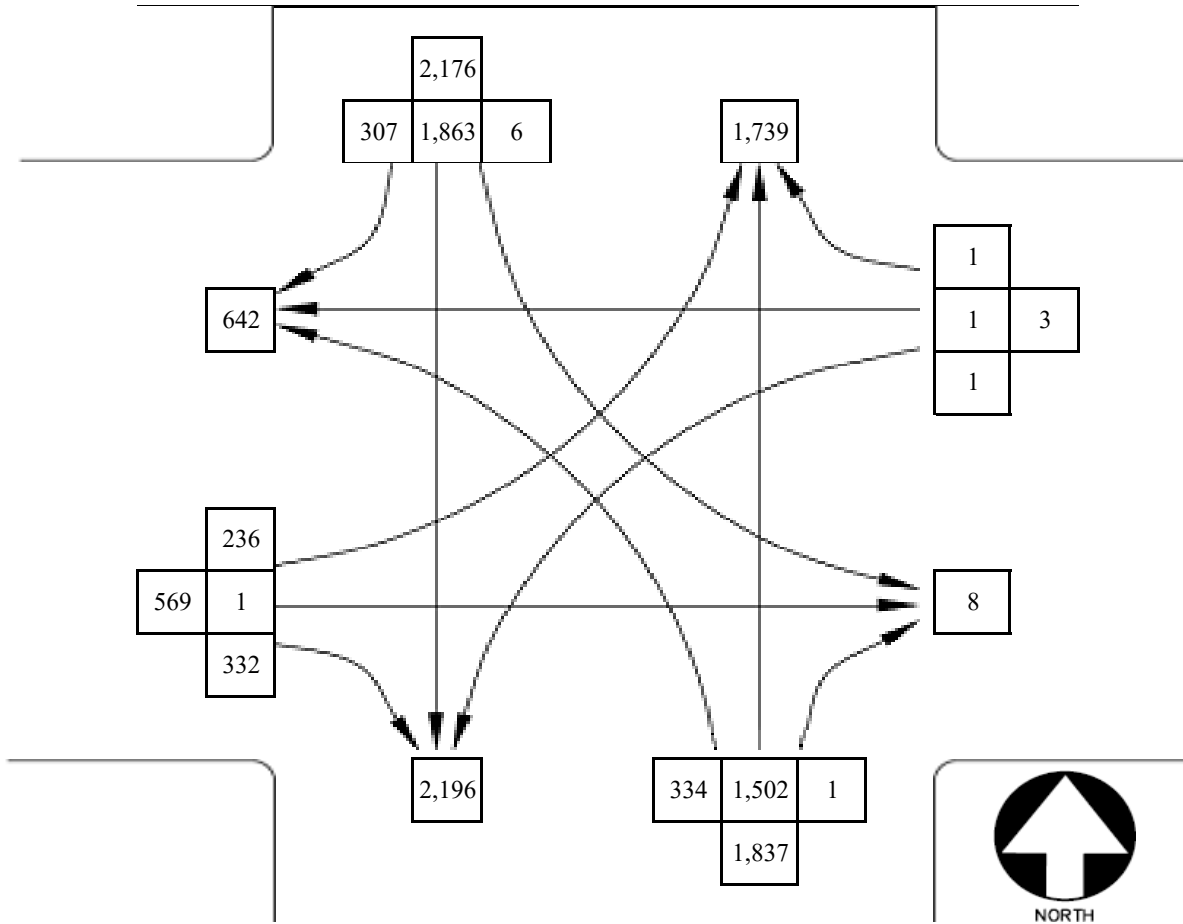
Conflicting Movements	Through Volume (V_o)	Left Turn Volume (V_{lt})	Opposing Lanes (N_o)	Cross-Product ($V_o \times V_{lt} + N_o$)	Cross-Product Warrant?	Peak Volume Warrant?	Turn Phase Recommended?
NBL & SBT	1,376	214	2	147,232	YES	YES	YES, Leading
SBL & NBT	1,592	2	2	1,592	NO	NO	NO
EBL & WBT	1	188	1	188	NO	YES	YES, Leading
WBL & EBT	1	5	1	5	NO	NO	NO

LEFT TURN CRITERIA - AM PEAK HOUR

A&R Engineering Inc.

Future Traffic Count Summary Sheet

Peak Hour Count (PM)



SR 25/US 17 (Ogeechee Rd) @ Site Driveway 1 / Cohen Street

Conflicting Movements	Through Volume (V_o)	Left Turn Volume (V_{lt})	Opposing Lanes (N_o)	Cross-Product ($V_o \times V_{lt} + N_o$)	Cross-Product Warrant?	Peak Volume Warrant?	Turn Phase Recommended?
NBL & SBT	1,863	334	2	311,121	YES	YES	YES, Leading
SBL & NBT	1,502	6	2	4,506	NO	NO	NO
EBL & WBT	1	236	1	236	NO	YES	YES, Leading
WBL & EBT	1	1	1	1	NO	NO	NO

LEFT TURN CRITERIA - PM PEAK HOUR

A&R Engineering Inc.

TRAFFIC VOLUME WORKSHEETS

23-078 Keller Mixed-Use Development - Savannah, Chatham County, GA
Traffic Volumes

A&R IA&R Engineering
 August 2023

1. Little Neck @ Al Henderson-Drw3

A.M. Peak Hour

Condition	Little Neck Road						Little Neck Road						Al Henderson Boulevard						Site Driveway 3 (Middle)						
	Northbound			Southbound			Northbound			Southbound			Eastbound			Westbound			Eastbound			Westbound			
	U	L	Tot	U	L	Tot	U	L	Tot	U	L	Tot	U	L	Tot	U	L	Tot	U	L	Tot	U	L	Tot	
Existing 2023 Traffic Counts:	0	59	264	0	323	0	0	364	21	385	0	0	47	0	159	206	0	0	0	0	0	0	0	0	0
Growth Factor (%):	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Shifted Church Trips due to Median on Little Neck Rd:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No-Build 2030 Volumes:	0	71	319	0	390	0	0	440	25	465	0	0	57	0	192	249	0	0	0	0	0	0	0	0	0
Shifted Grove Point Road LT Volumes due to Median Break Relocation:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Proposed Development New Trips:	0	0	79	56	135	0	44	29	0	73	0	0	0	11	0	11	0	114	12	24	150				
Proposed Development Pass-by Trips:	0	0	-12	12	0	0	27	-27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2030 Traffic Volumes:	0	71	386	68	525	0	71	442	25	538	0	57	11	192	260	0	141	12	36	189					

P.M. Peak Hour

Condition	Little Neck Road						Little Neck Road						Al Henderson Boulevard						Site Driveway 3 (Middle)					
	Northbound			Southbound			Northbound			Southbound			Eastbound			Westbound			Eastbound			Westbound		
	U	L	Tot	U	L	Tot	U	L	Tot	U	L	Tot	U	L	Tot	U	L	Tot	U	L	Tot	U	L	Tot
Existing 2023 Traffic Counts:	0	181	413	0	594	0	0	208	30	238	0	19	0	106	125	0	0	0	0	0	0	0	0	0
Growth Factor (%):	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Shifted Church Trips due to Median on Little Neck Rd:	0	0	-1	0	-1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0
No-Build 2030 Volumes:	0	219	499	0	718	0	0	252	36	288	0	24	0	128	152	0	0	0	0	0	0	0	0	0
Shifted Grove Point Road LT Volumes due to Median Break Relocation:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Proposed Development New Trips:	0	0	155	123	278	0	95	63	0	158	0	0	24	0	24	0	186	20	39	245				
Proposed Development Pass-by Trips:	0	0	-25	25	0	0	18	-18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2030 Traffic Volumes:	0	219	629	148	996	0	113	297	36	446	0	24	24	128	176	0	204	20	64	288				

23-078 Keller Mixed-Use Development - Savannah, Chatham County, GA
Traffic Volumes

A&R I&A&R Engineering
 August 2023

2. Little Neck @ Church Drwy
A.M. Peak Hour

Condition	Little Neck Road					Little Neck Road					Compassion Christian Church Driveway (Existing Full Access, Future Right-Out)					-				
	Northbound					Southbound					Eastbound					Westbound				
	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot
Existing 2023 Traffic Counts:	0	2	322	0	324	0	0	518	0	518	0	0	0	2	2	0	0	0	0	0
Growth Factor (%):	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Shifted Church Trips due to Median on Little Neck Rd:	0	-2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No-Build 2030 Volumes:	0	0	392	0	392	0	0	627	0	627	0	0	0	2	2	0	0	0	0	0
Shifted Grove Point Road LT Volumes due to Median Break Relocation:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Proposed Development New Trips:	0	0	135	0	135	0	0	143	0	143	0	0	0	0	0	0	0	0	0	0
Proposed Development Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2030 Traffic Volumes:	0	0	527	0	527	0	0	770	0	770	0	0	0	2	2	0	0	0	0	0

P.M. Peak Hour

Condition	Little Neck Road					Little Neck Road					Compassion Christian Church Driveway (Existing Full Access, Future Right-Out)					-				
	Northbound					Southbound					Eastbound					Westbound				
	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot
Existing 2023 Traffic Counts:	0	6	587	0	593	0	0	315	0	315	0	2	0	5	7	0	0	0	0	0
Growth Factor (%):	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Shifted Church Trips due to Median on Little Neck Rd:	0	-7	8	0	1	0	0	0	0	0	0	-2	0	1	-1	0	0	0	0	0
No-Build 2030 Volumes:	0	0	718	0	718	0	0	381	0	381	0	0	0	7	7	0	0	0	0	0
Shifted Grove Point Road LT Volumes due to Median Break Relocation:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Proposed Development New Trips:	0	0	278	0	278	0	0	250	0	250	0	0	0	0	0	0	0	0	0	0
Proposed Development Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2030 Traffic Volumes:	0	0	996	0	996	0	0	631	0	631	0	0	0	7	7	0	0	0	0	0

23-078 Keller Mixed-Use Development - Savannah, Chatham County, GA
Traffic Volumes

A&R IA&R Engineering
 August 2023

4. SR 25/US 17 @ Cohen-Drwy1

A.M. Peak Hour

Condition	SR 25/US 17 (Ogeechee Road)						SR 25/US 17 (Ogeechee Road)						Site Driveway 1						Cohen Street					
	Northbound			Southbound			Northbound			Southbound			Eastbound			Westbound			Eastbound			Westbound		
	U	L	Tot	U	L	Tot	U	L	Tot	U	L	Tot	U	L	Tot	U	L	Tot	U	L	Tot	U	L	Tot
Existing 2023 Traffic Counts:	0	0	1385	0	0	1385	0	0	1204	0	0	1204	0	0	0	0	0	0	0	0	0	0	0	0
Growth Factor (%):	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Shifted Church Trips due to Median on Little Neck Rd:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No-Build 2030 Volumes:	0	0	1676	0	0	1676	0	0	1457	0	0	1457	0	0	0	0	0	0	0	0	0	0	0	0
Shifted Grove Point Road LT Volumes due to Median Break Relocation:	5	0	5	5	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Proposed Development New Trips:	0	90	40	0	1	131	0	1	27	0	64	92	0	60	100	0	1	161	0	1	1	0	1	1
Proposed Development Pass-by Trips:	0	124	-124	0	0	0	0	0	-106	0	106	0	0	128	0	0	109	237	0	0	0	0	0	0
Future 2030 Traffic Volumes:	5	214	1592	1	1	1812	0	1	1378	170	1549	1549	0	188	1	209	398	398	0	1	1	1	1	1

P.M. Peak Hour

Condition	SR 25/US 17 (Ogeechee Road)						SR 25/US 17 (Ogeechee Road)						Site Driveway 1						Cohen Street					
	Northbound			Southbound			Northbound			Southbound			Eastbound			Westbound			Eastbound			Westbound		
	U	L	Tot	U	L	Tot	U	L	Tot	U	L	Tot	U	L	Tot	U	L	Tot	U	L	Tot	U	L	Tot
Existing 2023 Traffic Counts:	0	0	1300	0	0	1300	0	0	1635	0	1635	1635	0	0	0	0	0	0	0	0	0	0	0	0
Growth Factor (%):	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Shifted Church Trips due to Median on Little Neck Rd:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No-Build 2030 Volumes:	0	0	1573	0	0	1573	0	0	1978	0	1978	1978	0	0	0	0	0	0	0	0	0	0	0	0
Shifted Grove Point Road LT Volumes due to Median Break Relocation:	1	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Proposed Development New Trips:	0	197	66	1	264	264	0	1	59	139	199	199	0	99	1	163	263	263	0	1	1	1	1	1
Proposed Development Pass-by Trips:	0	137	-137	0	0	0	0	0	-168	168	0	0	0	137	0	169	306	306	0	0	0	0	0	0
Future 2030 Traffic Volumes:	1	334	1502	1	1838	1838	0	1	1869	307	2177	2177	0	236	1	332	569	569	0	1	1	1	1	1

23-078 Keller Mixed-Use Development - Savannah, Chatham County, GA
Traffic Volumes

A&R IA&R Engineering
 August 2023

7. SR 25/US17@ Little Neck Rd

A.M. Peak Hour

Condition	SR 25/US 17 (Ogeechee Road)						SR 25/US 17 (Ogeechee Road)						Little Neck Road						Keller's Auto Sales Driveway														
	Northbound			Southbound			Northbound			Southbound			Eastbound			Westbound			Eastbound			Westbound											
	U	L	T	R	T	U	U	L	T	R	T	U	U	L	T	R	T	U	U	L	T	R	T	U	U	L	T	R	T	U			
Existing 2023 Traffic Counts:	0	186	1145	1	1332	0	2	1054	121	1177	0	237	0	300	537	0	1	0	0	0	1	0	1	0	0	0	1	0	1	0	0	0	1
Growth Factor (%):	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Shifted Church Trips due to Median on Little Neck Rd:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No-Build 2030 Volumes:	0	225	1385	1	1611	0	2	1275	146	1423	0	287	0	363	650	0	1	0	0	0	1	0	1	0	0	0	1	0	1	0	0	0	1
Shifted Grove Point Road LT Volumes due to Median Break Relocation:	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Proposed Development New Trips:	0	113	76	0	189	0	0	84	43	127	0	55	0	125	180	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Proposed Development Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2030 Traffic Volumes:	0	338	1461	1	1800	2	2	1359	189	1552	0	342	0	488	830	0	1	0	0	0	1	0	1	0	0	0	1	0	1	0	0	0	1

P.M. Peak Hour

Condition	SR 25/US 17 (Ogeechee Road)						SR 25/US 17 (Ogeechee Road)						Little Neck Road						Keller's Auto Sales Driveway														
	Northbound			Southbound			Northbound			Southbound			Eastbound			Westbound			Eastbound			Westbound											
	U	L	T	R	T	U	U	L	T	R	T	U	U	L	T	R	T	U	U	L	T	R	T	U	U	L	T	R	T	U			
Existing 2023 Traffic Counts:	0	312	1088	1	1401	0	0	1305	305	1610	0	159	1	189	349	0	0	0	0	0	8	0	0	0	0	0	8	0	0	0	0	0	8
Growth Factor (%):	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Shifted Church Trips due to Median on Little Neck Rd:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No-Build 2030 Volumes:	0	378	1316	1	1695	0	0	1579	369	1948	0	192	1	229	422	0	0	0	0	0	10	0	0	0	0	0	10	0	0	0	0	0	10
Shifted Grove Point Road LT Volumes due to Median Break Relocation:	0	0	0	0	0	6	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Proposed Development New Trips:	0	247	165	0	412	0	0	137	86	223	0	98	0	205	303	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Proposed Development Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2030 Traffic Volumes:	0	625	1481	1	2107	6	0	1716	455	2177	0	290	1	434	725	0	0	0	0	0	10	0	0	0	0	0	10	0	0	0	0	0	10

23-078 Keller Mixed-Use Development - Savannah, Chatham County, GA
Traffic Volumes

A&R IA&R Engineering
 August 2023

8. SR 25-US 17 @ Grove Point Rd
A.M. Peak Hour

Condition	SR 25/US 17 (Ogeechee Road)						SR 25/US 17 (Ogeechee Road)						Private Driveway						Grove Point Road (Future RIRO) Westbound							
	Northbound			Southbound			Northbound			Southbound			Eastbound			Westbound			Eastbound			Westbound				
	U	L	Tot	U	L	Tot	U	L	Tot	U	L	Tot	U	L	Tot	U	L	Tot	U	L	Tot	U	L	Tot		
Existing 2023 Traffic Counts:	0	0	1382	2	1384	0	2	1202	0	1204	0	0	0	0	0	0	0	0	0	0	4	0	3	7		
Growth Factor (%):	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Shifted Church Trips due to Median on Little Neck Rd:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No-Build 2030 Volumes:	0	0	1672	2	1674	0	2	1454	0	1456	0	0	0	0	0	0	0	0	0	0	0	5	0	4	9	
Shifted Grove Point Road LI Volumes due to Median Break Relocation:	0	0	0	2	2	0	-2	7	0	5	0	0	0	0	0	0	0	0	-5	0	5	0				
Proposed Development New Trips:	0	0	130	0	130	0	0	127	0	127	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Proposed Development Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Future 2030 Traffic Volumes:	0	0	1802	4	1806	0	0	1588	0	1588	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9

P.M. Peak Hour

Condition	SR 25/US 17 (Ogeechee Road)						SR 25/US 17 (Ogeechee Road)						Private Driveway						Grove Point Road (Future RIRO) Westbound					
	Northbound			Southbound			Northbound			Southbound			Eastbound			Westbound			Eastbound			Westbound		
	U	L	Tot	U	L	Tot	U	L	Tot	U	L	Tot	U	L	Tot	U	L	Tot	U	L	Tot	U	L	Tot
Existing 2023 Traffic Counts:	0	0	1294	2	1296	0	5	1629	1	1635	0	0	0	1	1	0	1	0	6	7				
Growth Factor (%):	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
Shifted Church Trips due to Median on Little Neck Rd:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No-Build 2030 Volumes:	0	0	1566	2	1568	0	6	1971	1	1978	0	0	0	1	1	0	1	0	7	8				
Shifted Grove Point Road LI Volumes due to Median Break Relocation:	0	0	0	6	6	0	-6	7	0	1	0	0	0	0	0	-1	0	1	0					
Proposed Development New Trips:	0	0	262	0	262	0	0	223	0	223	0	0	0	0	0	0	0	0	0	0	0	0	0	
Proposed Development Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2030 Traffic Volumes:	0	0	1828	8	1836	0	0	2201	1	2202	0	0	0	1	1	0	0	0	8	8				