

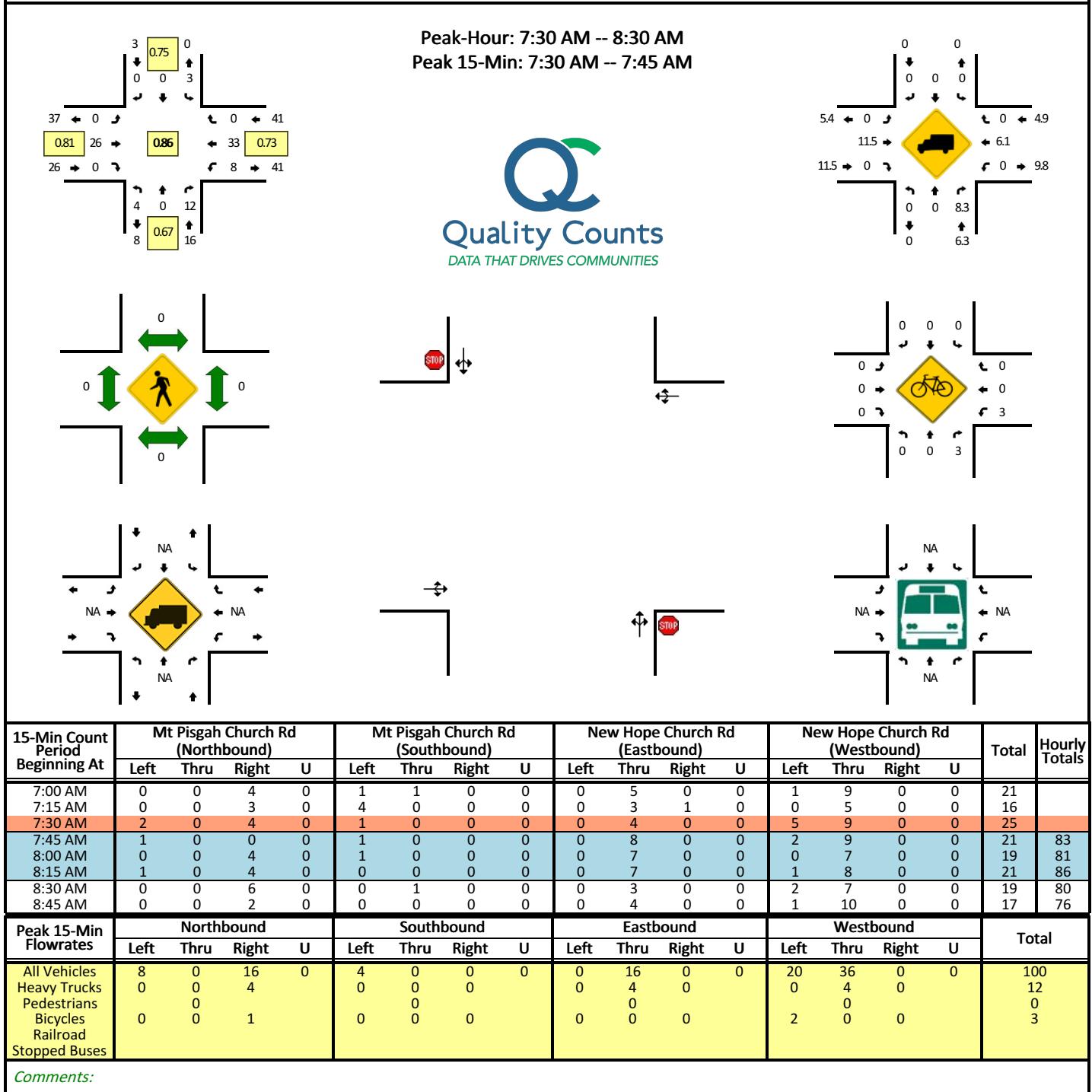
TECHNICAL APPENDIX

APPENDIX A

TRAFFIC COUNT DATA

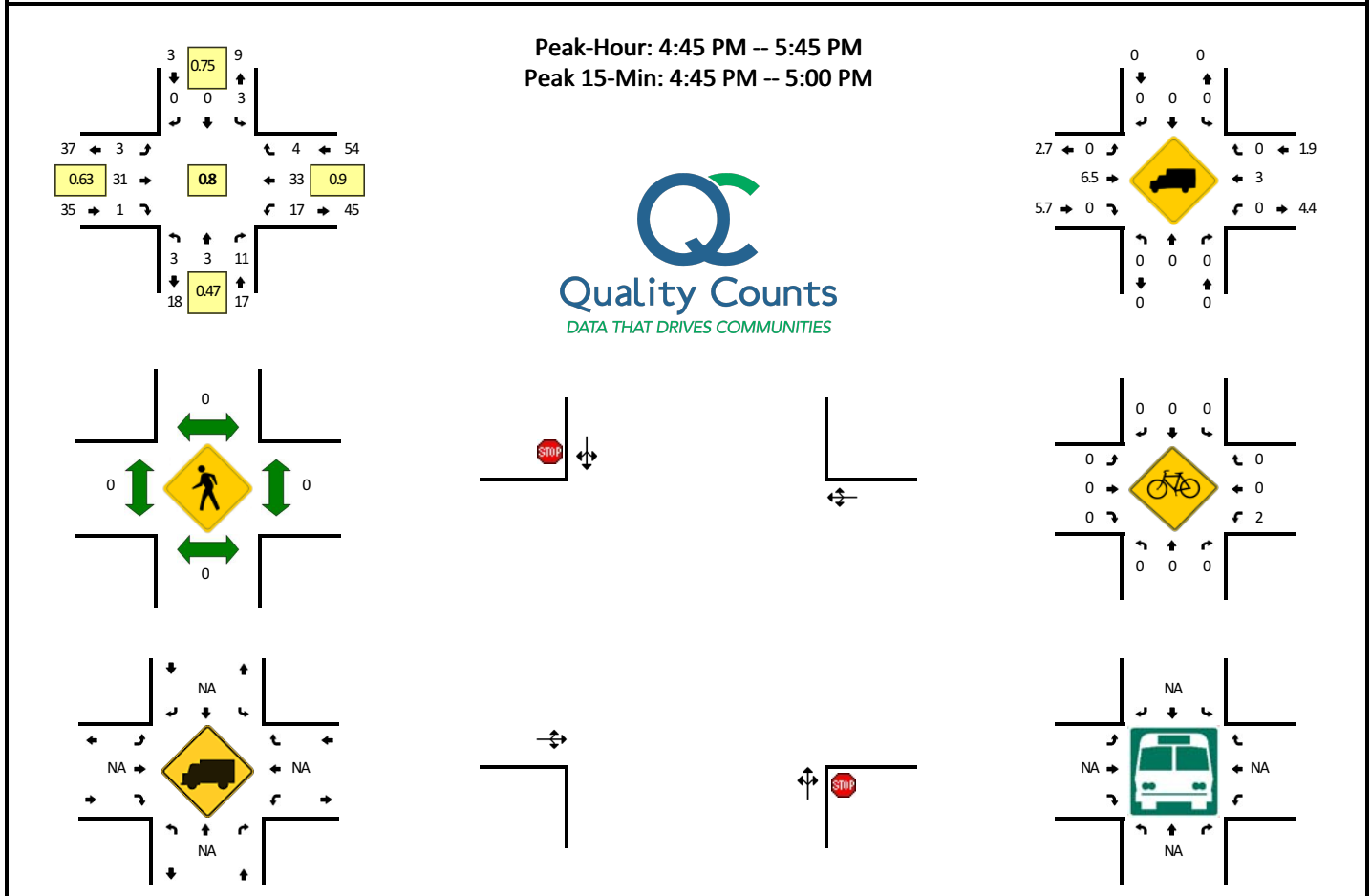
LOCATION: Mt Pisgah Church Rd -- New Hope Church Rd
CITY/STATE: Cary, NC

QC JOB #: 14970001
DATE: Thu, May 2 2019



LOCATION: Mt Pisgah Church Rd -- New Hope Church Rd
CITY/STATE: Cary, NC

QC JOB #: 14970002
DATE: Thu, May 2 2019

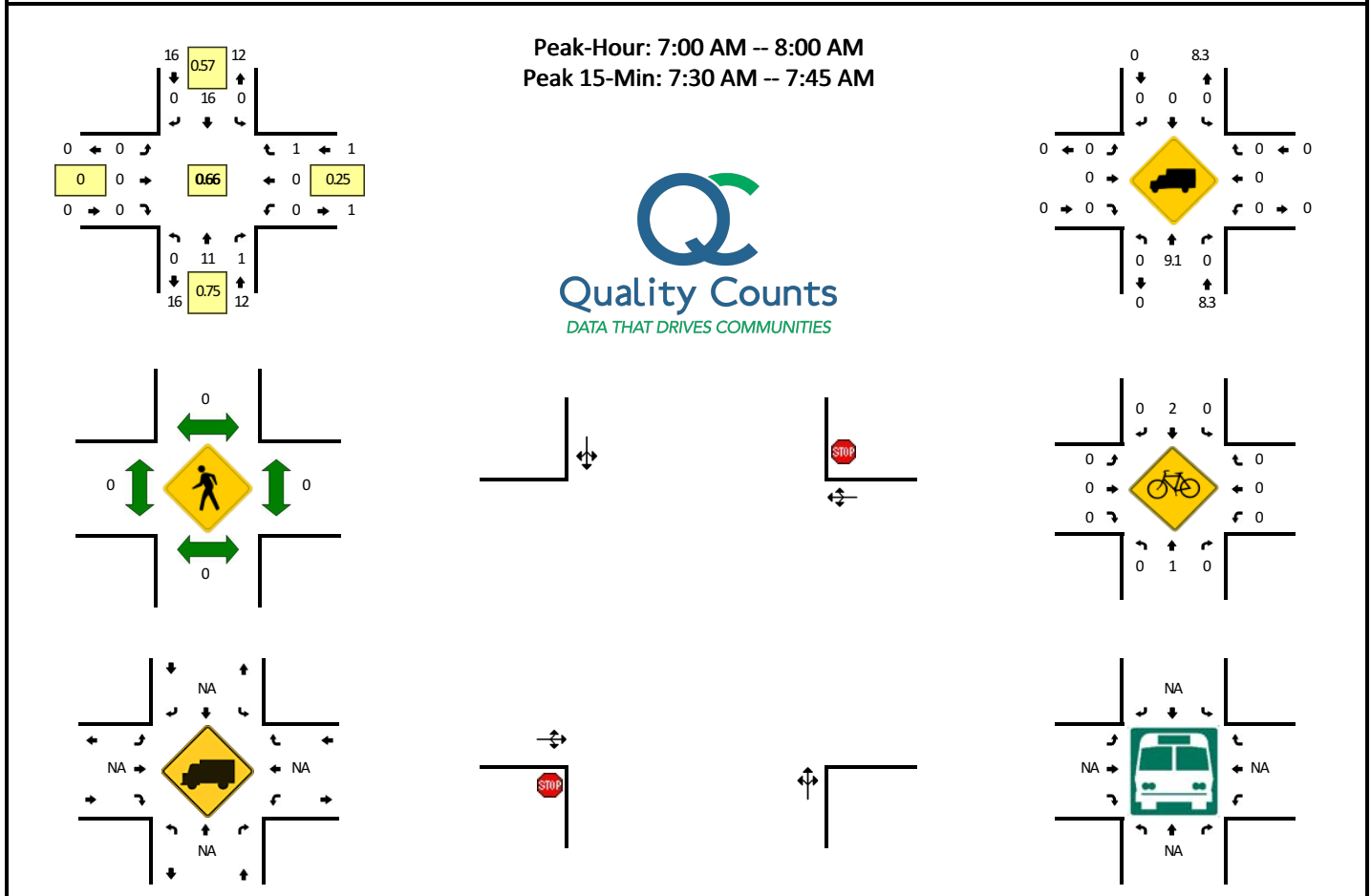


15-Min Count Period Beginning At	Mt Pisgah Church Rd (Northbound)				Mt Pisgah Church Rd (Southbound)				New Hope Church Rd (Eastbound)				New Hope Church Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	1	0	0	0	1	0	0	5	0	0	1	8	0	0	16	
4:15 PM	0	0	1	0	0	0	0	0	0	6	0	0	4	10	0	0	21	
4:30 PM	1	0	3	0	0	0	0	0	0	8	0	0	1	8	1	0	22	
4:45 PM	1	0	4	0	0	0	0	0	0	14	0	0	6	9	0	0	34	93
5:00 PM	0	0	1	0	1	0	0	0	0	3	0	1	4	6	2	0	18	95
5:15 PM	0	2	0	0	1	0	0	0	1	9	0	0	5	6	2	0	26	100
5:30 PM	2	1	6	0	1	0	0	0	1	5	1	0	2	12	0	0	31	109
5:45 PM	1	0	4	0	0	0	0	0	0	11	1	0	8	6	1	0	32	107
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	4	0	16	0	0	0	0	0	0	56	0	0	24	36	0	0	136	
Heavy Trucks	0	0	0	0	0	0	0	0	0	4	0	0	0	4	0	0	8	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	
Railroad																		
Stopped Buses																		

Comments:

LOCATION: Mt Pisgah Church Rd -- Earnest Jones Rd
CITY/STATE: Cary, NC

QC JOB #: 14970003
DATE: Thu, May 2 2019

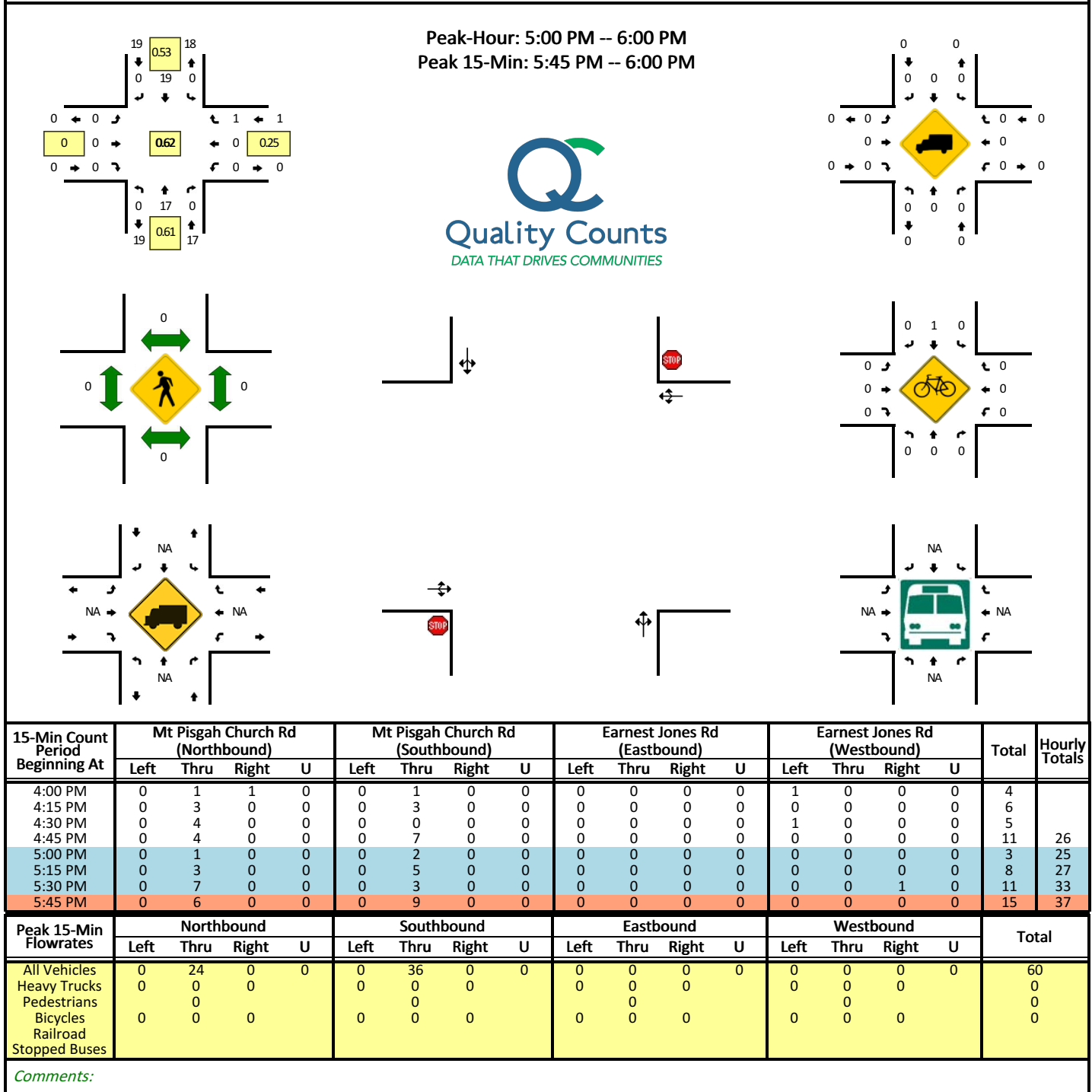


15-Min Count Period Beginning At	Mt Pisgah Church Rd (Northbound)				Mt Pisgah Church Rd (Southbound)				Earnest Jones Rd (Eastbound)				Earnest Jones Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	2	0	0	0	3	0	0	0	0	0	0	0	0	0	0	5	
7:15 AM	0	4	0	0	0	3	0	0	0	0	0	0	0	0	0	0	7	
7:30 AM	0	3	0	0	0	7	0	0	0	0	0	0	0	0	1	0	11	
7:45 AM	0	2	1	0	0	3	0	0	0	0	0	0	0	0	0	0	6	29
8:00 AM	0	3	0	0	0	0	0	0	0	0	0	0	0	0	1	0	4	28
8:15 AM	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	26
8:30 AM	0	6	0	0	0	4	0	0	0	0	0	0	0	0	0	0	10	25
8:45 AM	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	4	23
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	12	0	0	0	28	0	0	0	0	0	0	0	0	4	0	44	
Heavy Trucks	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	3	
Railroad																		
Stopped Buses																		

Comments:

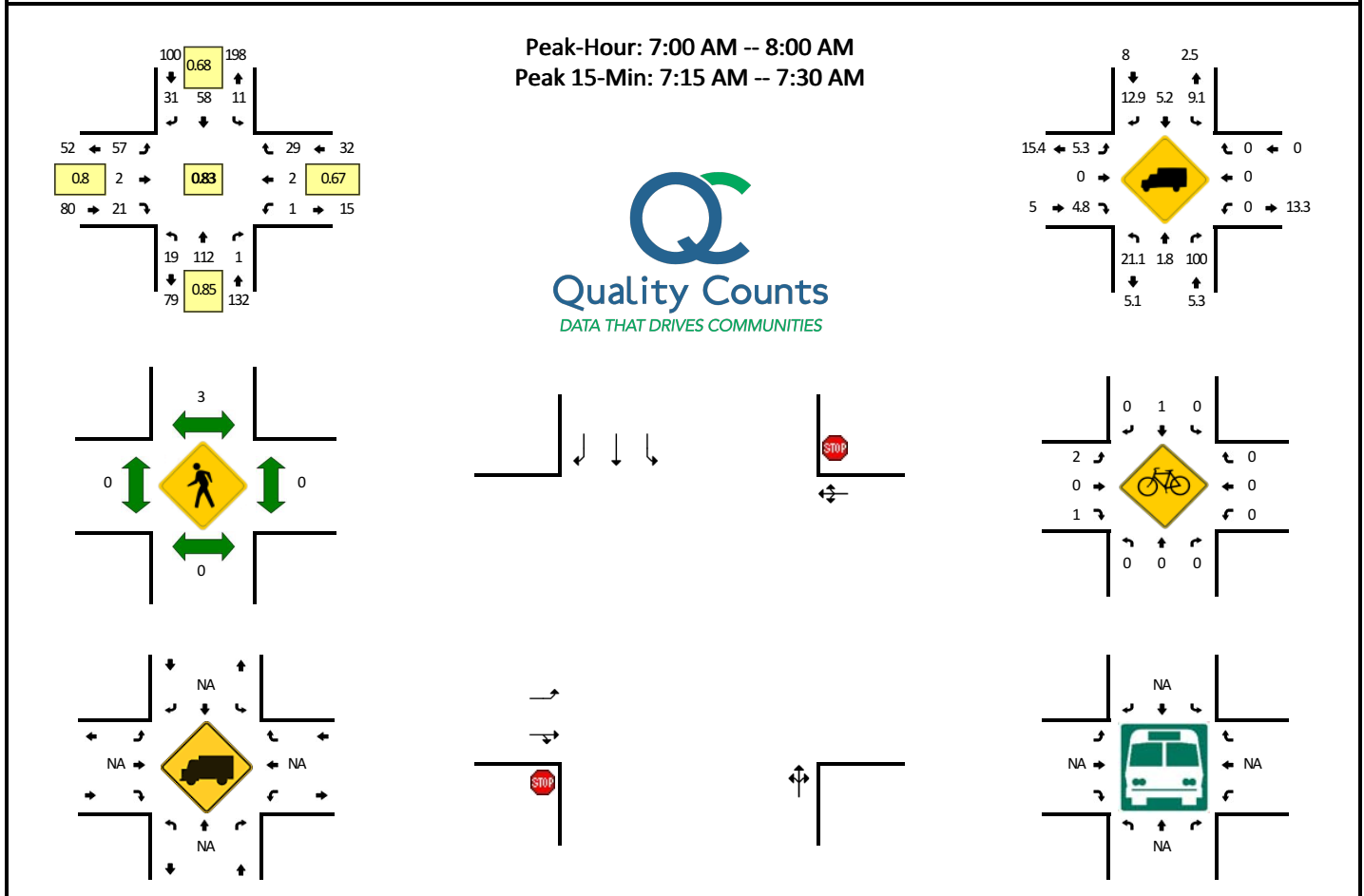
LOCATION: Mt Pisgah Church Rd -- Earnest Jones Rd
CITY/STATE: Cary, NC

QC JOB #: 14970004
DATE: Thu, May 2 2019



LOCATION: Yates Store Rd -- Rolling Springs Dr / New Hope Church Rd
CITY/STATE: Cary, NC

QC JOB #: 14970005
DATE: Thu, May 2 2019

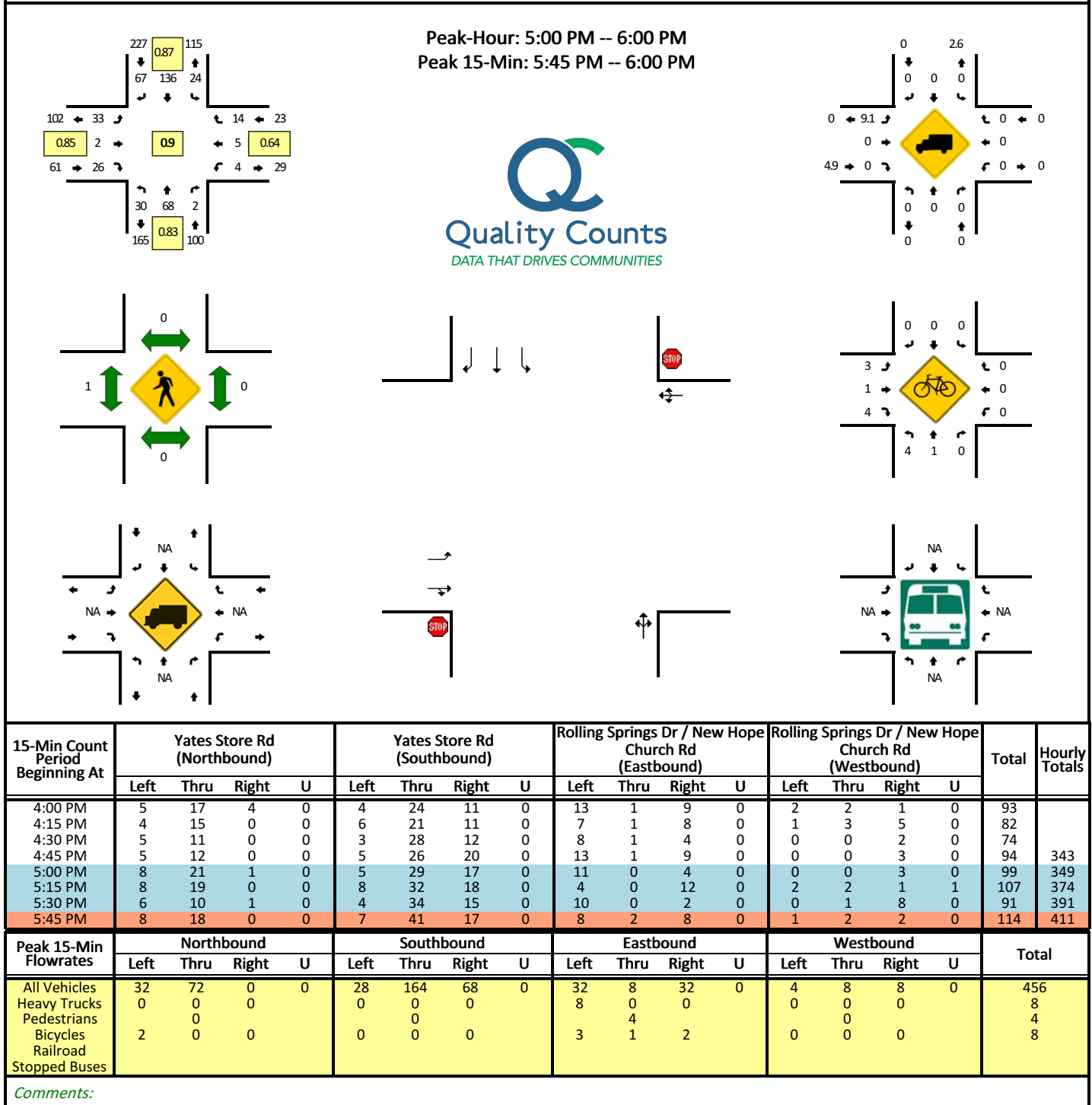


15-Min Count Period Beginning At	Yates Store Rd (Northbound)				Yates Store Rd (Southbound)				Rolling Springs Dr / New Hope Church Rd (Eastbound)				Rolling Springs Dr / New Hope Church Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	3	32	0	0	4	12	13	0	10	0	7	0	0	0	12	0	93	
7:15 AM	5	28	0	0	3	28	6	0	19	1	4	0	0	0	9	0	103	
7:30 AM	7	18	0	0	3	10	8	0	19	0	6	0	0	0	3	1	75	
7:45 AM	4	34	1	0	1	8	4	0	9	1	4	0	0	2	5	0	73	344
8:00 AM	4	35	0	0	3	8	5	0	19	0	6	0	0	0	9	0	89	340
8:15 AM	4	33	0	0	3	6	4	0	13	1	1	0	0	2	7	0	74	311
8:30 AM	8	41	0	0	1	20	6	0	7	0	1	0	0	0	8	0	92	328
8:45 AM	3	23	1	0	2	13	6	0	6	0	3	0	2	1	3	0	63	318
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	20	112	0	0	12	112	24	0	76	4	16	0	0	0	36	0	412	
Heavy Trucks	0	8	0	0	0	4	4	0	0	0	0	0	0	0	0	0	16	
Pedestrians	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	4	
Bicycles	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	2	
Railroad																		
Stopped Buses																		

Comments:

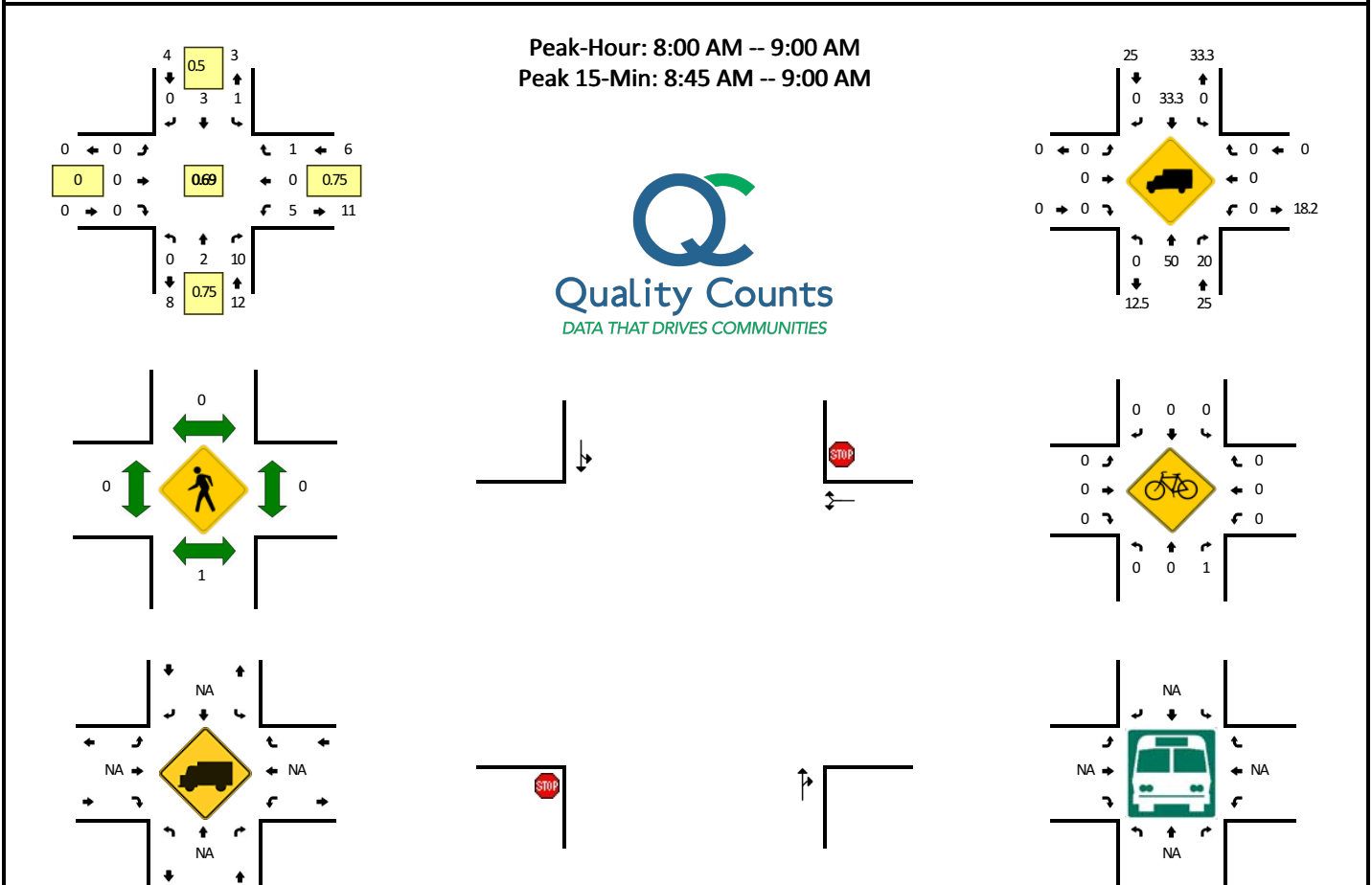
LOCATION: Yates Store Rd -- Rolling Springs Dr / New Hope Church Rd
CITY/STATE: Cary, NC

QC JOB #: 14970006
DATE: Thu, May 2 2019



LOCATION: E Ferrell Rd -- Yates Store Rd**CITY/STATE:** Cary, NC**QC JOB #:** 14970007**DATE:** Thu, May 2 2019

Peak-Hour: 8:00 AM -- 9:00 AM
 Peak 15-Min: 8:45 AM -- 9:00 AM



15-Min Count Period Beginning At	E Ferrell Rd (Northbound)				E Ferrell Rd (Southbound)				Yates Store Rd (Eastbound)				Yates Store Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	3	0	0	1	0	0	0	0	0	0	1	0	0	0	5	
7:15 AM	0	2	3	0	0	0	0	0	0	0	0	0	0	0	0	2	7	
7:30 AM	0	0	3	0	0	1	0	0	0	0	0	0	0	0	0	0	4	
7:45 AM	0	1	2	0	0	0	0	0	0	0	0	0	1	0	0	0	4	20
8:00 AM	0	0	3	0	1	0	0	0	0	0	0	0	1	0	1	0	6	21
8:15 AM	0	2	2	0	0	1	0	0	0	0	0	0	0	0	0	0	5	19
8:30 AM	0	0	1	0	0	0	0	0	0	0	0	0	2	0	0	0	3	18
8:45 AM	0	0	4	0	0	2	0	0	0	0	0	0	2	0	0	0	8	22
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	0	16	0	0	8	0	0	0	0	0	0	8	0	0	0	32	
Heavy Trucks	0	0	4		0	0	0		0	0	0		0	0	0		4	
Pedestrians	0	0	0		0	0	0		0	0	0		0	0	0		0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Railroad																		
Stopped Buses																		

Comments:

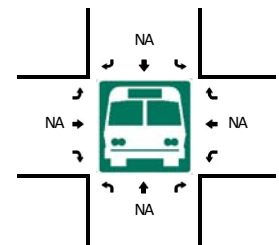
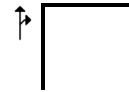
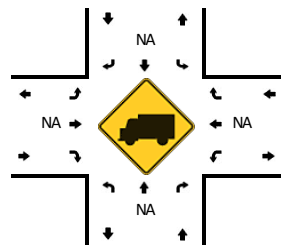
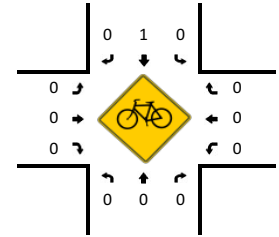
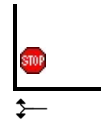
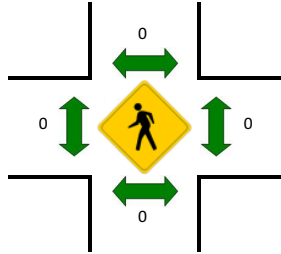
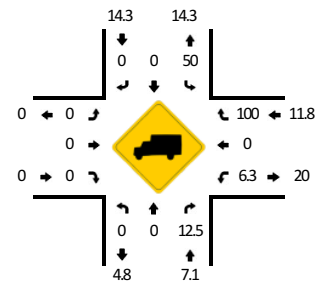
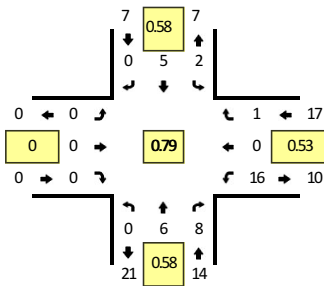
Report generated on 5/8/2019 11:04 AM

SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>) 1-877-580-2212

LOCATION: E Ferrell Rd -- Yates Store Rd
CITY/STATE: Cary, NC

QC JOB #: 14970008
DATE: Thu, May 2 2019

Peak-Hour: 4:45 PM -- 5:45 PM
Peak 15-Min: 5:15 PM -- 5:30 PM

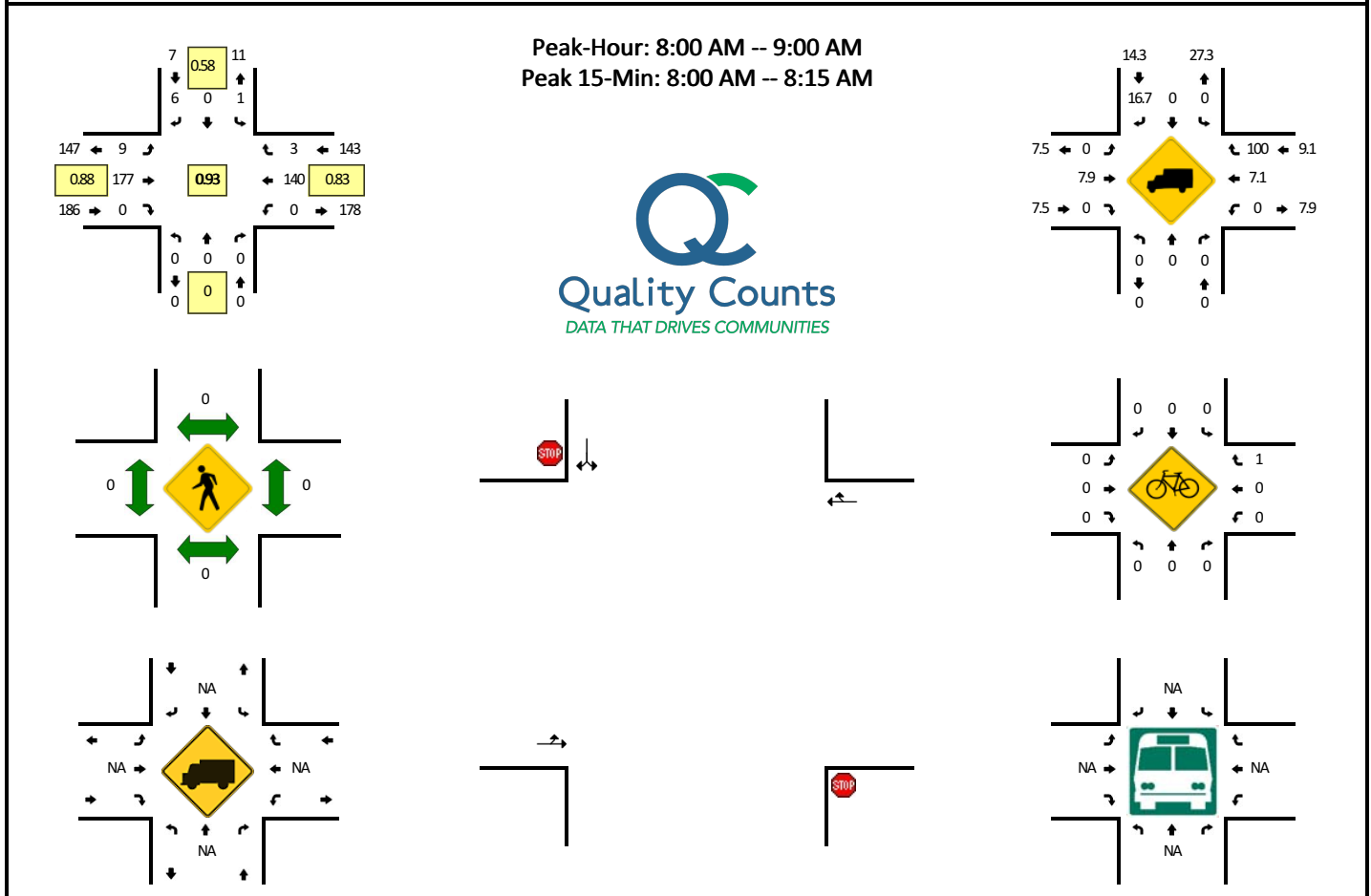


15-Min Count Period Beginning At	E Ferrell Rd (Northbound)				E Ferrell Rd (Southbound)				Yates Store Rd (Eastbound)				Yates Store Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	3	2	0	0	2	0	0	0	0	0	0	3	0	1	0	11	
4:15 PM	0	0	0	0	0	1	0	0	0	0	0	0	3	0	0	0	4	
4:30 PM	0	2	1	0	0	0	0	0	0	0	0	0	4	0	0	0	7	
4:45 PM	0	1	1	0	0	2	0	0	0	0	0	0	3	0	0	0	7	29
5:00 PM	0	2	4	0	2	1	0	0	0	0	0	0	2	0	0	0	11	29
5:15 PM	0	1	3	0	0	0	0	0	0	0	0	0	8	0	0	0	12	37
5:30 PM	0	2	0	0	0	2	0	0	0	0	0	0	3	0	1	0	8	38
5:45 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	2	33
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	4	12	0	0	0	0	0	0	0	0	0	32	0	0	0	48	
Heavy Trucks	0	0	4		0	0	0		0	0	0		4	0	0		8	
Pedestrians	0	0	0		0	0	0		0	0	0		0	0	0		0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Railroad																		
Stopped Buses																		

Comments:

LOCATION: E Ferrell Rd -- Morrisville Pkwy
CITY/STATE: Cary, NC

QC JOB #: 14970009
DATE: Thu, May 2 2019

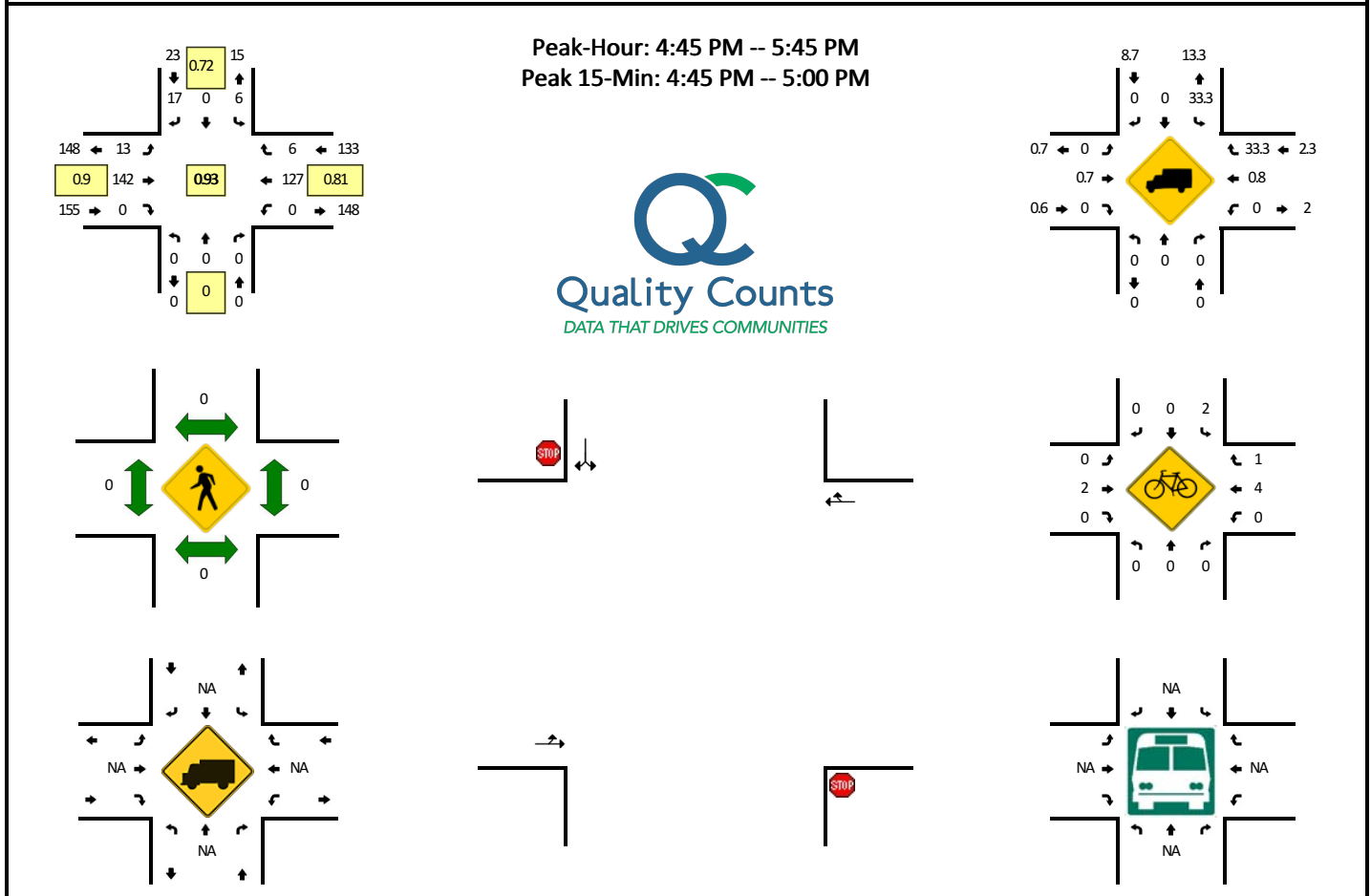


15-Min Count Period Beginning At	E Ferrell Rd (Northbound)				E Ferrell Rd (Southbound)				Morrisville Pkwy (Eastbound)				Morrisville Pkwy (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0	0	1	0	1	0	2	32	0	0	0	18	0	0	54	
7:15 AM	0	0	0	0	0	0	0	0	3	25	0	0	0	22	2	0	52	
7:30 AM	0	0	0	0	1	0	1	0	0	30	0	0	0	27	3	0	62	
7:45 AM	0	0	0	0	0	0	1	0	2	42	0	0	0	31	2	0	78	246
8:00 AM	0	0	0	0	1	0	0	0	2	46	0	0	0	41	0	0	90	282
8:15 AM	0	0	0	0	0	0	1	0	2	50	0	1	0	26	2	0	82	312
8:30 AM	0	0	0	0	0	0	2	0	1	40	0	0	0	31	0	0	74	324
8:45 AM	0	0	0	0	0	0	3	0	3	41	0	0	0	42	1	0	90	336
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	0	0	0	4	0	0	0	8	184	0	0	0	164	0	0	360	
Heavy Trucks	0	0	0	0	0	0	0	0	0	20	0	0	0	12	0	0	32	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	
Railroad																		
Stopped Buses																		

Comments:

LOCATION: E Ferrell Rd -- Morrisville Pkwy
CITY/STATE: Cary, NC

QC JOB #: 14970010
DATE: Thu, May 2 2019

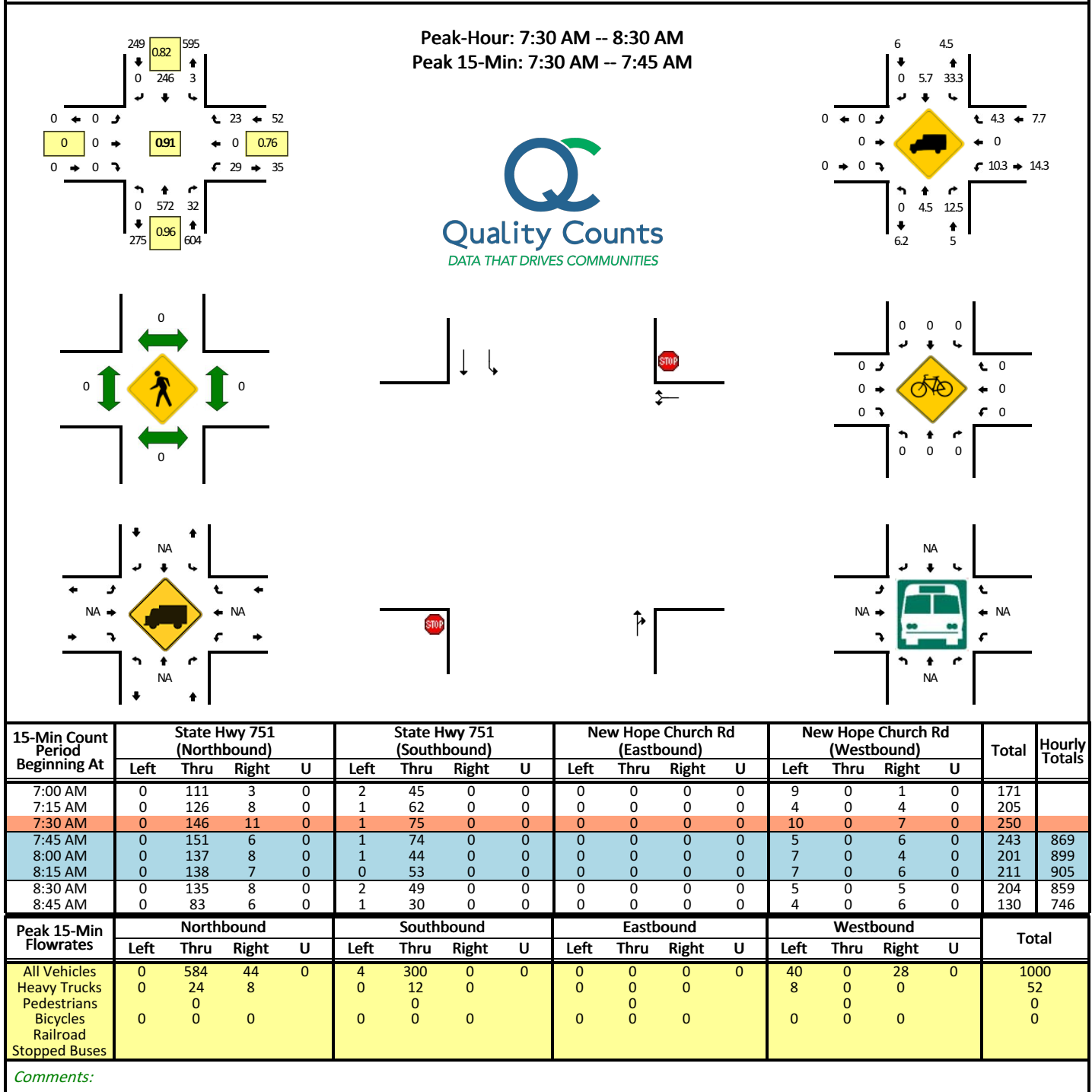


15-Min Count Period Beginning At	E Ferrell Rd (Northbound)				E Ferrell Rd (Southbound)				Morrisville Pkwy (Eastbound)				Morrisville Pkwy (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	4	0	4	0	5	35	0	0	0	26	0	0	74	
4:15 PM	0	0	0	0	0	0	3	0	1	38	0	0	0	31	0	0	73	
4:30 PM	0	0	0	0	1	0	4	0	2	31	0	0	0	20	1	0	59	
4:45 PM	0	0	0	0	0	0	6	0	1	35	0	1	0	40	1	0	84	290
5:00 PM	0	0	0	0	0	0	3	0	3	32	0	0	0	33	3	0	74	290
5:15 PM	0	0	0	0	4	0	4	0	4	35	0	1	0	27	1	0	76	293
5:30 PM	0	0	0	0	2	0	4	0	1	40	0	2	0	27	1	0	77	311
5:45 PM	0	0	0	0	0	0	0	0	1	36	0	0	0	25	0	0	62	289
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	0	0	0	0	0	24	0	4	140	0	4	0	160	4	0	336	
Heavy Trucks	0	0	0	0	0	0	0	0	0	4	0	0	0	4	0	0	8	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	
Railroad																		
Stopped Buses																		

Comments:

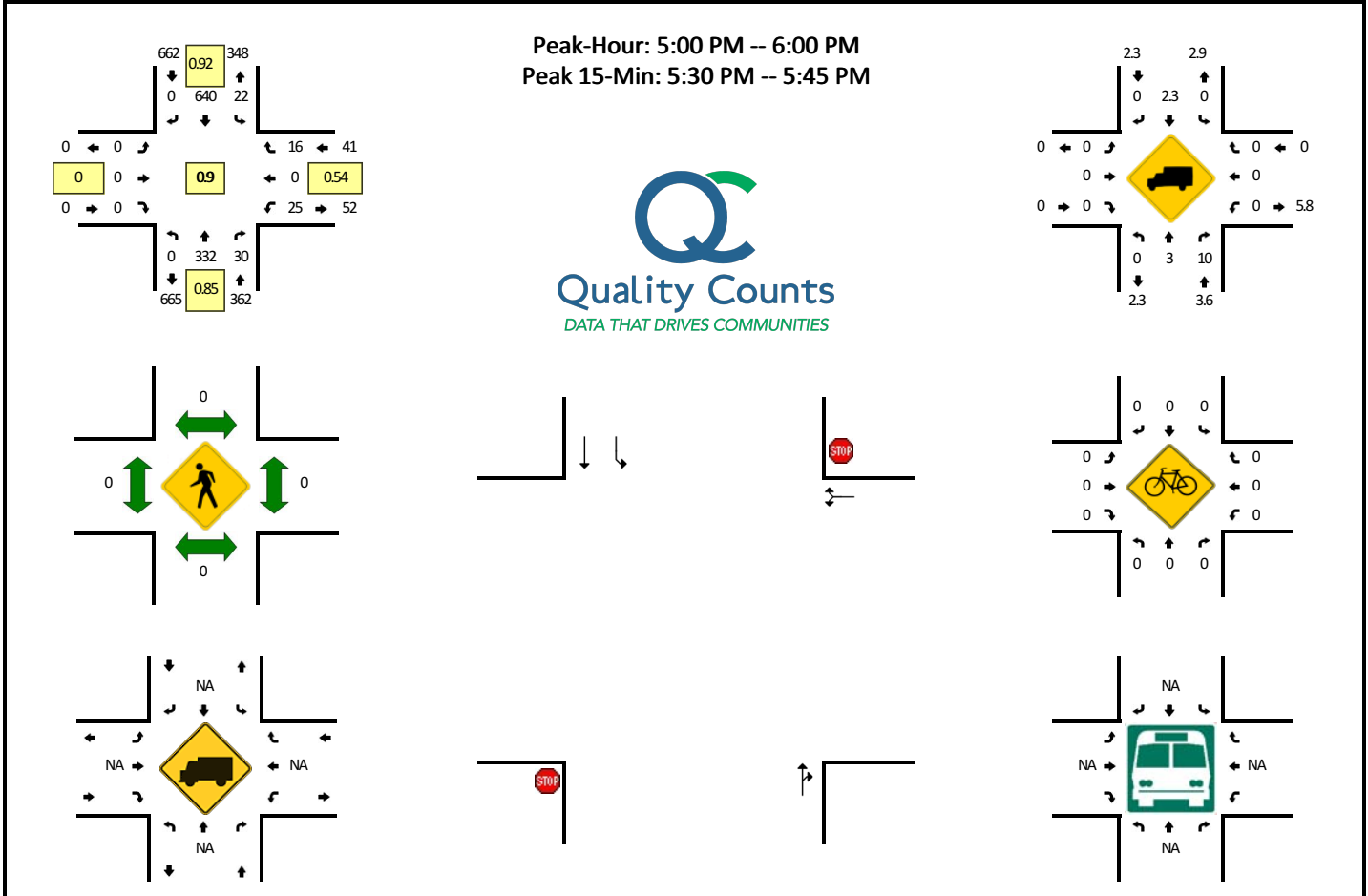
LOCATION: State Hwy 751 -- New Hope Church Rd
CITY/STATE: Cary, NC

QC JOB #: 14970011
DATE: Thu, May 2 2019



LOCATION: State Hwy 751 -- New Hope Church Rd
CITY/STATE: Cary, NC

QC JOB #: 14970012
DATE: Thu, May 2 2019



15-Min Count Period Beginning At	State Hwy 751 (Northbound)				State Hwy 751 (Southbound)				New Hope Church Rd (Eastbound)				New Hope Church Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	58	10	0	8	116	0	0	0	0	0	0	9	0	1	0	202	
4:15 PM	0	67	7	0	6	162	0	0	0	0	0	0	8	0	4	0	254	
4:30 PM	0	48	8	0	4	152	0	0	0	0	0	0	5	0	5	0	222	
4:45 PM	0	58	12	0	12	144	0	0	0	0	0	0	8	0	0	0	234	912
5:00 PM	0	67	6	0	3	146	0	0	0	0	0	0	6	0	1	0	229	939
5:15 PM	0	81	4	0	7	169	0	0	0	0	0	0	4	0	5	0	270	955
5:30 PM	0	86	12	0	2	178	0	0	0	0	0	0	10	0	9	0	297	1030
5:45 PM	0	98	8	0	10	147	0	0	0	0	0	0	5	0	1	0	269	1065
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	344	48	0	8	712	0	0	0	0	0	0	40	0	36	0	1188	
Heavy Trucks	0	16	4	0	0	8	0	0	0	0	0	0	0	0	0	0	28	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Railroad																		
Stopped Buses																		

Comments:

APPENDIX B

SCOPING INFORMATION

May 20, 2019

Priyatham Konda, P.E.
Sr. Project Manager, Transportation & Facilities
Town of Cary
PO Box 8005
Cary, NC 27512-8005
P: (919) 462-2005

Reference: Mt. Pisgah Tract (19-TAR-447)
Cary, North Carolina

Subject: Memorandum of Understanding for TAR Report

Dear Mr. Konda:

The following is a Memorandum of Understanding (MOU) outlining the proposed scope of work and assumptions related to the Traffic Analysis Report (TAR) for the proposed Mt. Pisgah Tract development, to be located in the southeast quadrant at the intersection of New Hope Church Road and Mt. Pisgah Church Road in Cary, North Carolina. Refer to the attached site location map. The proposed development will consist of 165 single family homes, according to the TAR application form. A build-out year of 2024 will be utilized for analysis purposes, per the Town's LDO guidelines. Access is proposed via two (2) full movement site driveways along New Hope Church Road and two (2) full movement site driveways along Mt. Pisgah Church Road. A copy of the site plan has been attached for your reference.

Study Area

Based on coordination with the Town of Cary (Town) and the North Carolina Department of Transportation (NCDOT), the study area is proposed to consist of the following existing intersections:

- New Hope Church Road and Mt. Pisgah Church Road / Shad Lane (unsignalized)
- Mt. Pisgah Church Road and Earnest Jones Road (unsignalized)
- New Hope Church Road / Rolling Springs Drive and Yates Store Road (unsignalized)
- Yates Store Road and E Ferrell Road (unsignalized)
- Morrisville Parkway and E Ferrell Road (unsignalized)
- New Hope Church Road and NC 751 (unsignalized)

Existing Traffic Volumes and Traffic Signal Data

Peak hour turning movement counts were conducted by Ramey Kemp & Associates, Inc. at the above study intersections, while schools were in session, in May of 2019 during weekday AM (7:00 to 9:00) and weekday PM (4:00 to 6:00) peak hours. Traffic was balanced where appropriate.

Trip Generation

The proposed development is expected to consist of 165 single-family homes, according to the TAR application form. Average weekday daily, AM peak hour, and PM peak hour trips for the proposed development were estimated using methodology contained within the ITE *Trip Generation Manual*, 10th Edition. Refer to Table 1 on the following page for a detailed breakdown of the proposed site trip generation. Refer to the attachments for internal capture information for each individual land use.

Table 1: Trip Generation Summary

Land Use (ITE Code)	Intensity	Daily Traffic (vpd)	AM Peak Hour Trips (vph)			PM Peak Hour Trips (vph)		
			Enter	Exit	Total	Enter	Exit	Total
Single-Family Detached (210)	165 units	1,650	30	92	122	103	61	164

It is estimated that the proposed development will generate approximately 1,650 total site trips on the roadway network during a typical 24-hour weekday period. Of the daily traffic volume, it is anticipated that 122 trips (30 entering and 92 exiting) will occur during the weekday AM peak hour and 164 (103 entering and 61 exiting) will occur during the weekday PM peak hour.

Trip Distribution and Assignment

The site trips are distributed based on the locations of existing traffic patterns, population centers adjacent to the study area, and engineering judgment. A summary of the regional distribution is below:

- 30% to/from the north via New Hope Church Road
- 30% to/from the north via Yates Store Road
- 40% to/from Morrisville Parkway

Analysis Scenarios

All capacity analyses will be performed utilizing Synchro (Version 10.3). All study intersections will be analyzed during the weekday AM and PM peak hours under the following proposed traffic scenarios:

- Existing (2019)
- Background (2024)
- Combined (2024)
- Combined (2024) – Improved

Background Traffic Volumes

Through consideration of historic traffic counts, background traffic volumes will be determined by projecting existing (2019) traffic volumes to the build-out year using a proposed 2% annually compounded growth rate. It was also determined, through coordination with the Town that the following adjacent developments would be considered:

- 17-REZ-13 Weldon Ridge PDD

- 14-SB-005 Montvale Subdivision

Refer to the attached adjacent development information and figure. It should be noted that the names of these adjacent developments may change based on their respective TAR submittal names.

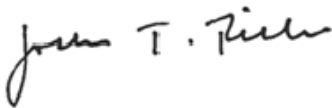
Report

The TAR report will be prepared based on the Town and NCDOT requirements.

If you find this memorandum of understanding acceptable, please let me know so that we may include it in the TAR report. If you have any questions or concerns, please do not hesitate to contact me.

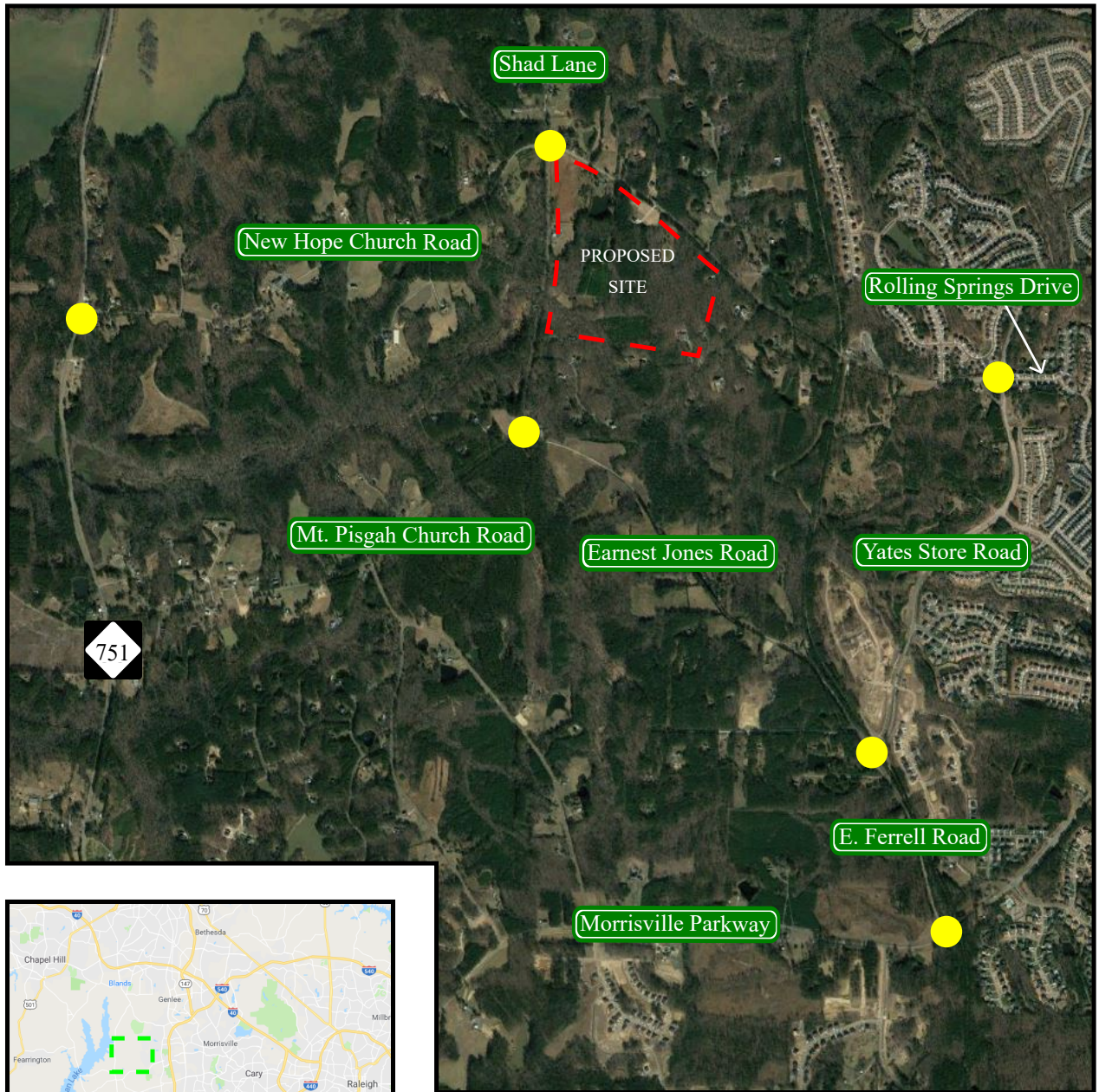
Sincerely,

Ramey Kemp & Associates, Inc.



Joshua Reinke, P.E.
Transportation Manager

Attachments: Site Location Map
Preliminary Site Plan
Existing (2019) Traffic Volumes Figure
Site Trip Distribution Figures
Adjacent Development Information



LEGEND

- Proposed Site Location
- Study Intersection
- Study Area

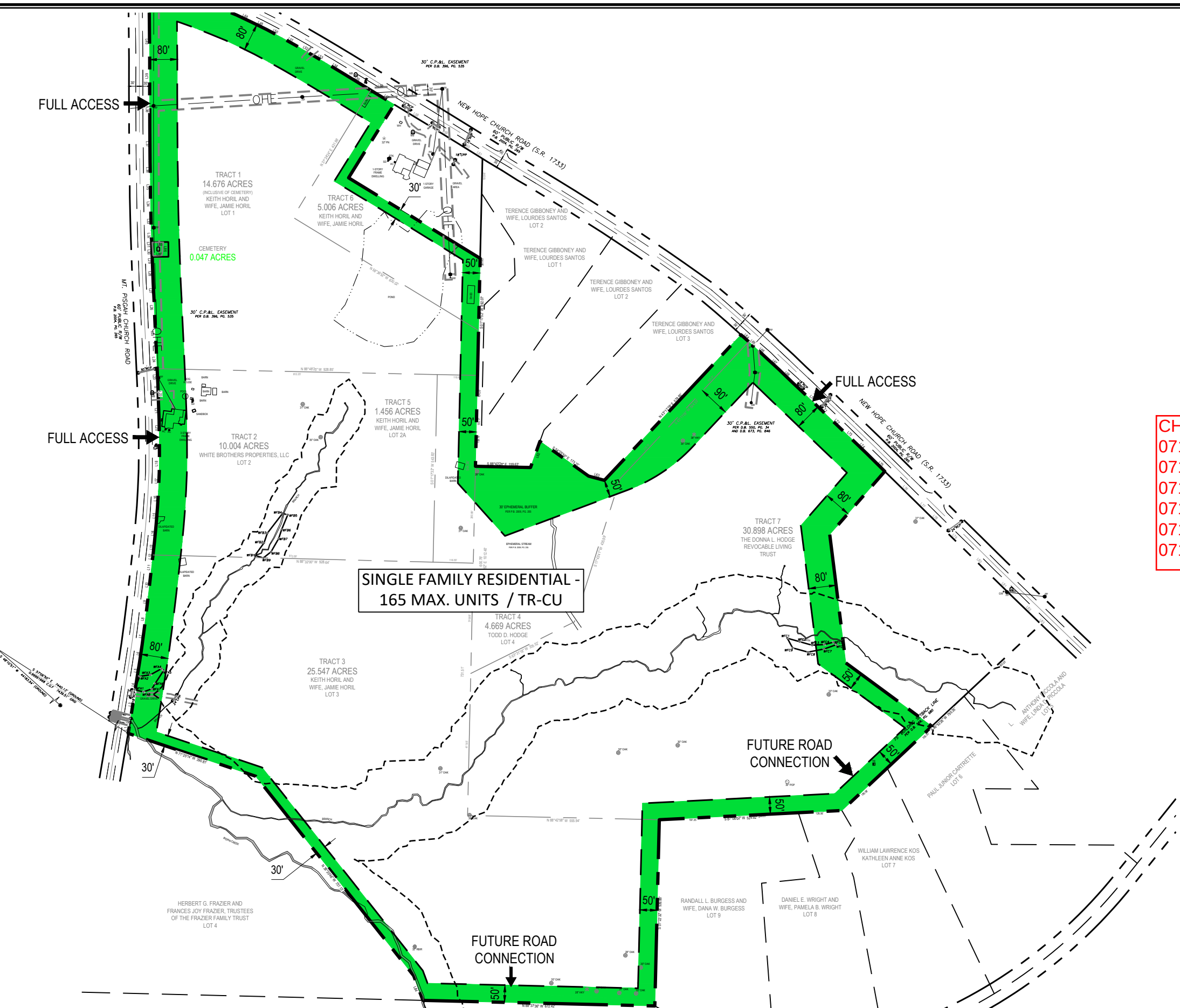


Mt. Pisgah Tract
Cary, NC

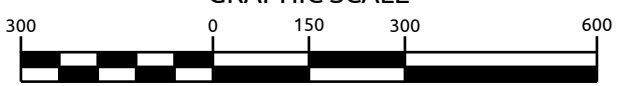
Site Location Map

Scale: Not to Scale

K:\18-1056\181056-Lemoor-Mt. Pisgah\CD\Buffer Plan.dwg - Wednesday, April 3, 2019 1:06:39 PM - TURBIFILL, JAMES



GRAPHIC SCALE



1 inch = 300 ft.

CHATHAM CO PIN
0715744409
0715735853
0715735273
0715830823
0715832670
0715839330

TAR NOTES:

1. IF ACCESS LOCATIONS ARE SUBSTANTIALLY CHANGED OR RELOCATED, THE APPLICANT MAY BE REQUIRED TO CONDUCT AN UPDATED TAR STUDY AT THEIR OWN EXPENSE AND SCHEDULE.
2. IF THE LAND USE OR SIZE OF THE PARCEL IS CHANGED, THE APPLICANT MAY BE REQUIRED TO CONDUCT AN UPDATED TAR STUDY AT THEIR OWN EXPENSE AND SCHEDULE.

No.	Revision	Date	By

Designer	WR	Scale	AS NOTED
Drawn By	WR	Date	4/3/19
Checked By	ET	Job No.	02181056

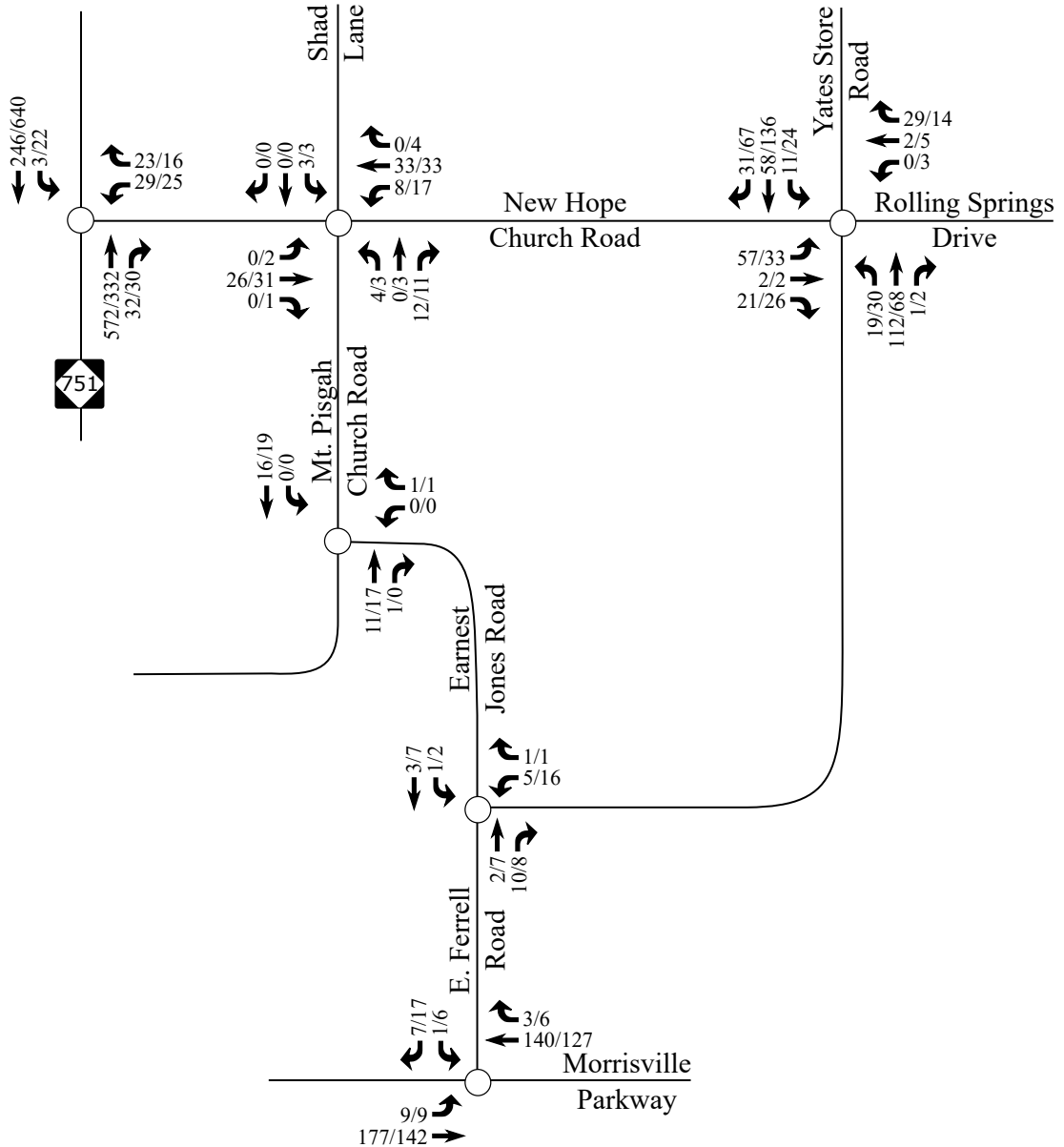
MT. PISGAH TRACTS
Chatham County
North Carolina

**PRELIMINARY PERIMETER
BUFFER EXHIBIT**

**WithersRavenel**
Engineers | Planners | Surveyors
115 MacKenan Drive | Cary, NC 27511
t: 919.469.3340 | license #: C-0832 | www.withersravenel.com

LEGEND

- Unsignalized Intersection
- X / Y → Weekday AM / PM Peak Hour Traffic



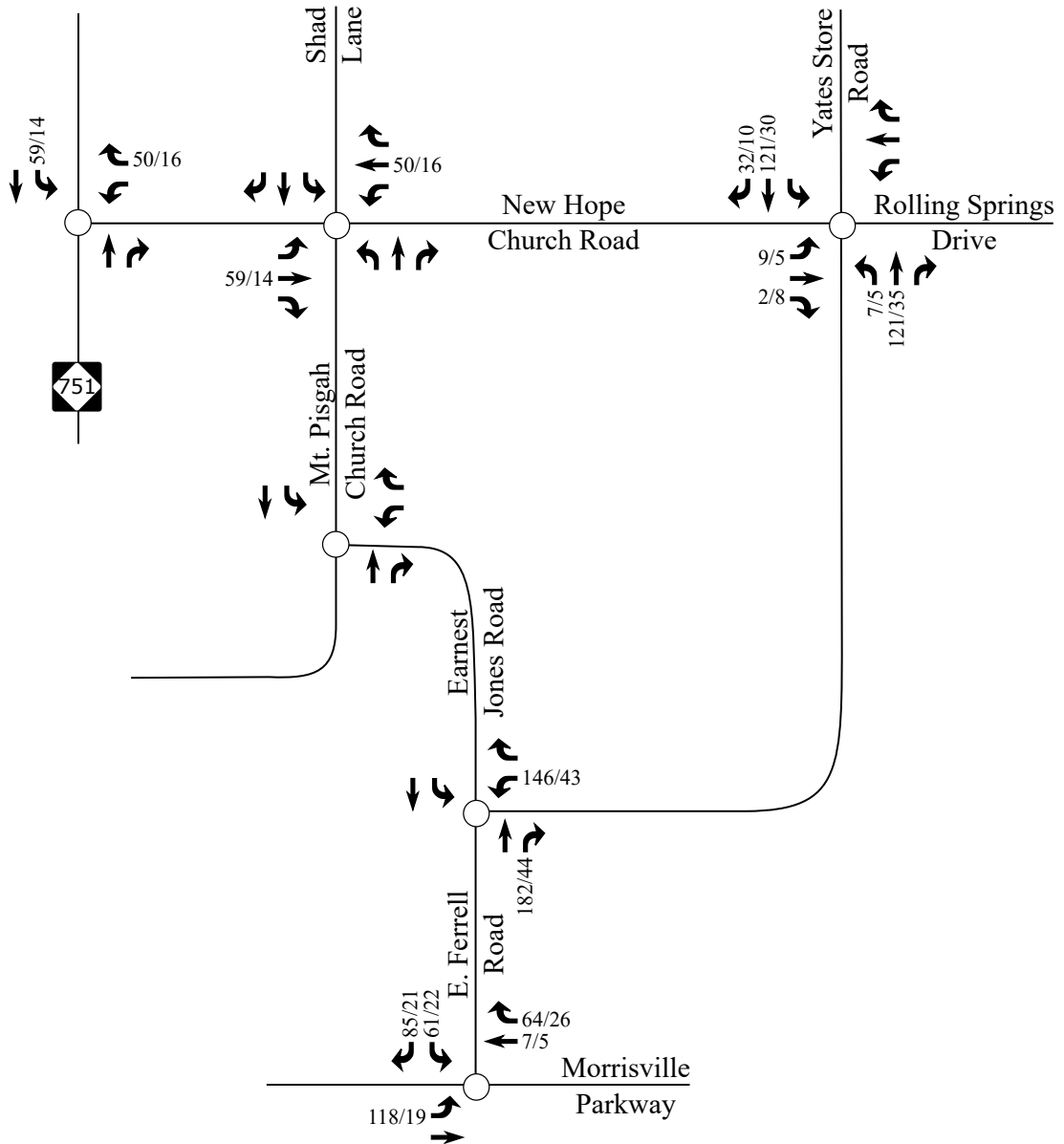
Mt. Pisgah Tract
Cary, NC

Existing (2019)
Peak Hour Traffic

Scale: Not to Scale

LEGEND

- Unsignalized Intersection
- X/Y → Weekday AM / PM Peak Hour
Adjacent Development Trips



Mt. Pisgah Tract
Cary, NC

Peak Hour Adjacent
Development Trips

Scale: Not to Scale

LEGEND



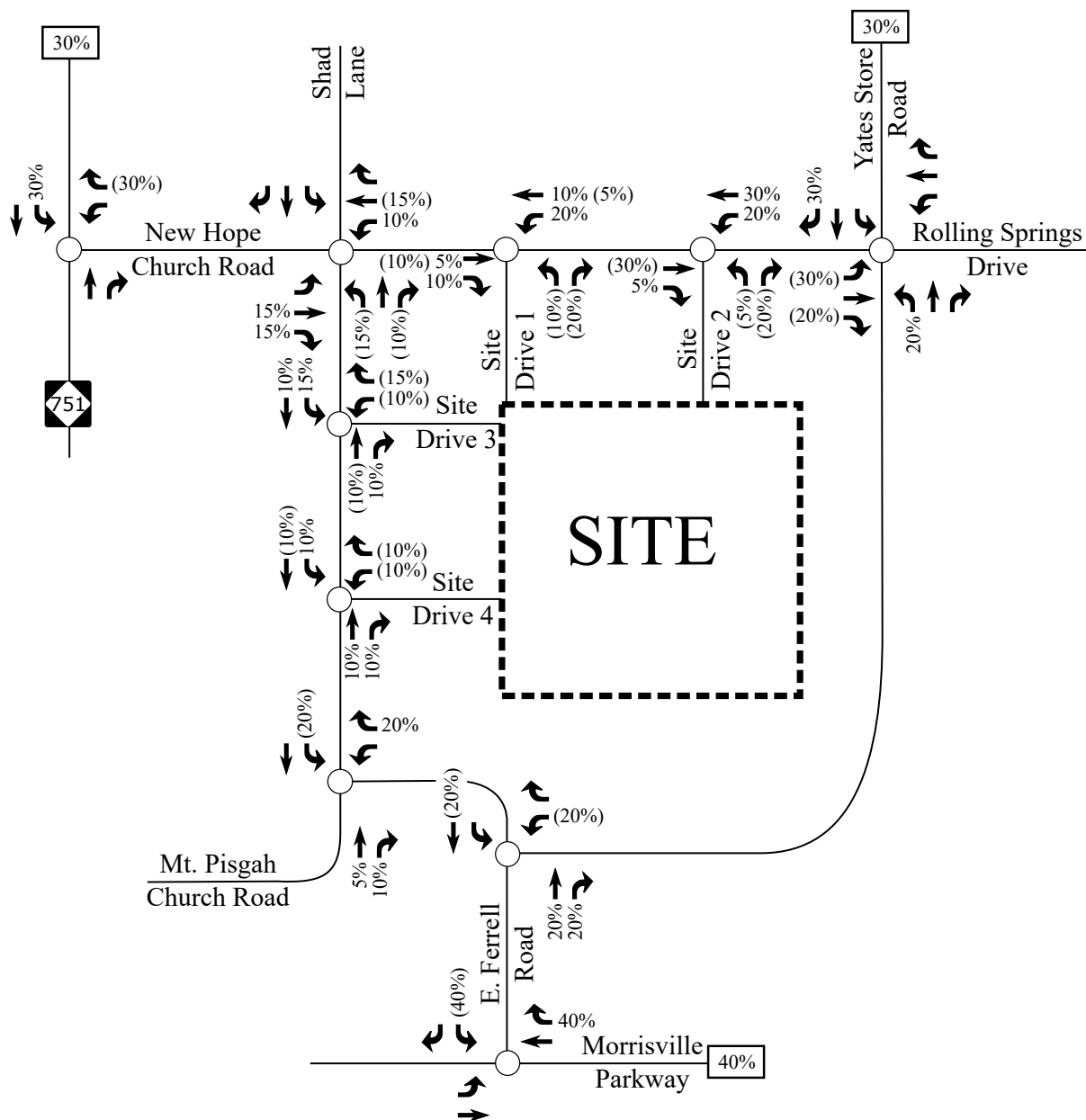
Unsignalized Intersection

X% → Entering Trip Distribution



Regional Trip Distribution

(Y%) → Exiting Trip Distribution



Mt. Pisgah Tract
Cary, NC

Site Trip Distribution

Scale: Not to Scale

Mary Lynn Smith

From: Kitchen, Matthew W <mwkitchen@ncdot.gov>
Sent: Thursday, May 23, 2019 10:40 AM
To: Mary Lynn Smith; Priyatham Konda; Brennan, Sean P; Wheeler, Millard S; Bunting, Clarence B; Fenner, Edwin F; David Spencer; Ricketts, Michael E
Cc: Joshua Reinke
Subject: RE: [External] Mt. Pisgah (19-TAR-447) MOU

Mary Lynn,

Division 8 is good with the MOU as well.

Thanks,
Matt

Matthew W. Kitchen, PE
District Engineer
Division 8 - District 1 and 2

336-318-4000 Asheboro Office, District 1
910-944-7621 Aberdeen Office, District 2
mwkitchen@ncdot.gov

300 DOT Drive
PO Box 1164
Asheboro, NC 27204

902 N. Sandhills Blvd.
Aberdeen, NC 28315



Email correspondence to and from this address is subject to the North Carolina Public Records Law and may be disclosed to third parties.

From: Mary Lynn Smith <msmith@rameykemp.com>
Sent: Tuesday, May 21, 2019 12:16 PM
To: Priyatham Konda <Priyatham.Konda@townofcary.org>; Brennan, Sean P <spbrennan@ncdot.gov>; Wheeler, Millard S <mwheeler@ncdot.gov>; Bunting, Clarence B <cbunting@ncdot.gov>; Fenner, Edwin F <effenner@ncdot.gov>; David Spencer <David.Spencer@townofcary.org>; Kitchen, Matthew W <mwkitchen@ncdot.gov>; Ricketts, Michael E <mericketts@ncdot.gov>
Cc: Joshua Reinke <jreinke@rameykemp.com>
Subject: RE: [External] Mt. Pisgah (19-TAR-447) MOU

CAUTION: External email. Do not click links or open attachments unless you verify. Send all suspicious email as an attachment to report.spam@nc.gov

Thanks, Priyatham and Sean! Matt and Michael, do you have any comments or questions on the MOU at this time?
Thanks, everyone.

Mary Lynn Smith, EI
Transportation Associate



5808 Faringdon Place, Suite 100
Raleigh, NC 27609
919-872-5115 (Office)
919-872-0642 (Direct)

Proudly serving the Southeast since 1992.



From: Priyatham Konda <Priyatham.Konda@townofcary.org>
Sent: Monday, May 20, 2019 12:58 PM
To: Brennan, Sean P <spbrennan@ncdot.gov>; Mary Lynn Smith <msmith@rameykemp.com>; Wheeler, Millard S <mwheeler@ncdot.gov>; Bunting, Clarence B <cbunting@ncdot.gov>; Fenner, Edwin F <effenner@ncdot.gov>; David Spencer <David.Spencer@townofcary.org>; Kitchen, Matthew W <mwkitchen@ncdot.gov>; Ricketts, Michael E <mericketts@ncdot.gov>
Cc: Joshua Reinke <jreinke@rameykemp.com>
Subject: RE: [External] Mt. Pisgah (19-TAR-447) MOU

Thank you Mary Lynn, we don't have any questions on the MOU.

Priyatham

Priyatham Konda, P.E.

Sr Project Manager, Transportation & Facilities

Town of Cary

P. 919.462.2005 A. PO Box 8005, Cary, NC 27512-8005

E-mail sent to and from this address is subject to the North Carolina Public Records Law and may be disclosed to third parties.

From: Brennan, Sean P <spbrennan@ncdot.gov>
Sent: Monday, May 20, 2019 8:34 AM
To: Mary Lynn Smith <msmith@rameykemp.com>; Priyatham Konda <Priyatham.Konda@townofcary.org>; Wheeler, Millard S <mwheeler@ncdot.gov>; Bunting, Clarence B <cbunting@ncdot.gov>; Fenner, Edwin F <effenner@ncdot.gov>; David Spencer <David.Spencer@townofcary.org>; Kitchen, Matthew W <mwkitchen@ncdot.gov>; Ricketts, Michael E <mericketts@ncdot.gov>
Cc: Joshua Reinke <jreinke@rameykemp.com>
Subject: RE: [External] Mt. Pisgah (19-TAR-447) MOU

Mary Lynn,

NCDOT is okay with the MOU.

Regards,

Sean Brennan, PE
Senior Assistant District Engineer
Division 5/District 1
Department of Transportation

919-733-3213 office
919-715-5778 fax
spbrennan@ncdot.gov

4009 District Drive (Physical Address)
Raleigh, NC 27607

1575 Mail Service Center (Mailing Address)
Raleigh, NC 27699-1575



Email correspondence to and from this address is subject to the North Carolina Public Records Law and may be disclosed to third parties.

From: Mary Lynn Smith <msmith@rameykemp.com>

Sent: Monday, May 20, 2019 6:57 AM

To: Priyatham Konda <Priyatham.Konda@townofcary.org>; Wheeler, Millard S <mwheeler@ncdot.gov>; Brennan, Sean P <spbrennan@ncdot.gov>; Bunting, Clarence B <cbunting@ncdot.gov>; Fenner, Edwin F <effenner@ncdot.gov>; David Spencer <David.Spencer@townofcary.org>; Kitchen, Matthew W <mwkitchen@ncdot.gov>; Ricketts, Michael E <mericketts@ncdot.gov>

Cc: Joshua Reinke <jreinke@rameykemp.com>

Subject: [External] Mt. Pisgah (19-TAR-447) MOU

CAUTION: External email. Do not click links or open attachments unless you verify. Send all suspicious email as an attachment to report.spam@nc.gov

Good morning all –

Attached is the MOU for the Mt. Pisgah development (19-TAR-447). Please let me know if you have any questions or concerns. Thanks!

Mary Lynn Smith, EI
Transportation Associate



5808 Faringdon Place, Suite 100
Raleigh, NC 27609
919-872-5115 (Office)
919-872-0642 (Direct)

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APPENDIX C

ADJACENT DEVELOPMENT INFORMATION

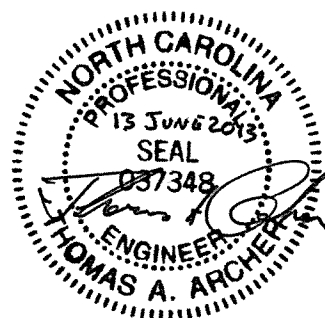
TRAFFIC ANALYSIS
REPORT
(13-TAR-368)

MONTVALE
DEVELOPMENT

LOCATED
IN
CARY, NORTH CAROLINA

Prepared For:
Town of Cary
316 N. Academy Street
Cary, NC 27513

Prepared By:
Ramey Kemp & Associates, Inc.
5808 Faringdon Place, Suite 100
Raleigh, NC 27609
NC Corporate License # C-0910



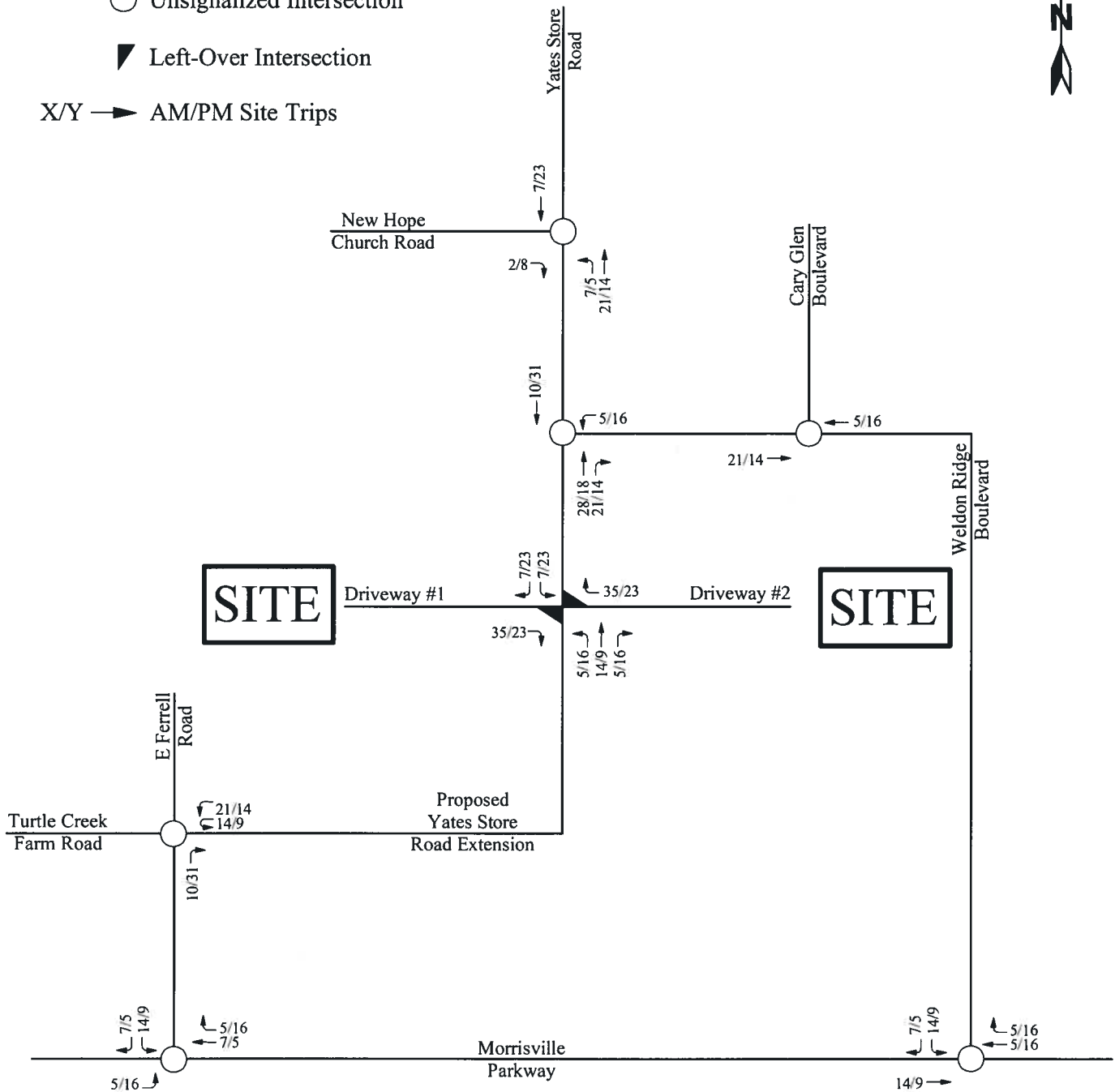
June 2013

LEGEND

○ Unsignalized Intersection

▀ Left-Over Intersection

X/Y → AM/PM Site Trips



Montvale Development
13-TAR-368
Cary, North Carolina

Primary Site Trips

Scale: Not to Scale

Figure 7

**TRAFFIC ANALYSIS
REPORT – FINAL DRAFT
(17-TAR-421A)**

FOR

WELDON RIDGE UPDATE

LOCATED

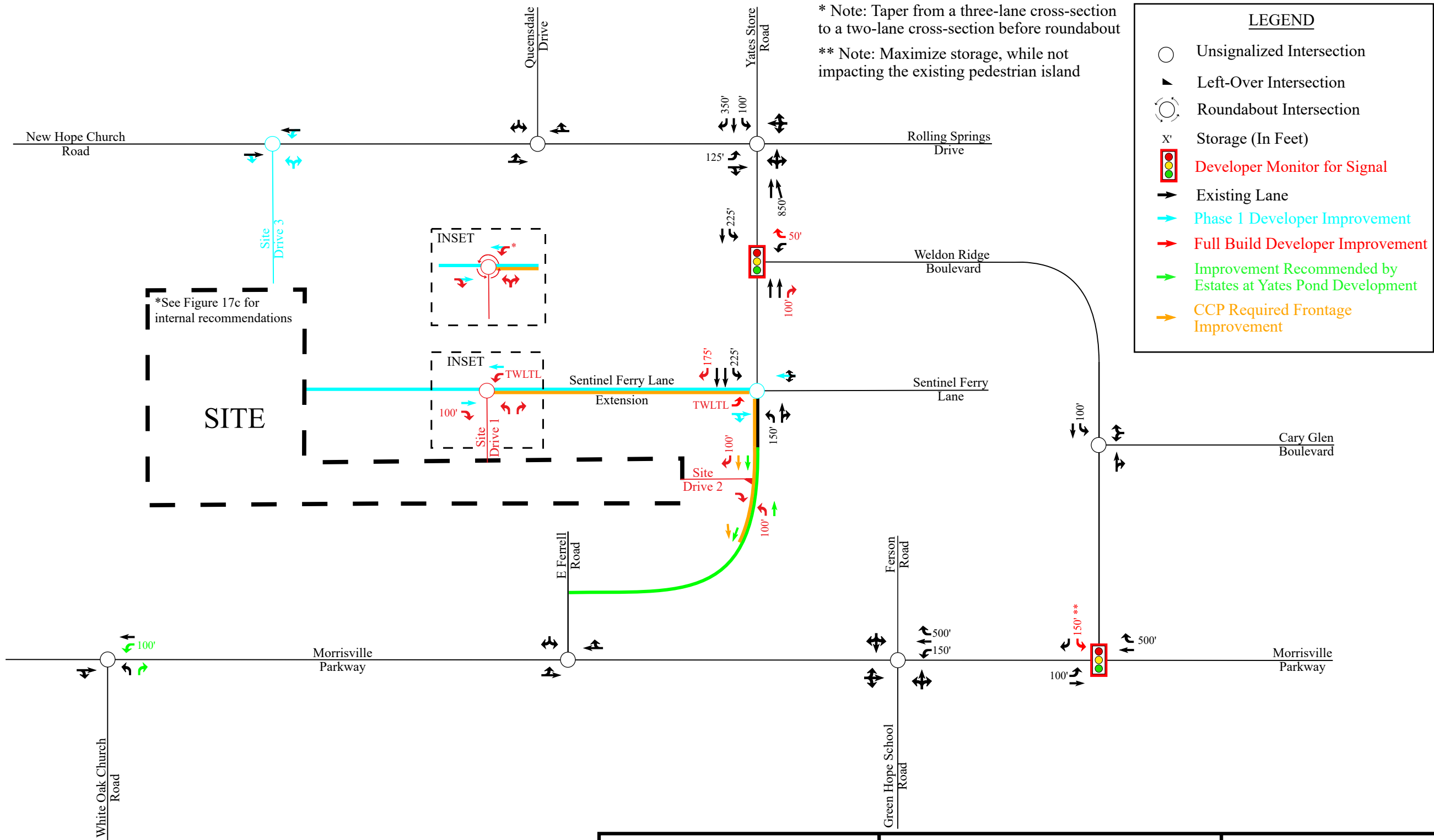
IN

CARY, NORTH CAROLINA

Prepared For:
Town of Cary
316 N. Academy Street
Cary, NC 27512

Prepared By:
Ramey Kemp & Associates, Inc.
5808 Faringdon Place, Suite 100
Raleigh, NC 27069
License #C-0910

August 2018

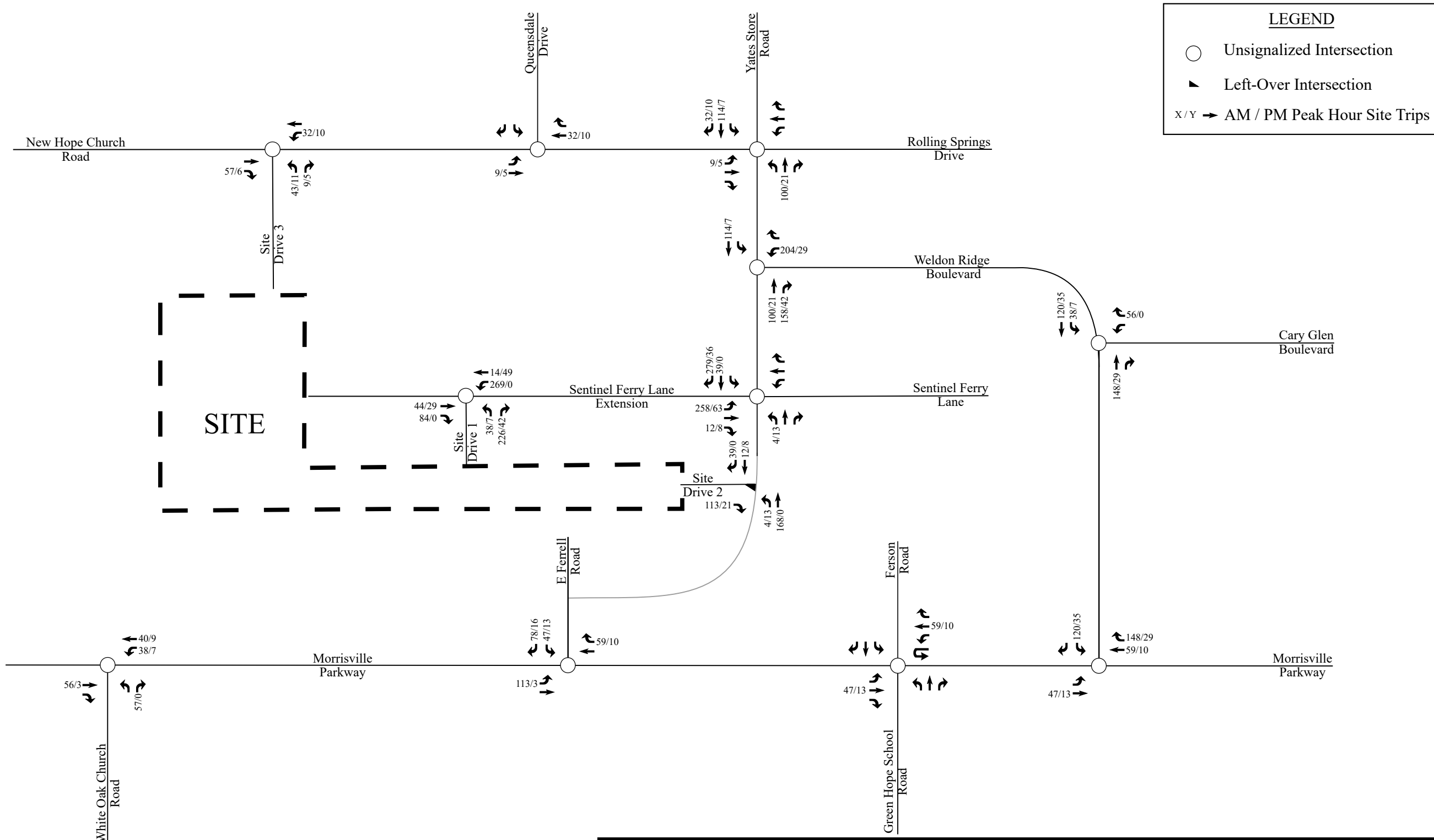


Weldon Ridge Update
(17-TAR-421A)
Cary, NC

Recommended Lane
Configurations - Full Build

Scale: Not to Scale

Figure E-2



Weldon Ridge Update
(17-TAR-421A)
Cary, NC

Total Site Trip
Assignment - Full Build

Scale: Not to Scale

Figure 15

APPENDIX D

CAPACITY ANALYSIS CALCULATIONS

MORRISVILLE PARKWAY

&

E FERRELL ROAD

HCM 6th TWSC
1: Morrisville Parkway & E Ferrell Road

Existing (2019) AM
06/12/2019

Intersection

Int Delay, s/veh 0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	9	177	140	3	1	7
Future Vol, veh/h	9	177	140	3	1	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	197	156	3	1	8

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	159	0	0 375 158
Stage 1	-	-	- 158 -
Stage 2	-	-	- 217 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1420	-	- 626 887
Stage 1	-	-	- 871 -
Stage 2	-	-	- 819 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1420	-	- 621 887
Mov Cap-2 Maneuver	-	-	- 621 -
Stage 1	-	-	- 864 -
Stage 2	-	-	- 819 -

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	9.3
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1420	-	-	-	842
HCM Lane V/C Ratio	0.007	-	-	-	0.011
HCM Control Delay (s)	7.6	0	-	-	9.3
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

HCM 6th TWSC
1: Morrisville Parkway & E Ferrell Road

Existing (2019) PM

06/12/2019

Intersection

Int Delay, s/veh 0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	9	142	127	6	6	17
Future Vol, veh/h	9	142	127	6	6	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	158	141	7	7	19

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	148	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	1434	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1434	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	9.5
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1434	-	-	-	826
HCM Lane V/C Ratio	0.007	-	-	-	0.031
HCM Control Delay (s)	7.5	0	-	-	9.5
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

HCM 6th TWSC
1: Morrisville Parkway & E Ferrell Road

Background (2024) AM

06/12/2019

Intersection

Int Delay, s/veh 4.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	128	195	162	67	62	93
Future Vol, veh/h	128	195	162	67	62	93
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	142	217	180	74	69	103

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	254	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	1311	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1311	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	3.2	0	15
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1311	-	-	-	531
HCM Lane V/C Ratio	0.108	-	-	-	0.324
HCM Control Delay (s)	8.1	0	-	-	15
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.4	-	-	-	1.4

HCM 6th TWSC
1: Morrisville Parkway & E Ferrell Road

Background (2024) PM

06/12/2019

Intersection

Int Delay, s/veh 2.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	29	157	145	33	29	40
Future Vol, veh/h	29	157	145	33	29	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	32	174	161	37	32	44

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	198	0	0 418 180
Stage 1	-	-	- 180 -
Stage 2	-	-	- 238 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1375	-	- 591 863
Stage 1	-	-	- 851 -
Stage 2	-	-	- 802 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1375	-	- 576 863
Mov Cap-2 Maneuver	-	-	- 576 -
Stage 1	-	-	- 829 -
Stage 2	-	-	- 802 -

Approach	EB	WB	SB
HCM Control Delay, s	1.2	0	10.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1375	-	-	-	714
HCM Lane V/C Ratio	0.023	-	-	-	0.107
HCM Control Delay (s)	7.7	0	-	-	10.6
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.4

HCM 6th TWSC
1: Morrisville Parkway & E Ferrell Road

Combined (2024) AM

06/12/2019

Intersection

Int Delay, s/veh 5.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	128	195	162	73	81	93
Future Vol, veh/h	128	195	162	73	81	93
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	142	217	180	81	90	103

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	261	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	1303	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1303	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	3.2	0	16.7
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1303	-	-	-	500
HCM Lane V/C Ratio	0.109	-	-	-	0.387
HCM Control Delay (s)	8.1	0	-	-	16.7
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.4	-	-	-	1.8

HCM 6th TWSC
1: Morrisville Parkway & E Ferrell Road

Combined (2024) PM

06/12/2019

Intersection

Int Delay, s/veh 2.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	29	157	145	54	41	40
Future Vol, veh/h	29	157	145	54	41	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	32	174	161	60	46	44

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	221	0	0 429 191
Stage 1	-	-	- 191 -
Stage 2	-	-	- 238 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1348	-	- 583 851
Stage 1	-	-	- 841 -
Stage 2	-	-	- 802 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1348	-	- 568 851
Mov Cap-2 Maneuver	-	-	- 568 -
Stage 1	-	-	- 819 -
Stage 2	-	-	- 802 -

Approach	EB	WB	SB
HCM Control Delay, s	1.2	0	11.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1348	-	-	-	680
HCM Lane V/C Ratio	0.024	-	-	-	0.132
HCM Control Delay (s)	7.7	0	-	-	11.1
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.5

APPENDIX E

CAPACITY ANALYSIS CALCULATIONS

E FERRELL ROAD

&

YATES STORE ROAD

HCM 6th TWSC
2: E Ferrell Road/Earnest Jones Road & Yates Store Road

Existing (2019) AM

06/12/2019

Intersection

Int Delay, s/veh 2.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	1	2	10	1	3
Future Vol, veh/h	5	1	2	10	1	3
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	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	1	2	11	1	3

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	13	8	0
Stage 1	8	-	-
Stage 2	5	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	1006	1074	-
Stage 1	1015	-	-
Stage 2	1018	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	1005	1074	-
Mov Cap-2 Maneuver	1005	-	-
Stage 1	1015	-	-
Stage 2	1017	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.6	0	1.8
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	1016	1606
HCM Lane V/C Ratio	-	-	0.007	0.001
HCM Control Delay (s)	-	-	8.6	7.2
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

HCM 6th TWSC
2: E Ferrell Road/Earnest Jones Road & Yates Store Road

Existing (2019) PM

06/12/2019

Intersection

Int Delay, s/veh 4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	16	1	7	8	2	7
Future Vol, veh/h	16	1	7	8	2	7
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	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	1	8	9	2	8

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	25	13	0
Stage 1	13	-	-
Stage 2	12	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	991	1067	-
Stage 1	1010	-	-
Stage 2	1011	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	990	1067	-
Mov Cap-2 Maneuver	990	-	-
Stage 1	1010	-	-
Stage 2	1010	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.7	0	1.6
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	994	1600
HCM Lane V/C Ratio	-	-	0.019	0.001
HCM Control Delay (s)	-	-	8.7	7.3
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0

HCM 6th TWSC
2: E Ferrell Road/Earnest Jones Road & Yates Store Road

Background (2024) AM

06/12/2019

Intersection

Int Delay, s/veh 4.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	152	1	2	193	1	3
Future Vol, veh/h	152	1	2	193	1	3
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	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	169	1	2	214	1	3

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	114	109	0
Stage 1	109	-	-
Stage 2	5	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	882	945	-
Stage 1	916	-	-
Stage 2	1018	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	881	945	-
Mov Cap-2 Maneuver	881	-	-
Stage 1	916	-	-
Stage 2	1017	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.1	0	1.9
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	881	1354
HCM Lane V/C Ratio	-	-	0.193	0.001
HCM Control Delay (s)	-	-	10.1	7.7
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.7	0

Intersection

Int Delay, s/veh 4.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	61	1	8	53	2	8
Future Vol, veh/h	61	1	8	53	2	8
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	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	68	1	9	59	2	9

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	52	39	0
Stage 1	39	-	-
Stage 2	13	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	957	1033	-
Stage 1	983	-	-
Stage 2	1010	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	956	1033	-
Mov Cap-2 Maneuver	956	-	-
Stage 1	983	-	-
Stage 2	1009	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.1	0	1.5
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	957	1533
HCM Lane V/C Ratio	-	-	0.072	0.001
HCM Control Delay (s)	-	-	9.1	7.4
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0

HCM 6th TWSC
2: E Ferrell Road/Earnest Jones Road & Yates Store Road

Combined (2024) AM

06/12/2019

Intersection

Int Delay, s/veh 4.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	171	1	2	199	1	3
Future Vol, veh/h	171	1	2	199	1	3
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	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	190	1	2	221	1	3

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	118	113	0
Stage 1	113	-	-
Stage 2	5	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	878	940	-
Stage 1	912	-	-
Stage 2	1018	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	877	940	-
Mov Cap-2 Maneuver	877	-	-
Stage 1	912	-	-
Stage 2	1017	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.2	0	1.9
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	877	1346
HCM Lane V/C Ratio	-	-	0.218	0.001
HCM Control Delay (s)	-	-	10.2	7.7
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.8	0

HCM 6th TWSC
2: E Ferrell Road/Earnest Jones Road & Yates Store Road

Combined (2024) PM

06/12/2019

Intersection

Int Delay, s/veh 4.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	73	1	8	74	2	8
Future Vol, veh/h	73	1	8	74	2	8
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	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	81	1	9	82	2	9

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	63	50	0
Stage 1	50	-	-
Stage 2	13	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	943	1018	-
Stage 1	972	-	-
Stage 2	1010	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	942	1018	-
Mov Cap-2 Maneuver	942	-	-
Stage 1	972	-	-
Stage 2	1009	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.2	0	1.5
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	943	1504
HCM Lane V/C Ratio	-	-	0.087	0.001
HCM Control Delay (s)	-	-	9.2	7.4
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0

APPENDIX F

CAPACITY ANALYSIS CALCULATIONS

MT. PISGAH CHURCH ROAD

&

EARNEST JONES ROAD

HCM 6th TWSC
3: Mt. Pisgah Church Road & Earnest Jones Road

Existing (2019) AM

06/12/2019

Intersection

Int Delay, s/veh 1.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	1	11	1	4	16
Future Vol, veh/h	4	1	11	1	4	16
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	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	1	12	1	4	18

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	39	13	0
Stage 1	13	-	-
Stage 2	26	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	973	1067	-
Stage 1	1010	-	-
Stage 2	997	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	970	1067	-
Mov Cap-2 Maneuver	970	-	-
Stage 1	1010	-	-
Stage 2	994	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.7	0	1.4
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	988	1606
HCM Lane V/C Ratio	-	-	0.006	0.003
HCM Control Delay (s)	-	-	8.7	7.2
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

HCM 6th TWSC
3: Mt. Pisgah Church Road & Earnest Jones Road

Existing (2019) PM

06/12/2019

Intersection

Int Delay, s/veh 1.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	1	17	4	4	19
Future Vol, veh/h	4	1	17	4	4	19
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	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	1	19	4	4	21

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	50	21	0
Stage 1	21	-	-
Stage 2	29	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	959	1056	-
Stage 1	1002	-	-
Stage 2	994	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	956	1056	-
Mov Cap-2 Maneuver	956	-	-
Stage 1	1002	-	-
Stage 2	991	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.7	0	1.3
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	974	1592
HCM Lane V/C Ratio	-	-	0.006	0.003
HCM Control Delay (s)	-	-	8.7	7.3
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

HCM 6th TWSC
3: Mt. Pisgah Church Road & Earnest Jones Road

Background (2024) AM

06/12/2019

Intersection

Int Delay, s/veh	1.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	1	12	1	4	18
Future Vol, veh/h	4	1	12	1	4	18
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	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	1	13	1	4	20

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	42	14	0
Stage 1	14	-	-
Stage 2	28	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	969	1066	-
Stage 1	1009	-	-
Stage 2	995	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	966	1066	-
Mov Cap-2 Maneuver	966	-	-
Stage 1	1009	-	-
Stage 2	992	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.7	0	1.3
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	984	1604
HCM Lane V/C Ratio	-	-	0.006	0.003
HCM Control Delay (s)	-	-	8.7	7.3
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

HCM 6th TWSC
3: Mt. Pisgah Church Road & Earnest Jones Road

Background (2024) PM

06/12/2019

Intersection

Int Delay, s/veh 1.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	1	19	4	4	21
Future Vol, veh/h	4	1	19	4	4	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	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	1	21	4	4	23

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	54	23	0
Stage 1	23	-	-
Stage 2	31	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	954	1054	-
Stage 1	1000	-	-
Stage 2	992	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	951	1054	-
Mov Cap-2 Maneuver	951	-	-
Stage 1	1000	-	-
Stage 2	989	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.7	0	1.2
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	970	1589
HCM Lane V/C Ratio	-	-	0.006	0.003
HCM Control Delay (s)	-	-	8.7	7.3
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

HCM 6th TWSC
3: Mt. Pisgah Church Road & Earnest Jones Road

Combined (2024) AM

06/12/2019

Intersection

Int Delay, s/veh 1.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	1	12	1	4	18
Future Vol, veh/h	4	1	12	1	4	18
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	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	1	13	1	4	20

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	42	14	0
Stage 1	14	-	-
Stage 2	28	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	969	1066	-
Stage 1	1009	-	-
Stage 2	995	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	966	1066	-
Mov Cap-2 Maneuver	966	-	-
Stage 1	1009	-	-
Stage 2	992	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.7	0	1.3
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	984	1604
HCM Lane V/C Ratio	-	-	0.006	0.003
HCM Control Delay (s)	-	-	8.7	7.3
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

HCM 6th TWSC
3: Mt. Pisgah Church Road & Earnest Jones Road

Combined (2024) PM

06/12/2019

Intersection

Int Delay, s/veh 1.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	1	19	4	4	21
Future Vol, veh/h	4	1	19	4	4	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	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	1	21	4	4	23

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	54	23	0
Stage 1	23	-	-
Stage 2	31	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	954	1054	-
Stage 1	1000	-	-
Stage 2	992	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	951	1054	-
Mov Cap-2 Maneuver	951	-	-
Stage 1	1000	-	-
Stage 2	989	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.7	0	1.2
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	970	1589
HCM Lane V/C Ratio	-	-	0.006	0.003
HCM Control Delay (s)	-	-	8.7	7.3
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

APPENDIX G

CAPACITY ANALYSIS CALCULATIONS

YATES STORE ROAD

&

NEW HOPE CHURCH ROAD / ROLLING

SPRINGS DRIVE

Intersection

Int Delay, s/veh	4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	57	2	21	4	2	29	19	112	1	11	58	31
Future Vol, veh/h	57	2	21	4	2	29	19	112	1	11	58	31
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	125	-	-	-	-	-	-	-	-	100	-	350
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	63	2	23	4	2	32	21	124	1	12	64	34

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	272	255	64	285	289	125	98	0	0	125	0	0
Stage 1	88	88	-	167	167	-	-	-	-	-	-	-
Stage 2	184	167	-	118	122	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	680	649	1000	667	621	926	1495	-	-	1462	-	-
Stage 1	920	822	-	835	760	-	-	-	-	-	-	-
Stage 2	818	760	-	887	795	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	643	634	1000	638	607	926	1495	-	-	1462	-	-
Mov Cap-2 Maneuver	643	634	-	638	607	-	-	-	-	-	-	-
Stage 1	906	815	-	822	749	-	-	-	-	-	-	-
Stage 2	775	749	-	857	789	-	-	-	-	-	-	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	10.5			9.4			1.1			0.8		
HCM LOS	B			A								

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1495	-	-	643	952	856	1462	-	-
HCM Lane V/C Ratio	0.014	-	-	0.098	0.027	0.045	0.008	-	-
HCM Control Delay (s)	7.4	0	-	11.2	8.9	9.4	7.5	-	-
HCM Lane LOS	A	A	-	B	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.1	0.1	0	-	-

Intersection

Int Delay, s/veh	3.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	33	2	26	3	5	14	30	68	2	24	136	67
Future Vol, veh/h	33	2	26	3	5	14	30	68	2	24	136	67
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	125	-	-	-	-	-	-	-	-	100	-	350
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	37	2	29	3	6	16	33	76	2	27	151	74

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	359	349	151	401	422	77	225	0	0	78	0	0
Stage 1	205	205	-	143	143	-	-	-	-	-	-	-
Stage 2	154	144	-	258	279	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	596	575	895	560	523	984	1344	-	-	1520	-	-
Stage 1	797	732	-	860	779	-	-	-	-	-	-	-
Stage 2	848	778	-	747	680	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	563	550	895	522	500	984	1344	-	-	1520	-	-
Mov Cap-2 Maneuver	563	550	-	522	500	-	-	-	-	-	-	-
Stage 1	776	719	-	838	759	-	-	-	-	-	-	-
Stage 2	807	758	-	708	668	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	10.7		10.1		2.3		0.8	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1344	-	-	563	857	734	1520	-	-
HCM Lane V/C Ratio	0.025	-	-	0.065	0.036	0.033	0.018	-	-
HCM Control Delay (s)	7.7	0	-	11.8	9.4	10.1	7.4	-	-
HCM Lane LOS	A	A	-	B	A	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	0.1	0.1	0.1	-	-

Intersection

Int Delay, s/veh 3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	72	2	25	4	2	32	28	245	1	12	185	66
Future Vol, veh/h	72	2	25	4	2	32	28	245	1	12	185	66
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	125	-	-	-	-	-	-	-	-	100	-	350
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	80	2	28	4	2	36	31	272	1	13	206	73

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	586	567	206	619	640	273	279	0	0	273	0	0
Stage 1	232	232	-	335	335	-	-	-	-	-	-	-
Stage 2	354	335	-	284	305	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	422	433	835	401	393	766	1284	-	-	1290	-	-
Stage 1	771	713	-	679	643	-	-	-	-	-	-	-
Stage 2	663	643	-	723	662	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	389	417	835	375	378	766	1284	-	-	1290	-	-
Mov Cap-2 Maneuver	389	417	-	375	378	-	-	-	-	-	-	-
Stage 1	749	706	-	660	625	-	-	-	-	-	-	-
Stage 2	612	625	-	690	655	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	14.7		10.8		0.8		0.4	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1284	-	-	389	777	658	1290	-	-
HCM Lane V/C Ratio	0.024	-	-	0.206	0.039	0.064	0.01	-	-
HCM Control Delay (s)	7.9	0	-	16.6	9.8	10.8	7.8	-	-
HCM Lane LOS	A	A	-	C	A	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.8	0.1	0.2	0	-	-

Intersection

Int Delay, s/veh 3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	41	2	37	3	6	15	38	110	2	26	180	84
Future Vol, veh/h	41	2	37	3	6	15	38	110	2	26	180	84
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	125	-	-	-	-	-	-	-	-	100	-	350
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	46	2	41	3	7	17	42	122	2	29	200	93

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	477	466	200	533	558	123	293	0	0	124	0	0
Stage 1	258	258	-	207	207	-	-	-	-	-	-	-
Stage 2	219	208	-	326	351	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	498	494	841	458	438	928	1269	-	-	1463	-	-
Stage 1	747	694	-	795	731	-	-	-	-	-	-	-
Stage 2	783	730	-	687	632	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	463	467	841	416	414	928	1269	-	-	1463	-	-
Mov Cap-2 Maneuver	463	467	-	416	414	-	-	-	-	-	-	-
Stage 1	720	680	-	766	705	-	-	-	-	-	-	-
Stage 2	734	704	-	638	619	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	11.7		10.9		2		0.7	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1269	-	-	463	808	634	1463	-	-
HCM Lane V/C Ratio	0.033	-	-	0.098	0.054	0.042	0.02	-	-
HCM Control Delay (s)	7.9	0	-	13.6	9.7	10.9	7.5	-	-
HCM Lane LOS	A	A	-	B	A	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	0.2	0.1	0.1	-	-

Intersection

Int Delay, s/veh 4.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	99	2	62	4	2	32	40	245	1	12	185	75
Future Vol, veh/h	99	2	62	4	2	32	40	245	1	12	185	75
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	125	-	-	-	-	-	-	-	-	100	-	350
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	110	2	69	4	2	36	44	272	1	13	206	83

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	612	593	206	670	676	273	289	0	0	273	0	0
Stage 1	232	232	-	361	361	-	-	-	-	-	-	-
Stage 2	380	361	-	309	315	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	405	418	835	371	375	766	1273	-	-	1290	-	-
Stage 1	771	713	-	657	626	-	-	-	-	-	-	-
Stage 2	642	626	-	701	656	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	369	397	835	326	356	766	1273	-	-	1290	-	-
Mov Cap-2 Maneuver	369	397	-	326	356	-	-	-	-	-	-	-
Stage 1	739	706	-	630	600	-	-	-	-	-	-	-
Stage 2	585	600	-	635	649	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	15.3		11.1		1.1		0.3	
HCM LOS	C		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1273	-	-	369	807	637	1290	-	-
HCM Lane V/C Ratio	0.035	-	-	0.298	0.088	0.066	0.01	-	-
HCM Control Delay (s)	7.9	0	-	18.8	9.9	11.1	7.8	-	-
HCM Lane LOS	A	A	-	C	A	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	1.2	0.3	0.2	0	-	-

Intersection

Int Delay, s/veh 4.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	59	2	61	3	6	15	79	110	2	26	180	115
Future Vol, veh/h	59	2	61	3	6	15	79	110	2	26	180	115
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	125	-	-	-	-	-	-	-	-	100	-	350
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	66	2	68	3	7	17	88	122	2	29	200	128

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	569	558	200	656	685	123	328	0	0	124	0	0
Stage 1	258	258	-	299	299	-	-	-	-	-	-	-
Stage 2	311	300	-	357	386	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	433	438	841	379	371	928	1232	-	-	1463	-	-
Stage 1	747	694	-	710	666	-	-	-	-	-	-	-
Stage 2	699	666	-	661	610	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	388	396	841	322	336	928	1232	-	-	1463	-	-
Mov Cap-2 Maneuver	388	396	-	322	336	-	-	-	-	-	-	-
Stage 1	689	680	-	655	615	-	-	-	-	-	-	-
Stage 2	627	615	-	594	598	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	12.9		11.8		3.4		0.6	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1232	-	-	388	812	554	1463	-	-
HCM Lane V/C Ratio	0.071	-	-	0.169	0.086	0.048	0.02	-	-
HCM Control Delay (s)	8.1	0	-	16.2	9.9	11.8	7.5	-	-
HCM Lane LOS	A	A	-	C	A	B	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.6	0.3	0.2	0.1	-	-

APPENDIX H

CAPACITY ANALYSIS CALCULATIONS

NEW HOPE CHURCH ROAD

&

MT. PISGAH CHURCH ROAD / SHAD ROAD

HCM 6th TWSC
5: Mt. Pisgah Church Road/Shad Lane & New Hope Church Road

Existing (2019) AM

06/12/2019

Intersection

Int Delay, s/veh 3.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	26	4	8	33	4	4	4	12	3	4	4
Future Vol, veh/h	4	26	4	8	33	4	4	4	12	3	4	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	29	4	9	37	4	4	4	13	3	4	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	41	0	0	33	0	0	100	98	31	105	98	39
Stage 1	-	-	-	-	-	-	39	39	-	57	57	-
Stage 2	-	-	-	-	-	-	61	59	-	48	41	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1568	-	-	1579	-	-	881	792	1043	875	792	1033
Stage 1	-	-	-	-	-	-	976	862	-	955	847	-
Stage 2	-	-	-	-	-	-	950	846	-	965	861	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1568	-	-	1579	-	-	868	785	1043	854	785	1033
Mov Cap-2 Maneuver	-	-	-	-	-	-	868	785	-	854	785	-
Stage 1	-	-	-	-	-	-	973	859	-	952	842	-
Stage 2	-	-	-	-	-	-	935	841	-	945	858	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	1.3	8.9	9.1
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	943	1568	-	-	1579	-	-	881
HCM Lane V/C Ratio	0.024	0.003	-	-	0.006	-	-	0.014
HCM Control Delay (s)	8.9	7.3	0	-	7.3	0	-	9.1
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

Intersection

Int Delay, s/veh 3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	31	1	17	33	4	3	3	11	3	4	4
Future Vol, veh/h	2	31	1	17	33	4	3	3	11	3	4	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	34	1	19	37	4	3	3	12	3	4	4

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	41	0	0	35	0	0	120	118	35	123	116	39
Stage 1	-	-	-	-	-	-	39	39	-	77	77	-
Stage 2	-	-	-	-	-	-	81	79	-	46	39	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1568	-	-	1576	-	-	855	772	1038	852	774	1033
Stage 1	-	-	-	-	-	-	976	862	-	932	831	-
Stage 2	-	-	-	-	-	-	927	829	-	968	862	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1568	-	-	1576	-	-	839	762	1038	831	764	1033
Mov Cap-2 Maneuver	-	-	-	-	-	-	839	762	-	831	764	-
Stage 1	-	-	-	-	-	-	975	861	-	931	821	-
Stage 2	-	-	-	-	-	-	907	819	-	952	861	-

Approach	EB		WB		NB		SB
HCM Control Delay, s	0.4		2.3		8.9		9.2
HCM LOS					A		A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	939	1568	-	-	1576	-	-	865
HCM Lane V/C Ratio	0.02	0.001	-	-	0.012	-	-	0.014
HCM Control Delay (s)	8.9	7.3	0	-	7.3	0	-	9.2
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

Intersection

Int Delay, s/veh 1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	88	4	9	86	4	4	4	13	3	4	4
Future Vol, veh/h	4	88	4	9	86	4	4	4	13	3	4	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	98	4	10	96	4	4	4	14	3	4	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	100	0	0	102	0	0	230	228	100	235	228	98
Stage 1	-	-	-	-	-	-	108	108	-	118	118	-
Stage 2	-	-	-	-	-	-	122	120	-	117	110	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1493	-	-	1490	-	-	725	671	956	720	671	958
Stage 1	-	-	-	-	-	-	897	806	-	887	798	-
Stage 2	-	-	-	-	-	-	882	796	-	888	804	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1493	-	-	1490	-	-	713	664	956	700	664	958
Mov Cap-2 Maneuver	-	-	-	-	-	-	713	664	-	700	664	-
Stage 1	-	-	-	-	-	-	894	804	-	884	792	-
Stage 2	-	-	-	-	-	-	867	790	-	867	802	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.7	9.5	9.8
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	832	1493	-	-	1490	-	-	759
HCM Lane V/C Ratio	0.028	0.003	-	-	0.007	-	-	0.016
HCM Control Delay (s)	9.5	7.4	0	-	7.4	0	-	9.8
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

Intersection

Int Delay, s/veh 2.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	48	1	19	52	4	3	3	12	3	4	4
Future Vol, veh/h	2	48	1	19	52	4	3	3	12	3	4	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	53	1	21	58	4	3	3	13	3	4	4

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	62	0	0	54	0	0	164	162	54	168	160	60
Stage 1	-	-	-	-	-	-	58	58	-	102	102	-
Stage 2	-	-	-	-	-	-	106	104	-	66	58	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1541	-	-	1551	-	-	801	730	1013	796	732	1005
Stage 1	-	-	-	-	-	-	954	847	-	904	811	-
Stage 2	-	-	-	-	-	-	900	809	-	945	847	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1541	-	-	1551	-	-	785	719	1013	774	721	1005
Mov Cap-2 Maneuver	-	-	-	-	-	-	785	719	-	774	721	-
Stage 1	-	-	-	-	-	-	953	846	-	903	800	-
Stage 2	-	-	-	-	-	-	879	798	-	928	846	-

Approach	EB		WB		NB		SB
HCM Control Delay, s	0.3		1.9		9.1		9.5
HCM LOS					A		A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	907	1541	-	-	1551	-	-	821
HCM Lane V/C Ratio	0.022	0.001	-	-	0.014	-	-	0.015
HCM Control Delay (s)	9.1	7.3	0	-	7.4	0	-	9.5
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

Intersection

Int Delay, s/veh 2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	93	8	13	100	4	18	4	26	3	4	4
Future Vol, veh/h	4	93	8	13	100	4	18	4	26	3	4	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	103	9	14	111	4	20	4	29	3	4	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	115	0	0	112	0	0	261	259	108	273	261	113
Stage 1	-	-	-	-	-	-	116	116	-	141	141	-
Stage 2	-	-	-	-	-	-	145	143	-	132	120	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1474	-	-	1478	-	-	692	645	946	679	644	940
Stage 1	-	-	-	-	-	-	889	800	-	862	780	-
Stage 2	-	-	-	-	-	-	858	779	-	871	796	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1474	-	-	1478	-	-	678	637	946	648	636	940
Mov Cap-2 Maneuver	-	-	-	-	-	-	678	637	-	648	636	-
Stage 1	-	-	-	-	-	-	886	798	-	859	772	-
Stage 2	-	-	-	-	-	-	841	771	-	837	794	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.8	9.8	10.1
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	796	1474	-	-	1478	-	-	725
HCM Lane V/C Ratio	0.067	0.003	-	-	0.01	-	-	0.017
HCM Control Delay (s)	9.8	7.5	0	-	7.5	0	-	10.1
HCM Lane LOS	A	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.1

Intersection

Int Delay, s/veh 3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	63	17	34	62	4	12	3	21	3	4	4
Future Vol, veh/h	2	63	17	34	62	4	12	3	21	3	4	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	70	19	38	69	4	13	3	23	3	4	4

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	73	0	0	89	0	0	235	233	80	244	240	71
Stage 1	-	-	-	-	-	-	84	84	-	147	147	-
Stage 2	-	-	-	-	-	-	151	149	-	97	93	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1527	-	-	1506	-	-	720	667	980	710	661	991
Stage 1	-	-	-	-	-	-	924	825	-	856	775	-
Stage 2	-	-	-	-	-	-	851	774	-	910	818	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1527	-	-	1506	-	-	698	649	980	676	643	991
Mov Cap-2 Maneuver	-	-	-	-	-	-	698	649	-	676	643	-
Stage 1	-	-	-	-	-	-	923	824	-	855	755	-
Stage 2	-	-	-	-	-	-	820	754	-	884	817	-

Approach	EB		WB		NB		SB
HCM Control Delay, s	0.2		2.5		9.5		9.9
HCM LOS					A		A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	833	1527	-	-	1506	-	-	749
HCM Lane V/C Ratio	0.048	0.001	-	-	0.025	-	-	0.016
HCM Control Delay (s)	9.5	7.4	0	-	7.5	0	-	9.9
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.2	0	-	-	0.1	-	-	0.1

APPENDIX I

CAPACITY ANALYSIS CALCULATIONS

NC 751

&

NEW HOPE CHURCH ROAD

HCM 6th TWSC
6: NC 751 & New Hope Church Road

Existing (2019) AM

06/12/2019

Intersection

Int Delay, s/veh 1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	29	23	572	32	3	246
Future Vol, veh/h	29	23	572	32	3	246
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	-	-	-	175	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	32	26	636	36	3	273

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	933	654	0
Stage 1	654	-	-
Stage 2	279	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	295	467	-
Stage 1	517	-	-
Stage 2	768	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	294	467	-
Mov Cap-2 Maneuver	294	-	-
Stage 1	517	-	-
Stage 2	766	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.2	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	352	919
HCM Lane V/C Ratio	-	-	0.164	0.004
HCM Control Delay (s)	-	-	17.2	8.9
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	0.6	0

HCM 6th TWSC
6: NC 751 & New Hope Church Road

Existing (2019) PM

06/12/2019

Intersection

Int Delay, s/veh 0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	25	16	332	30	22	640
Future Vol, veh/h	25	16	332	30	22	640
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	-	-	-	175	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	28	18	369	33	24	711

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	1145	386	0
Stage 1	386	-	-
Stage 2	759	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	221	662	-
Stage 1	687	-	-
Stage 2	462	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	216	662	-
Mov Cap-2 Maneuver	216	-	-
Stage 1	687	-	-
Stage 2	452	-	-

Approach	WB	NB	SB
HCM Control Delay, s	19.5	0	0.3
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	293	1157
HCM Lane V/C Ratio	-	-	0.155	0.021
HCM Control Delay (s)	-	-	19.5	8.2
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	0.5	0.1

HCM 6th TWSC
6: NC 751 & New Hope Church Road

Background (2024) AM

06/12/2019

Intersection

Int Delay, s/veh 2.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	32	75	632	35	62	272
Future Vol, veh/h	32	75	632	35	62	272
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	-	-	-	175	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	36	83	702	39	69	302

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	1162	722	0
Stage 1	722	-	-
Stage 2	440	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	216	427	-
Stage 1	481	-	-
Stage 2	649	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	199	427	-
Mov Cap-2 Maneuver	199	-	-
Stage 1	481	-	-
Stage 2	597	-	-

Approach	WB	NB	SB
HCM Control Delay, s	22.9	0	1.8
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	318	866
HCM Lane V/C Ratio	-	-	0.374	0.08
HCM Control Delay (s)	-	-	22.9	9.5
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	1.7	0.3

HCM 6th TWSC
6: NC 751 & New Hope Church Road

Background (2024) PM

06/12/2019

Intersection

Int Delay, s/veh 1.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	28	34	367	33	38	707
Future Vol, veh/h	28	34	367	33	38	707
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	-	-	-	175	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	31	38	408	37	42	786

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	1297	427	0
Stage 1	427	-	-
Stage 2	870	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	179	628	-
Stage 1	658	-	-
Stage 2	410	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	172	628	-
Mov Cap-2 Maneuver	172	-	-
Stage 1	658	-	-
Stage 2	394	-	-

Approach	WB	NB	SB
HCM Control Delay, s	21.5	0	0.4
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	286	1115
HCM Lane V/C Ratio	-	-	0.241	0.038
HCM Control Delay (s)	-	-	21.5	8.4
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	0.9	0.1

HCM 6th TWSC
6: NC 751 & New Hope Church Road

Combined (2024) AM

06/12/2019

Intersection

Int Delay, s/veh 3.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	32	103	632	35	71	272
Future Vol, veh/h	32	103	632	35	71	272
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	-	-	-	175	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	36	114	702	39	79	302

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	1182	722	0
Stage 1	722	-	-
Stage 2	460	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	210	427	-
Stage 1	481	-	-
Stage 2	636	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	191	427	-
Mov Cap-2 Maneuver	191	-	-
Stage 1	481	-	-
Stage 2	578	-	-

Approach	WB	NB	SB
HCM Control Delay, s	24.7	0	2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	330	866
HCM Lane V/C Ratio	-	-	0.455	0.091
HCM Control Delay (s)	-	-	24.7	9.6
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	2.3	0.3

HCM 6th TWSC
6: NC 751 & New Hope Church Road

Combined (2024) PM

06/12/2019

Intersection

Int Delay, s/veh 1.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	28	53	367	33	69	707
Future Vol, veh/h	28	53	367	33	69	707
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	-	-	-	175	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	31	59	408	37	77	786

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	1367	427	0
Stage 1	427	-	-
Stage 2	940	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	162	628	-
Stage 1	658	-	-
Stage 2	380	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	151	628	-
Mov Cap-2 Maneuver	151	-	-
Stage 1	658	-	-
Stage 2	354	-	-

Approach	WB	NB	SB
HCM Control Delay, s	22.1	0	0.8
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	300	1115
HCM Lane V/C Ratio	-	-	0.3	0.069
HCM Control Delay (s)	-	-	22.1	8.5
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	1.2	0.2

APPENDIX J

CAPACITY ANALYSIS CALCULATIONS

NEW HOPE CHURCH ROAD

&

SITE DRIVE 1

HCM 6th TWSC
7: Site Drive 1 & New Hope Church Road

Combined (2024) AM

06/12/2019

Intersection

Int Delay, s/veh	1.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	119	3	8	104	9	23
Future Vol, veh/h	119	3	8	104	9	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	50	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	132	3	9	116	10	26

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	135
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1449
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1449
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	9.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	849	-	-	1449	-
HCM Lane V/C Ratio	0.042	-	-	0.006	-
HCM Control Delay (s)	9.4	-	-	7.5	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

HCM 6th TWSC
7: Site Drive 1 & New Hope Church Road

Combined (2024) PM

06/12/2019

Intersection

Int Delay, s/veh 1.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	78	10	26	95	6	15
Future Vol, veh/h	78	10	26	95	6	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	50	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	87	11	29	106	7	17

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	98
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1495
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1495
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.6	9.2
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	878	-	-	1495	-
HCM Lane V/C Ratio	0.027	-	-	0.019	-
HCM Control Delay (s)	9.2	-	-	7.5	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-

APPENDIX K

CAPACITY ANALYSIS CALCULATIONS

NEW HOPE CHURCH ROAD

&

SITE DRIVE 2

HCM 6th TWSC
8: Site Drive 2 & New Hope Church Road

Combined (2024) AM

06/12/2019

Intersection

Int Delay, s/veh 1.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	140	2	9	107	5	28
Future Vol, veh/h	140	2	9	107	5	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	50	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	156	2	10	119	6	31

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	158
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1422
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1422
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	9.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	852	-	-	1422	-
HCM Lane V/C Ratio	0.043	-	-	0.007	-
HCM Control Delay (s)	9.4	-	-	7.5	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

HCM 6th TWSC
8: Site Drive 2 & New Hope Church Road

Combined (2024) PM

06/12/2019

Intersection

Int Delay, s/veh 1.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	88	5	31	117	4	18
Future Vol, veh/h	88	5	31	117	4	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	50	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	98	6	34	130	4	20

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	104
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1488
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1488
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.6	9.2
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	888	-	-	1488	-
HCM Lane V/C Ratio	0.028	-	-	0.023	-
HCM Control Delay (s)	9.2	-	-	7.5	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-

APPENDIX L

CAPACITY ANALYSIS CALCULATIONS

MT. PISGAH CHURCH ROAD

&

SITE DRIVE 3

HCM 6th TWSC
9: Mt. Pisgah Church Road & Site Drive 3

Combined (2024) AM

06/13/2019

Intersection

Int Delay, s/veh	2.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	13	32	4	4	13
Future Vol, veh/h	4	13	32	4	4	13
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	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	14	36	4	4	14

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	60	38	0
Stage 1	38	-	-
Stage 2	22	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	947	1034	-
Stage 1	984	-	-
Stage 2	1001	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	944	1034	-
Mov Cap-2 Maneuver	944	-	-
Stage 1	984	-	-
Stage 2	998	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.6	0	1.7
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	1011	1570
HCM Lane V/C Ratio	-	-	0.019	0.003
HCM Control Delay (s)	-	-	8.6	7.3
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0

Intersection

Int Delay, s/veh	2.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	9	28	4	16	35
Future Vol, veh/h	4	9	28	4	16	35
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	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	10	31	4	18	39

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	108	33	0	0	35
Stage 1	33	-	-	-	-
Stage 2	75	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	889	1041	-	-	1576
Stage 1	989	-	-	-	-
Stage 2	948	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	878	1041	-	-	1576
Mov Cap-2 Maneuver	878	-	-	-	-
Stage 1	989	-	-	-	-
Stage 2	937	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.7	0	2.3
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	985	1576
HCM Lane V/C Ratio	-	-	0.015	0.011
HCM Control Delay (s)	-	-	8.7	7.3
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

APPENDIX M

CAPACITY ANALYSIS CALCULATIONS

MT. PISGAH CHURCH ROAD

&

SITE DRIVE 4

Intersection

Int Delay, s/veh	3.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	14	18	4	4	9
Future Vol, veh/h	4	14	18	4	4	9
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	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	16	20	4	4	10

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	40	22	0
Stage 1	22	-	-
Stage 2	18	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	972	1055	-
Stage 1	1001	-	-
Stage 2	1005	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	969	1055	-
Mov Cap-2 Maneuver	969	-	-
Stage 1	1001	-	-
Stage 2	1002	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.5	0	2.2
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	1035	1591
HCM Lane V/C Ratio	-	-	0.019	0.003
HCM Control Delay (s)	-	-	8.5	7.3
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0

Intersection

Int Delay, s/veh	3.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	9	19	4	15	20
Future Vol, veh/h	4	9	19	4	15	20
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	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	10	21	4	17	22

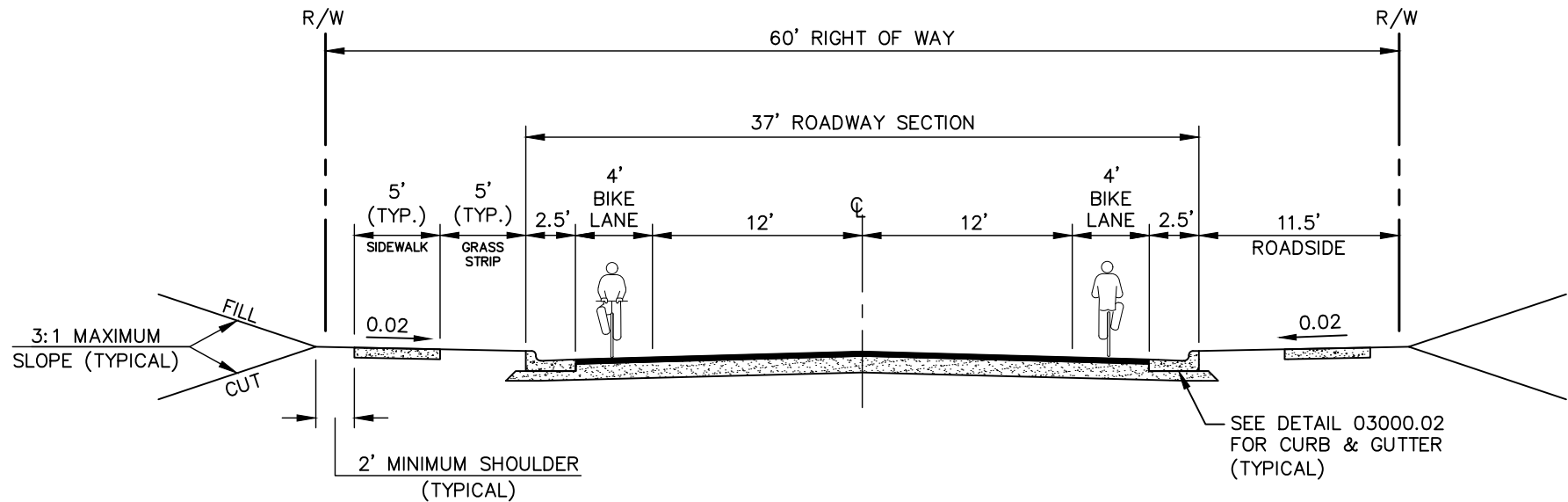
Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	79	23	0
Stage 1	23	-	-
Stage 2	56	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	924	1054	-
Stage 1	1000	-	-
Stage 2	967	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	914	1054	-
Mov Cap-2 Maneuver	914	-	-
Stage 1	1000	-	-
Stage 2	956	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.6	0	3.1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	- 1007	1589	-
HCM Lane V/C Ratio	-	- 0.014	0.01	-
HCM Control Delay (s)	-	- 8.6	7.3	0
HCM Lane LOS	-	- A	A	A
HCM 95th %tile Q(veh)	-	- 0	0	-

APPENDIX N

FRONTAGE ROADWAY IMPROVEMENT STANDARD DETAIL DRAWINGS



MINIMUM PAVEMENT DESIGN

3" S9.5 B
4" I19.0 B
10" A.B.C.

60' RIGHT OF WAY
37' ROADWAY SECTION
SECTION VIEW

NOTES:

1. NORMAL CROWN OF 0.02' PER FOOT UNLESS OTHERWISE REQUIRED TO HAVE SUPERELEVATION.
2. PAVEMENT DESIGN SHALL BE REQUIRED AND APPROVED BY **NCDOT** (FOR NCDOT ROADS) AND/OR TOWN OF CARY PRIOR TO PLACEMENT OF ANY BASE MATERIAL.
3. PAVEMENT DESIGN SHALL BE AS SHOWN OR AS DESIGNED BY GEOTECHNICAL ENGINEER, WHICHEVER IS GREATER.



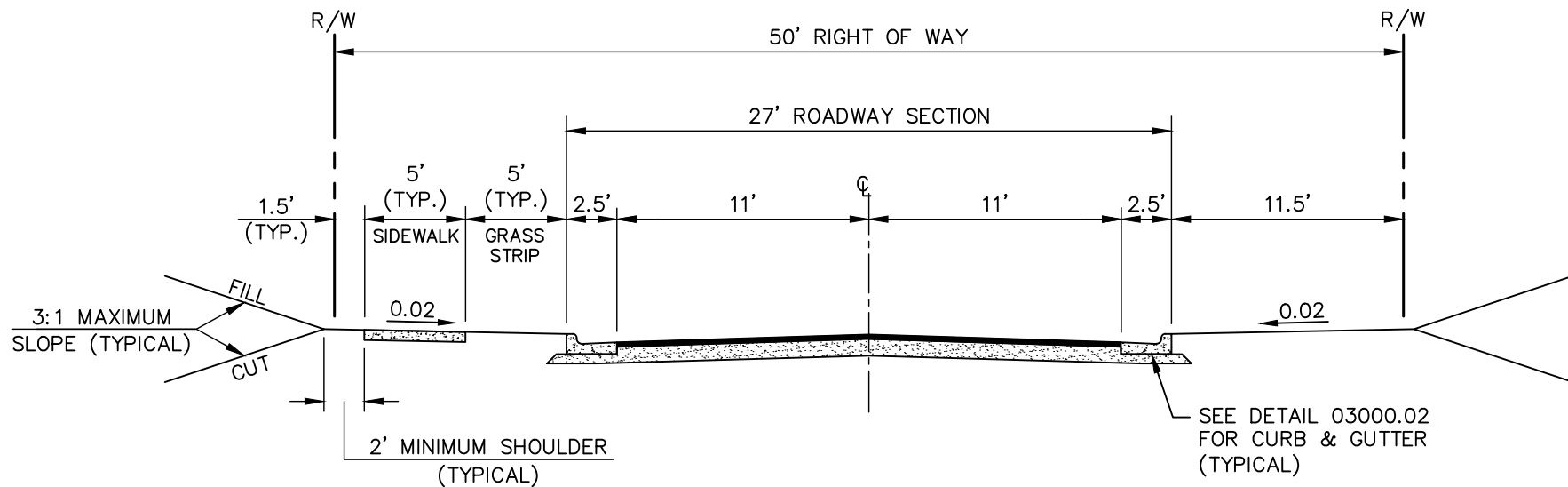
EFFECTIVE: 01/05/17

STANDARD 2-LANE THOROUGHFARE

DETAIL No.

03000.01

SHEET 11 OF 18



50' RIGHT OF WAY
27' ROADWAY SECTION
SECTION VIEW

MINIMUM PAVEMENT DESIGN

3" S9.5 B

8" A.B.C.

NOTES:

1. NORMAL CROWN OF 0.02' PER FOOT UNLESS OTHERWISE REQUIRED TO HAVE SUPERELEVATION.
2. PAVEMENT DESIGN SHALL BE REQUIRED AND APPROVED BY **NCDOT** (FOR NCDOT ROADS) AND/OR TOWN OF CARY PRIOR TO PLACEMENT OF ANY BASE MATERIAL.
3. PAVEMENT DESIGN SHALL BE AS SHOWN OR AS DESIGNED BY GEOTECHNICAL ENGINEER, WHICHEVER IS GREATER.



EFFECTIVE: 01/05/17

STANDARD LOCAL STREET

DETAIL No.

03000.01

SHEET 17 OF 18