Traffic Impact Statement

For Submittal to the Monroe County

IMC Key Largo Commercial Center #I3604

101000 Overseas Highway
Key Largo, Florida

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MONROE CO. PLANNING DEPT

Prepared for:
IMC-KEY LARGO COMMERCIAL CENTER
101000 OVERSEAS HIGHWAY
MONROE COUNTY/FLORIDA

Revised: April 2016

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Executive Summary

A 21,050 square foot of retail building is proposed to be developed at 101000 Overseas Highway in Key Largo, Florida. As part of the redevelopment, a 10,239 square foot portion of the existing retail building is proposed to be demolished while the 10,000 square foot Dollar Tree store will remain in place. Furthermore, the new 5,000 square foot of retail space and 3,116 square foot fast food restaurant with drive-through will be added. CPH has prepared a Traffic Impact Statement for submittal to Monroe County to address the impacts of the project. The project is located in Monroe County, Florida.

Access to the project is proposed through two existing driveways and both driveways located on Overseas Highway.

The project is expected to generate 2,184 gross trips per day (1,093 entering/1,091 exiting), and also additional 59 new PM Peak Hour driveway trips (33 entering/26 exiting). Based upon the analysis, all driveways and the surrounding roadway network are anticipated to continue operating at acceptable levels of service with addition of the project.

Introduction

The existing commercial center at 101000 Overseas Highway Key Largo, Florida is proposed to be redeveloped into a fast food restaurant with drive-through and additional retail space. The existing retail space is currently 21,050 square feet. New 3,116 square foot restaurant with an adjoining 15,000 square foot retail building are proposed to replace the existing commercial center. The overall commercial center's area will decrease by approximately 2,934 square feet. The project is located in Monroe County, Florida.

Access to the project is proposed through two existing driveways located on Overseas Highway.

The traffic analysis has been proposed in compliance with section XIII, requirements of Level 3 Traffic Impact Reports of the Monroe County Traffic Report Guidelines Manual. The methodology statement and relevant correspondence are included in the Appendix.

Figure 1 illustrates the project location and **Figure 2** is a site plan of the proposed development.

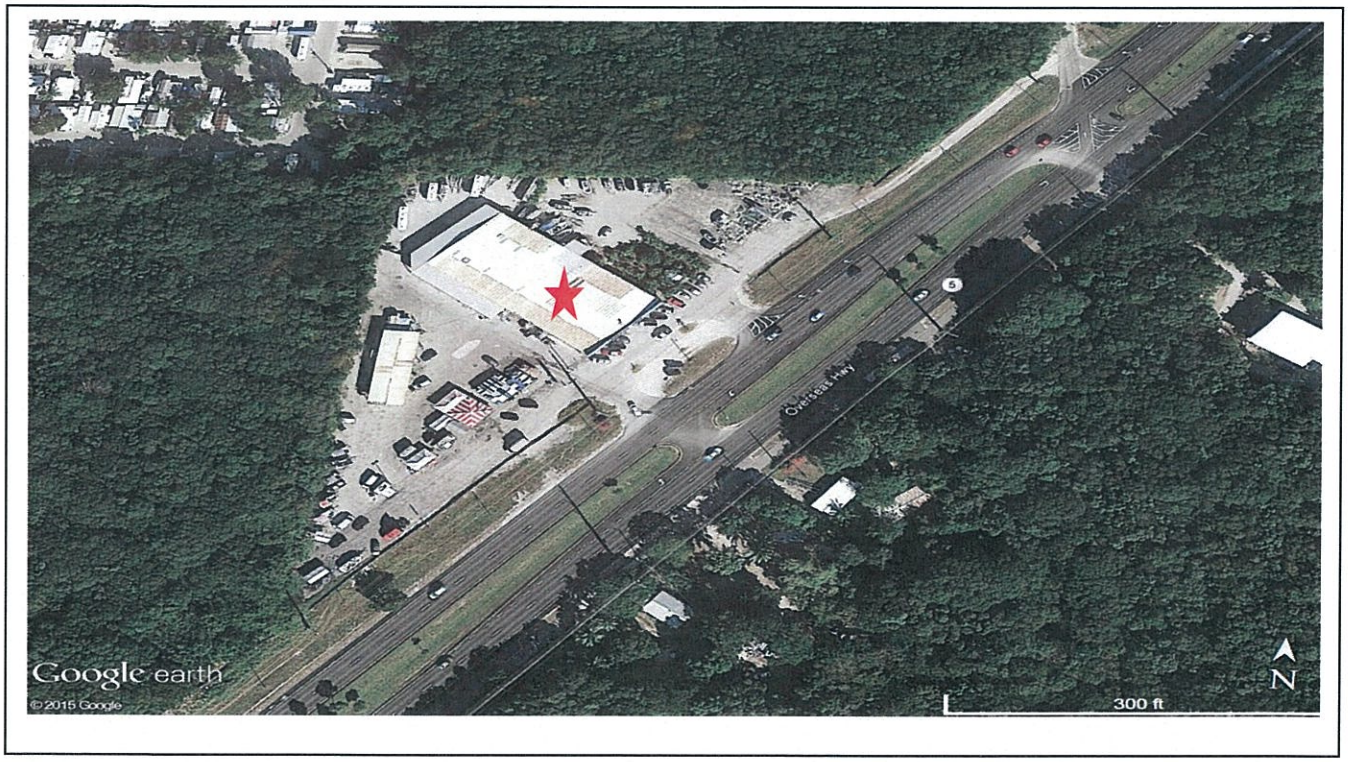

Figure 1
Monroe County, Florida
Site Location Map
Commercial Center

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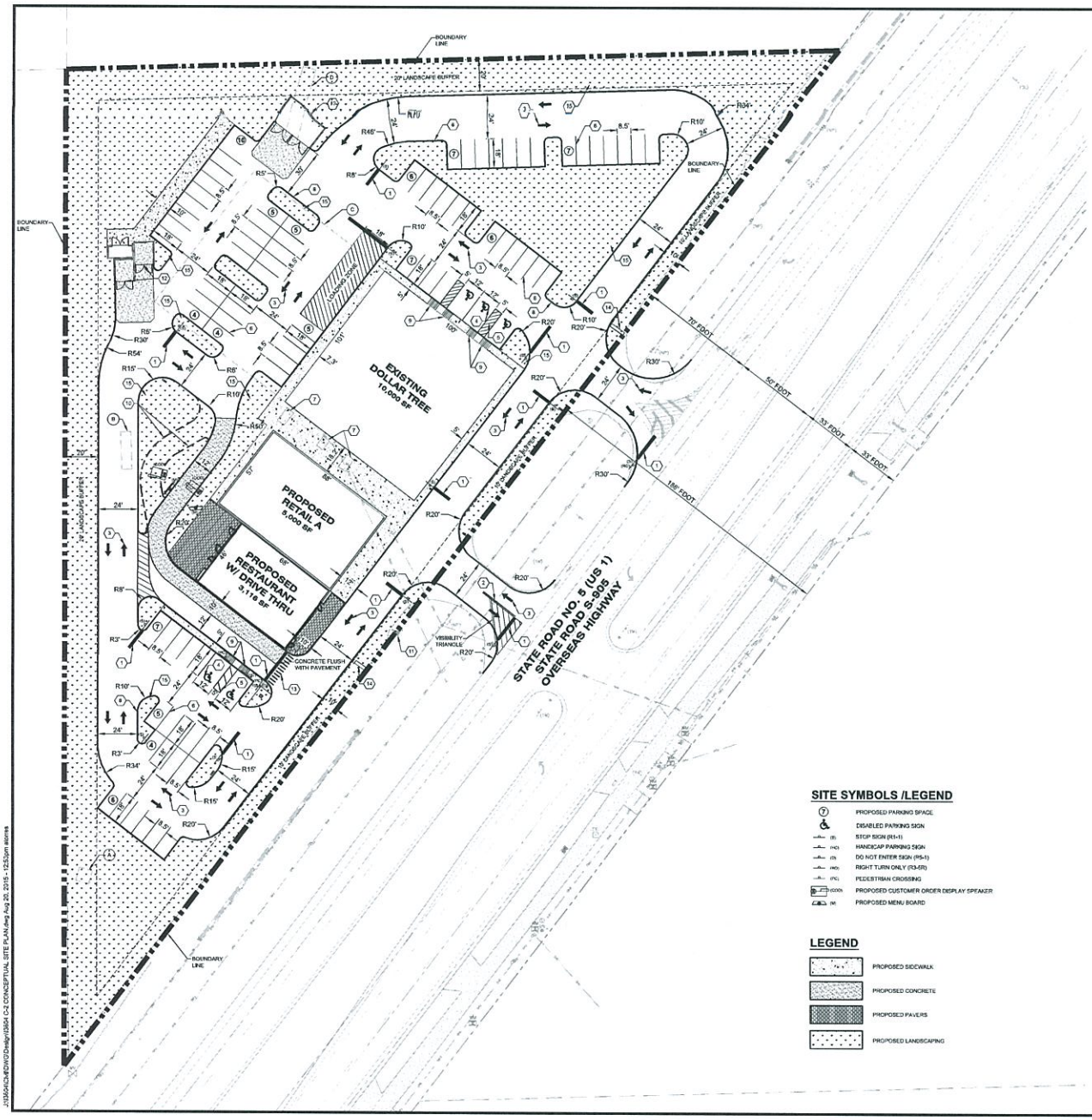

SITE LEGEND

1. 24" WIDE THERMOPLASTIC SOLID WHITE PAINTED STOP BAR. (TYP.)
2. 6" WIDE DOUBLE YELLOW LINE (TYP.)
3. WHITE REFLECTIVE DIRECTIONAL ARROWS ON PAVEMENT (TYP.)
4. WHITE ACCESSIBLE SYMBOL PAINTED ON PAVEMENT (TYP.)
5. 5' WIDE ACCESSIBLE AISLE STRIPING PAINTED ON PAVEMENT
6. 4" WIDE SINGLE WHITE PAVEMENT PARKING STRIPE (TYP.)
7. EXISTING CONDENSATE UNITS (TO REMAIN)
8. 6" VERTICAL CURB TYPE "D" PER FDOT INDEX 300 (TYP.)
9. HANDICAP ACCESSIBLE RAMP, MAX. SLOPE 1:12, PER FDOT INDEX # 304 (CURB RAMP TYPE CR-D)
10. POTENTIAL FUTURE 2nd DRIVE-THRU LANE.
11. EXISTING FIRE HYDRANT.
12. DUMPSTER ENCLOSURE.
13. 6' WIDE PEDESTRIAN CROSSWALK WITH 12" WIDE REFLECTIVE STRIPPING PARALLEL TO DIRECTION OF TRAFFIC AT 2' O.C. PER FDOT INDEX # 17346
14. FREE STANDING SIGN. (BY SEPARATE PERMIT)
15. LANDSCAPE AREA (TYP.)

A. WOOD BUILDING (8.2'x8.2') TO BE DEMOLISHED (67 S.F.)
B. WOOD BUILDING (6.3'x23.2') TO BE DEMOLISHED (145 S.F.)
C. PORTION OF CASTING BUILDING (100.7'x100.7') TO BE DEMOLISHED (10,239 S.F.)
D. METAL BUILDING (8.1'x44.2') TO BE DEMOLISHED (358 S.F.)

SITE DATA

PARCEL IDENTIFICATION NUMBER	00067350,000000	
TOTAL SITE AREA	144,155 S.F. (3.31 AC.)	
ZONING		
LAND USE (ZONING) DISTRICT DESIGNATION	(SC) SUBURBAN COMMERCIAL	
FUTURE LAND USE (FLUM)	(MC) MIXED USE / COMMERCIAL	
TIER DESIGNATION	III	
FEMA		
FEMA FLOOD INSURANCE RATE MAP FLOOD ZONE	X PER MAP NO. 12087C0931K (DATED FEBRUARY 18, 2005)	
SETBACKS	**REQUIRED**	**PROPOSED**
STATE ROAD NO. 5 (US 1)	FRONT YARD: 25' REAR YARD: 10' SIDE YARD: 10'/15'	FRONT YARD: 40' REAR YARD: 88' SIDE YARD: 126'
BUFFERS	**REQUIRED**	**PROPOSED**
STATE ROAD NO. 5 (US 1)	FRONT YARD: 10' (CLASS "C") NORTH: 20' (CLASS "D") WEST: 20' (CLASS "D")	FRONT YARD: 10' NORTH: 20' WEST: 20'
PRESERVATION		
EXTENT AREA OF WETLANDS	N/A	
PRESERVATION AREA	N/A	
CONSERVATION EASEMENTS	N/A	
PARKING		
REQUIRED PARKING		
COMMERCIAL RETAIL 3 SPACE / 1,000 S.F.	45	
COMMERCIAL RETAIL REST. 1 SPACE / 3 SEATS	12	
TOTAL REQUIRED PARKING	57	
PROPOSED PARKING	88	
BUILDING	**REQUIRED**	**PROPOSED**
	MAX. BLDG. HEIGHT: 35'	MAX. BLDG. HEIGHT: 35'
DEMOLITION		
TOTAL AREA OF EXISTING BUILDING TO BE DEMOLISHED	10,807 S.F.	
LAND USES		
EXISTING LAND USE	COMMERCIAL RETAIL (RETAIL)	
PROPOSED LAND USE	COMMERCIAL RETAIL (RETAIL & RESTAURANT)	

NONRESIDENTIAL	**TYPE**	**SIZE**
EXISTING DOLLAR TREE	COMMERCIAL RETAIL	10,000 S.F.
PROPOSED RETAIL A	COMMERCIAL RETAIL	5,000 S.F.
PROPOSED RESTAURANT W/ DRIVE THRU	COMMERCIAL RETAIL	3,116 S.F.

LAND USE INTENSITY	**BLDG. SIZE**	**PROP. FAR**	**MAX. FAR ALLOWED**
COMMERCIAL (HIGH-INTENSITY)	18,116 S.F.	0.13	0.15

LAND USE CALCULATION	
PROPOSED PERVIOUS AREA	52,699 S.F. (37%)
PROPOSED IMPERVIOUS AREA	91,456 S.F. (63%)
OPEN SPACE REQUIRED	20% MIN.

SITE SYMBOLS /LEGEND

- PROPOSED PARKING SPACE
- DISABLED PARKING SIGN
- (S) STOP SIGN (R1-1)
- (HC) HANDICAP PARKING SIGN
- (D) DO NOT ENTER SIGN (R5-1)
- (RC) RIGHT TURN ONLY (R3-5R)
- (PC) PEDESTRIAN CROSSING
- (CCDS) PROPOSED CUSTOMER ORDER DISPLAY SPEAKER
- (M) PROPOSED MENU BOARD

LEGEND

- PROPOSED SIDEWALK
- PROPOSED CONCRETE
- PROPOSED PAVERS
- PROPOSED LANDSCAPING

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No.	Date	Revision	By

Designed by:	C.P.C.
Drawn by:	A.T.S.
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CONCEPTUAL SITE PLAN
KEY LARGO

IMC - KEY LARGO COMMERCIAL CENTER
101000 OVERSEAS HIGHWAY
MONROE COUNTY / FLORIDA

Sheet No.
C-2

J:\13604\CIVIL\DWG\Design\13604 C-2 CONCEPTUAL SITE PLAN.dwg Aug 20, 2015 - 12:52pm stevens

Project Impacts

Project Trip Generation

Trip generation was calculated using the rates and equations from the 9th Edition ITE Trip Generation. To estimate trip generation for the existing scenario, the shopping center land use was applied to the calculation. Land Use Code 820 – Shopping Center was used to calculate the trip generation.

Figure 3 illustrates the estimated existing driveway volumes.

For the proposed scenario *ITE* Land Use Code 934 – Fast Food Restaurant with Drive Through and Land Use Code 820-Shopping Center were applied to the calculations. Pass-By Capture was calculated using the methods outlined in the *ITE Trip Generation Handbook* and capped per correspondence with Monroe County. Internal capture was not applied for the proposed scenario between shopping center and the fast food restaurant with drive-through per discussion with Monroe County. However, it should be noted that ITE recommends for restaurants to be included in the overall 820 Land Use Code or else internal capture should be applied. The restaurant was separated to provide the most conservative analysis with no internal capture per discussion with Monroe County.

Table 1 summarizes the trip generation estimated for the project, and detailed worksheets from the OTISS Traffic Analysis Software are included in the Appendix.

Table 1 - ITE Trip Generation

Scenario	Land Use	Size	Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m.			Weekday			Trips per 1000 SF	Intensity
			Entry	Exit	Total	Entry	Exit	Total		
Existing Plaza	820-Shopping Center	21,050 square feet	101	110	211	450	449	**899**	43	Low
		Pass By	-35	-39	-74	-158	-157	-315		
		Net Trips	66	71	137	292	292	**584**	28	Low
Proposed Redevelopment	820-Shopping Center & 934 – Fast Food Restaurant	15,000 square feet	81	87	168	321	320	641		
		3,116 square feet	53	49	102	772	771	1543		
		Gross Trips	134	136	270	1093	1091	**2184**	121	High
		Pass By	-54	-56	-110	-498	-498	-996		
		Net Trips	80	80	160	595	593	**1188**	66	Medium
		Increase in Driveway Trips	33	26	59	643	642	1285		

Table 2 summarizes Pass-By and Primary Trips Calculations

Table 2 – Trip Calculations

Scenario	Total Daily Trips	Pass-By Trips	Primary Trips
Existing	899	315	584
Proposed	2184	996	1188
Difference	1285	681	604
	Percentage %	53%	47%

Note:

Primary Trips=(Total Daily Trips)-(Pass-By Trips)

Difference=(Proposed)- (Existing)

Percentages=(Pass-by Trips)/ (Total Daily Trips) & (Primary Trips)/(Total Daily Trips)

Trip Distribution and Assignment

Project traffic was distributed based upon the existing travel patterns in the area and PM- peak hour traffic counts on Overseas Highway.

Because of the high percentage of pass-by trips as a result of new development, an average trip length of 5 miles and a linear dissipation were considered for this project. The maximum trip length will extend to 10 miles.

Table 3 summarizes the trip distribution and traffic volumes through impacted segments.

Table 3 – Traffic Volumes through Impacted Segments

Segment No	Length (miles)	Mile Markers		LOS 2013	Median Speed 2013	Total Daily Trips	Percent Pass-By Trips	Percent primary Trips	Primary Trips	Percent Directional Split	% Impact Based on Trip Length	Project Generated Daily Trips	2013 Reserve Capacity
21	5.8	86	91.5	B	41.3					48%	0%	0	4,226
22	8	91.5	99.5	A	46.9					48%	46%	134	8,214
23	6.8	99.5	106	A	43.9	1285	53%	47%	604	52%/48%	100%	314/290	7,432
24	6.2	106	112.5	B	52.9					52%	16%	51	6,058
Distance Between Atlantic Blvd & Project 's Location						1.5 Miles							
Project's Location Mile Marker						101							

Table 4 Identification of US-1 impacted segments

Table 4 –Impacted Segments

Segment No	KEY(S)	From	To
21	Plantation	Snake Creek Br (N)	Ocean Blvd
22	Tavernier	Ocean Blvd	Atlantic Blvd
23	Key Largo	Atlantic Blvd	C-905
24	Key Largo, Cross Key	C-905	County Line sign

Figure 4 illustrates the project traffic assignment and **Figure 5** demonstrates the total traffic volumes.

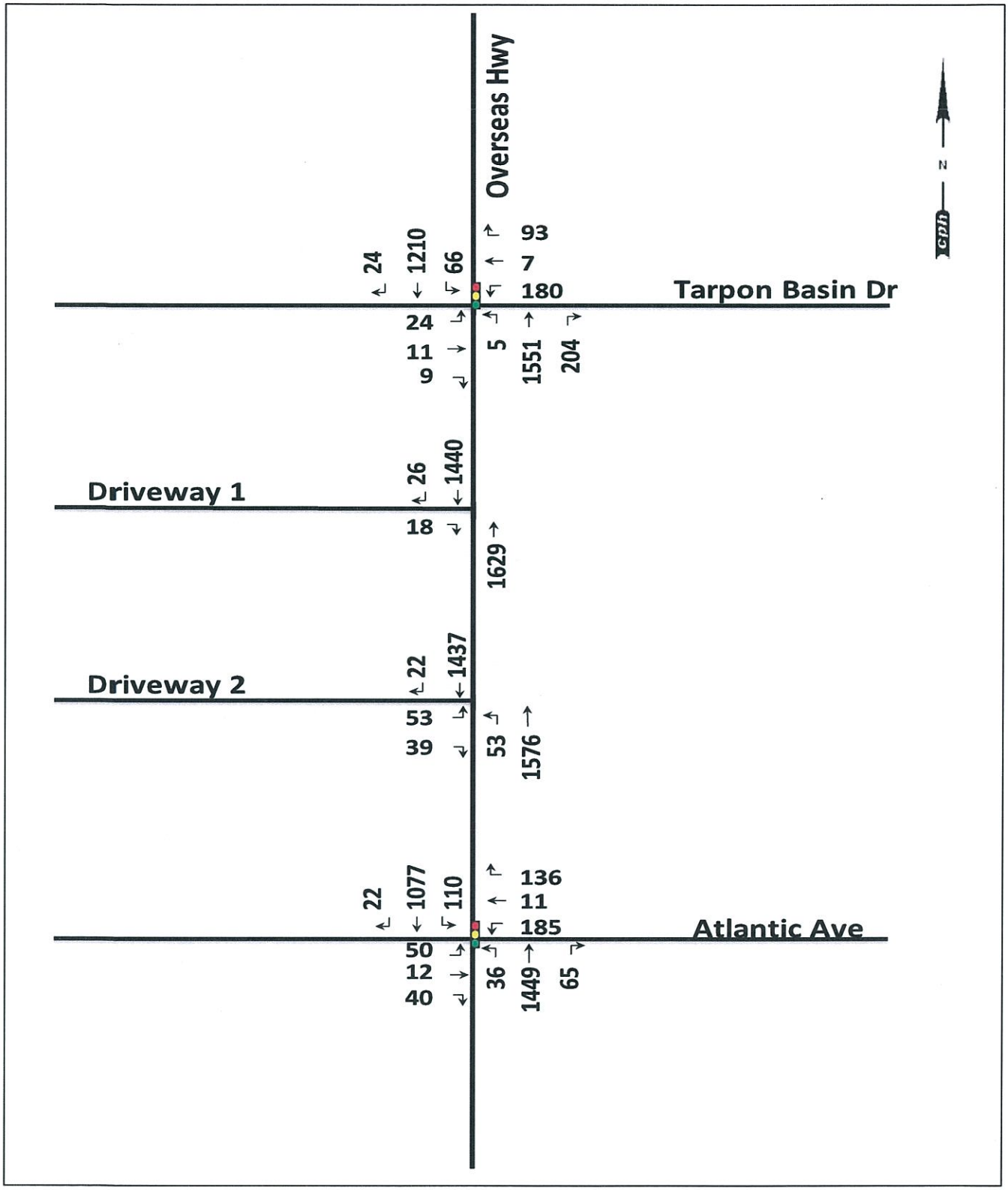

Figure 3
Monroe County, Florida
Existing Traffic Condition
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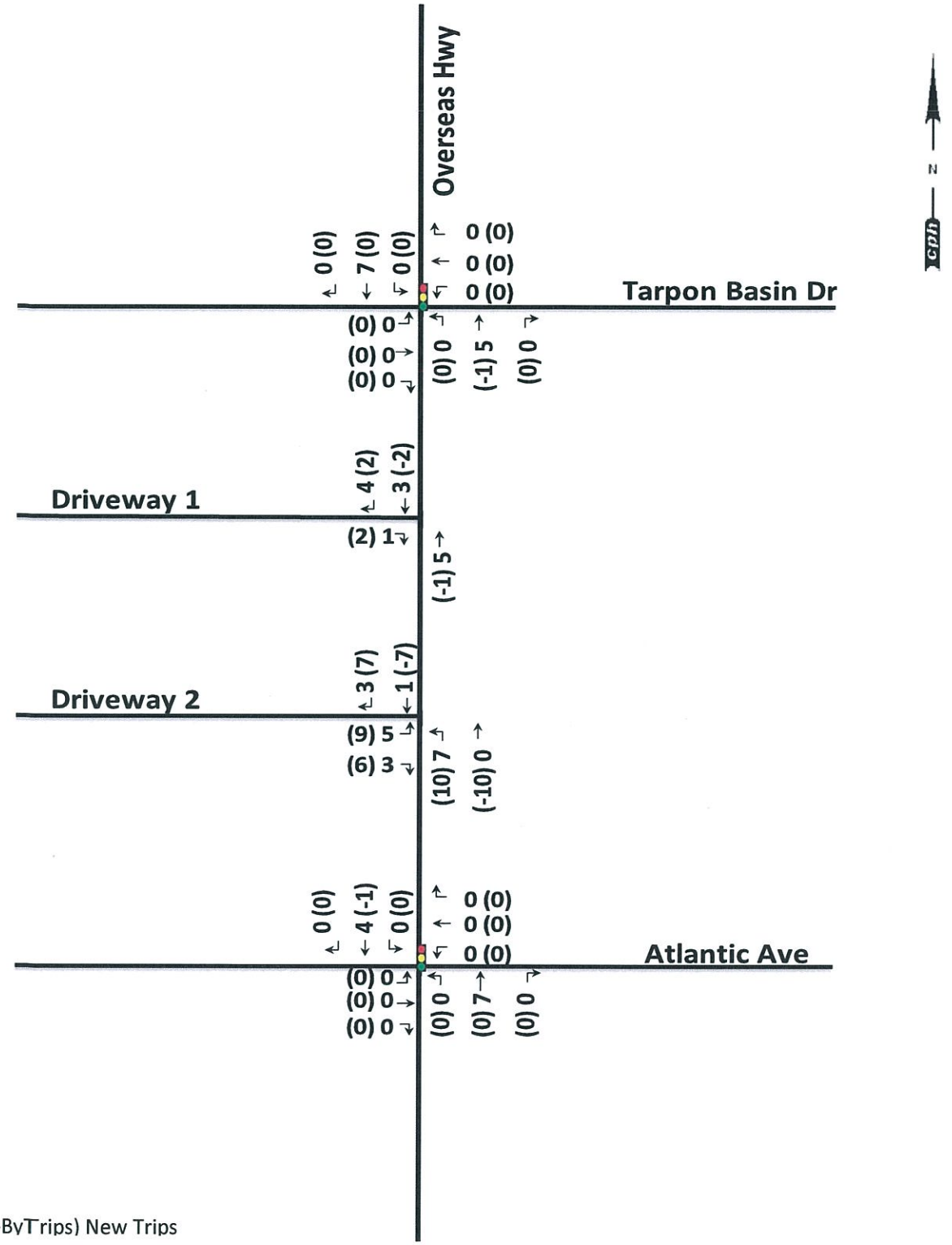

Figure 4
Monroe County, Florida
Project Traffic Assignment
IMC McDonald's & Retail Development

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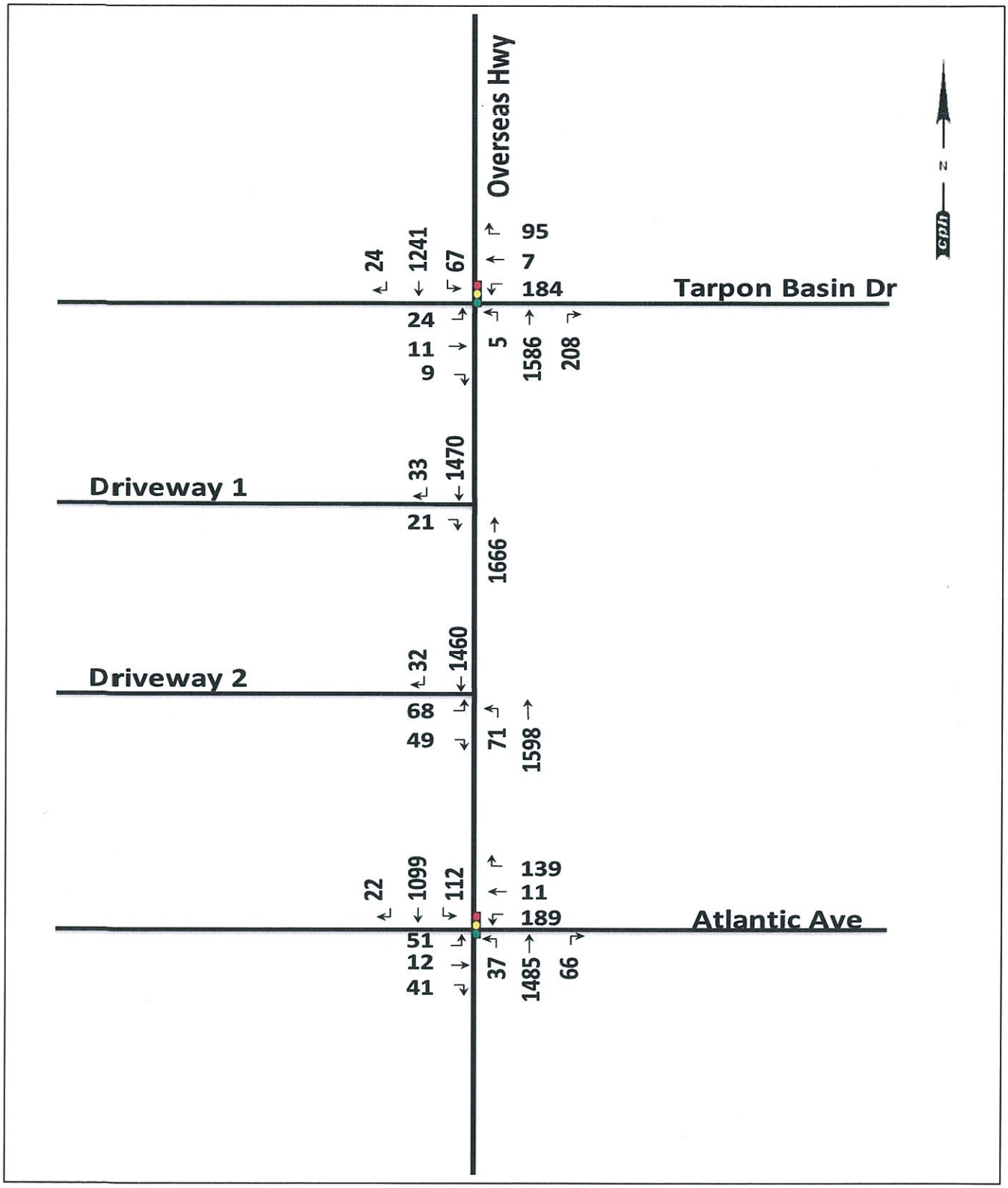

Figure 5
Monroe County, Florida
Total Traffic Volumes
IMC McDonald's & Retail Development

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Future Condition

General planning analysis was performed using the methodology presented in Monroe County Traffic Report Guidelines Manual to determine whether the adjacent roadway will continue to operate at acceptable levels of service. Both Monroe County and FDOT have adopted a level of service statement of C for US-1. As shown in **Table 4** new trips through impacted segments are insignificant, the proposed project is not anticipated to affect adopted levels of service for US-1 and its segments.

Table 5 summarizes the adjacent roadway analysis.

Table 5 - Roadway Level of Service

Overseas Highway (US-1)									
Segment NO	**KEY(S)**	**From**	**To**	**Number of Lanes**	**2013 Reserve Volume**	**Adopted LOS**	**Project Trips**	**Future Volume**	**Adjusted LOS**
21	Plantation	Snake Creek Br (N)	Ocean Blvd	2-L/U	4,226	B	0	4226	B
22	Tavernier	Ocean Blvd	Atlantic Blvd	4-L/D	8,214	A	134	8348	A
23	Key Largo	Atlantic Blvd	C-905	4-L/D	7432	A	314/290	8036	A
24	Key Largo, Cross Key	C-905	County Line sign	2-L/U	6,058	B	51	6109	B

Intersection Analysis

The signalized Intersections of Overseas Highway (US 1) at Atlantic Avenue and Overseas Highway (US1) at Tarpon Basin Drive were analyzed for the PM peak hour using Synchro 8 for existing and future scenarios. Turning-movement counts collected by Quality Counts on Feb. 25, 2016 and signal timing plans were provided by Monroe County.

Table 6– PM Peak Hour Intersection Analysis

Intersection	Existing			Future		
	Intersection LOS	**Approach**	**Approach LOS (Delay)**	**Intersection LOS**	**Approach**	**Approach LOS (Delay)**
Overseas Highway (US 1) & Atlantic Avenue	C (33.2)	EB	D (39.1)	D (35.3)	EB	D (39.0)
		WB	D (44.1)		WB	D (44.6)
		NB	D (39.5)		NB	D (43.4)
		SB	C (21.7)		SB	C (22.0)
Overseas Highway (US 1) & Tarpon Basin Drive	B (14.8)	EB	C (33.9)	B (15.1)	EB	C (34.7)
		WB	D (42.5)		WB	D (44.2)
		NB	B (14.7)		NB	B (14.9)
		SB	A (8.2)		SB	A (8.4)

Based on the intersection analysis, the existing levels of service are not anticipated to change during the PM peak hour. Therefore, the new trips added to the network are not anticipated to have considerable impact on the intersection level of service. It should be noted that FDOT is planning to implement new timing plans at Tarpon Basin Drive and Atlantic Avenue in near future. However, turning movement counts have been collected under the old timing plan, so the existing timing plans were used in analysis. Detailed analysis reports are included in the Appendix.

Site Access Analysis

HCS intersection analysis was performed for each of the project driveways and indicated that each project driveway will continue to operate at acceptable levels of service with addition of the proposed redevelopment. Preliminary discussions with FDOT have resulted in no objections to the configuration of the existing driveways with the proposed redevelopment. However, modifying driveway 1 to right in only access can be a potential option to mitigate impacts of the sub-standard spacing distance between the two driveways. Maintaining a right-in only driveway would facilitate on-site circulation for the proposed drive-through. By changing driveway1 to right in only access, all of the exiting traffic will be loaded on driveway 2, however acceptable levels of service are anticipated to be maintained even with the consolidated exiting traffic.

Table 7 summarizes the driveway analysis.

Table 7 - Driveway Level of Service

Intersection	Direction	PM Peak Hour LOS
Driveway 1 & Overseas Highway	EBR	B
Driveway 2 & Overseas Highway	EBR	C
	EBL	E
	NBL	C

Queue studies performed for similar land uses indicate an 85th percentile queue of 12 vehicles and the proposed site plan is anticipated to accommodate 12 vehicles.

Conclusion

A 21,050 square foot retail building is proposed to be developed at 101000 Overseas Highway in Monroe County, Florida. CPH has prepared a Level 3 Traffic Impact Report for submittal to Monroe County to address the impacts of the project.

Access to the project is proposed through two existing driveways located on Overseas Highway. Based upon the driveway analysis, both driveways are anticipated to continue to operate at acceptable levels of service with addition of the proposed redevelopment. The adjacent roadway is also anticipated to continue to operate at acceptable levels of service with addition of the proposed redevelopment. Due to negligible number of new trips through impacted segments and intersections, the proposed redevelopment is unlikely to significantly affect the traffic pattern through US 1.

APPENDIX

APPENDIX A METHODOLOGY

APPENDIX B COMMENTS AND RESPONSES

APPENDIX C TRAFFIC COUNTS

APPENDIX D SIGNAL TIMINGS

APPENDIX E TRIP GENERATION

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APPENDIX G TURNING MOVEMENT COUNT WORKSHEETS

APPENDIX H EXISTING CONDITIONS INTERSECTION ANALYSIS

APPENDIX I FUTURE CONDITIONS INTERSECTION ANALYSIS

APPENDIX J HCS DRIVEWAY ANALYSIS

APPENDIX K MONROE COUNTY LEVEL OF SERVICE AND RESERVE CAPACITY TABLE

APPENDIX A
METHODOLOGY

Revised Traffic Study Methodology
IMC – Key Largo Commercial Center
101000 Overseas Highway
Key Largo, Florida
Revised November, 2015

Introduction

A 21,050 square foot of retail building is proposed to be developed at 101000 Overseas Highway in Key Largo, Florida. As part of the redevelopment, a 10,239 square foot portion of the existing retail building is proposed to be demolished while the 10,000 square foot Dollar Tree store will remain in place. Furthermore, the new 5,000 square foot of retail space and 3,116 square foot of fast food restaurant with drive-through will be added. . The project is located in Monroe County, Florida.

Access to the project is proposed through two existing driveways and both driveways located on Overseas Highway.

The project is expected to generate 2,184 gross trips per day (1,093 entering/1,091 exiting), and also additional 59 new PM Peak Hour driveway trips (33 entering/26 exiting). The traffic analysis will be proposed in compliance with section XIII, requirements of Level 3 Traffic Impact Reports of the Monroe County Traffic Report Guidelines Manual.

Figure 1 illustrates the project location

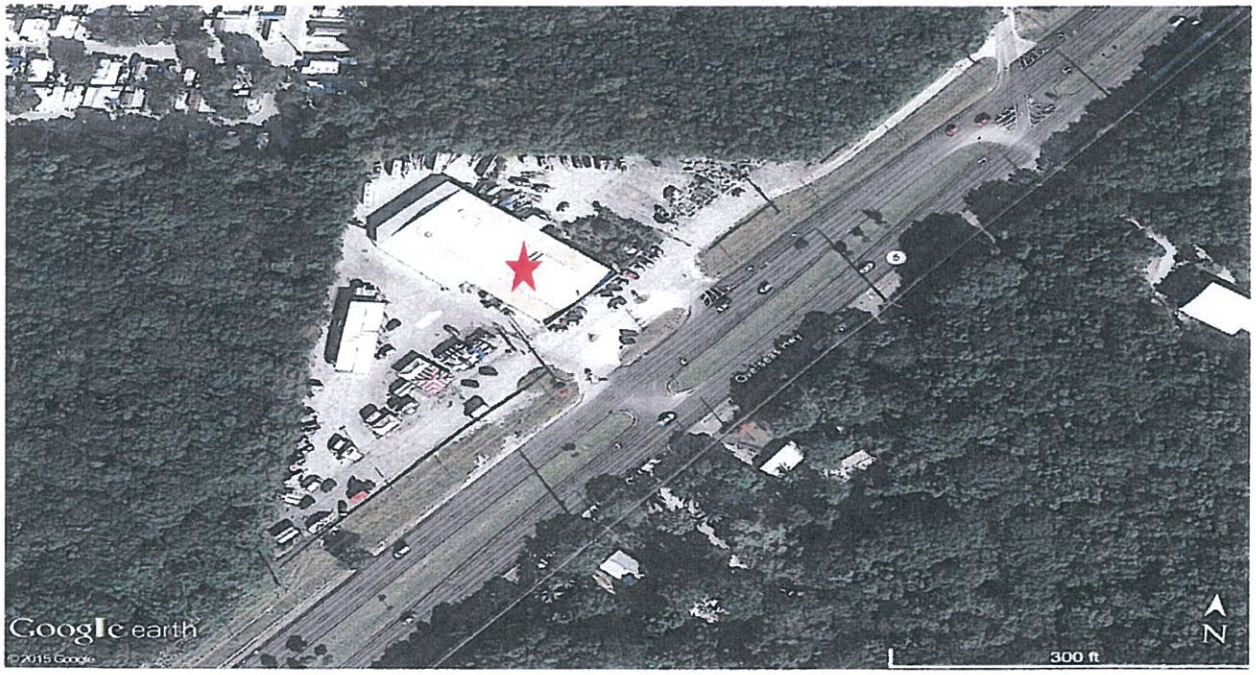

Figure 1
Monroe County, Florida
Site Location Map
Commercial Center

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Project Impacts

Trip Generation

Trip generation was calculated using the rates and equations from the 9th Edition ITE Trip Generation. To estimate trip generation for the existing scenario, the shopping center land use was applied to the calculation; therefore no internal capture was assumed. Land Use Code 820 – Shopping Center was used to calculate the trip generation.

For the proposed scenario ITE Land Use Code 934 – Fast Food Restaurant with Drive Through accompanied by reduced size Shopping Center was applied to the calculations. Pass-By Capture was calculated using the methods outlined in the ITE Trip Generation Handbook. Internal capture was excluded for the proposed scenario due to the size of two retail buildings and lack of residential components. Pass-by capture will be calculated based on the ITE Trip Generation Handbook and it will be capped at 10% of the adjacent street traffic.
Table 1 outlines the anticipated increase in trip generation as a result of the proposed development.

Credit for trips associated with the existing retail center will be applied using ITE Trip Generation for Land Use Code 820 – Shopping Center. Table 1 attached summarizes the trip generation calculations for the proposed project.

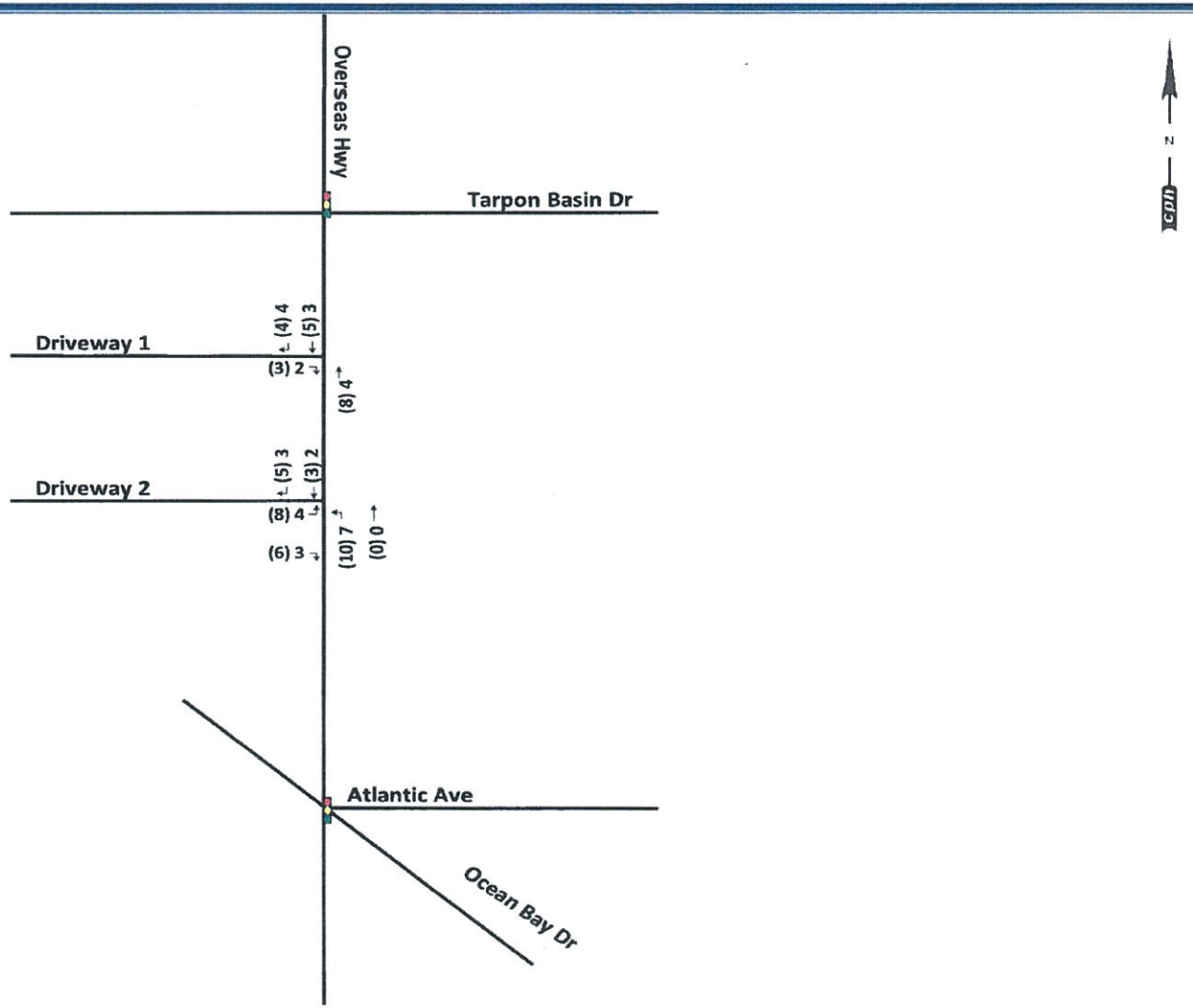
It should be noted that based upon the revised trip generation calculations, there is an anticipated net increase in trips associated with the project redevelopment. The project is expected to generate 2,184 gross trips per day (1,093 entering/1,091 exiting), and also additional 59 new PM Peak Hour driveway trips (33 entering/26 exiting).

Scenario	Land Use	Size	Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m.			Weekday			Peak Hour Trips-per-1,000 sf	Weekday Trips-per-1,000 sf
			Entry	Exit	Total	Entry	Exit	Total		
Existing Plaza	820- Shopping Center	21,050 square feet	101	110	211	450	449	899	10	43
		Pass By	-35	-39	-74	-158	-157	-315		
		Net Trips	66	71	137	292	292	584		
Proposed Redevelopment	820- Shopping Center	15,000 square feet	81	87	168	321	320	641	11	43
	934 – Fast Food Restaurant	3,116 square feet	53	49	102	772	771	1543	33	495
		Gross Trips	134	136	270	1093	1091	2184		
		Pass By	-54	-56	-110	-498	-498	-996		
		Net Trips	80	80	160	595	593	1188		
		Increase in Driveway Trips	33	26	59	643	642	1285		

Trip Distribution and Assignment

Project traffic was distributed based on the observed traffic patterns in the area. Traffic was assigned to the project driveways based on the layout of the McDonald's and location of major tenants.

Figure 2 illustrates the project traffic assignment and **Figure 3** demonstrates the total traffic volumes.



New Trips (Pass-By Trips)

Figure 2
Monroe County, Florida
Project Traffic Assignment
IMC McDonald's & Retail Development

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Transportation/Traffic
Surveyors
Environmental Scientists
Construction Management

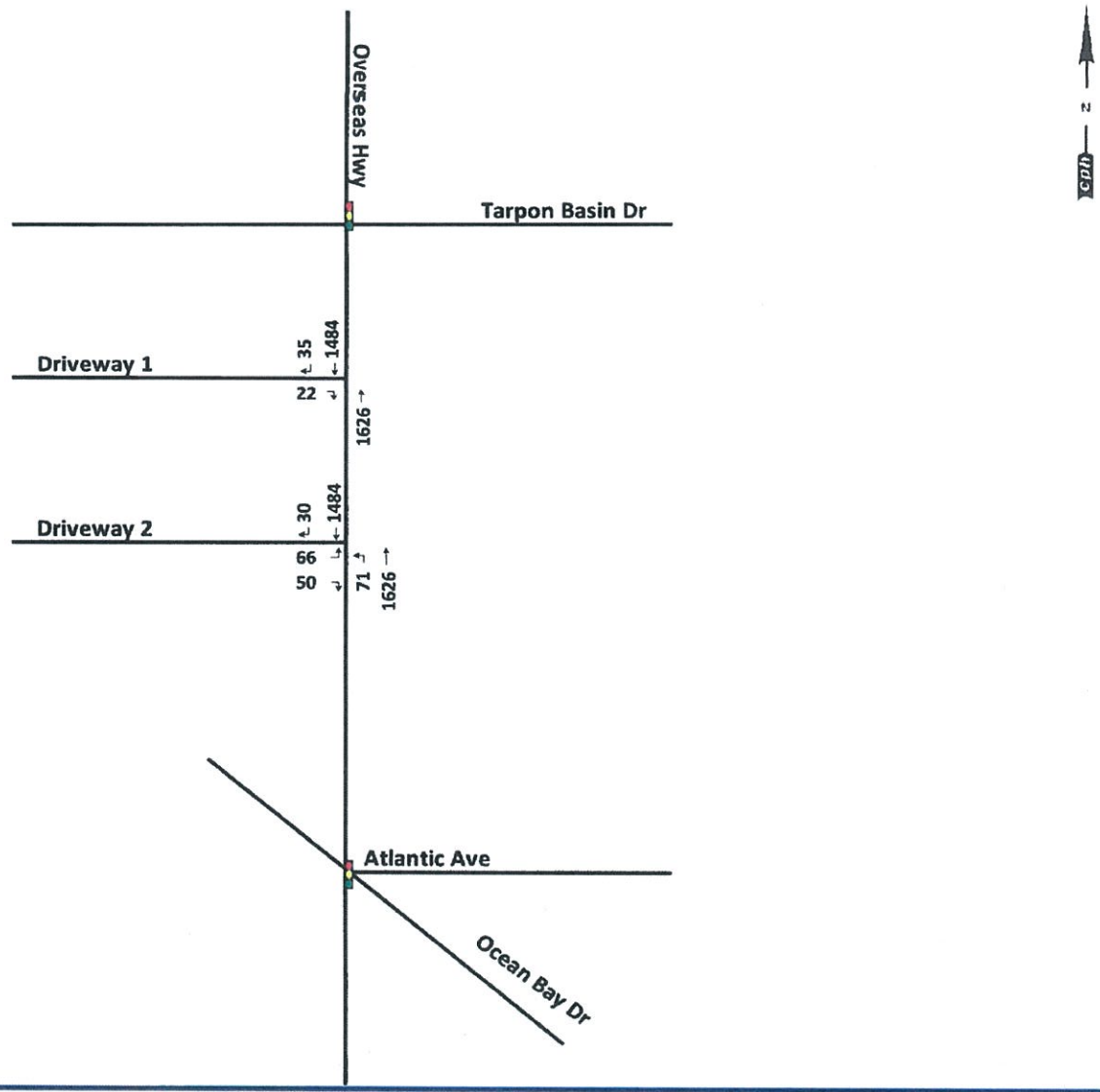

Figure 3
Monroe County, Florida
Total Traffic Volumes
IMC McDonald's & Retail Development

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Report

A Traffic Impact Statement will be prepared for submittal to Monroe County and will include the following information:

- Summary of Methodology
- Existing Conditions
- Trip Generation and Distribution
- Future Condition
- Access Analysis
- Conclusions

Traffic Engineer Pre-Approval

As noted in the comments received by Monroe County, attached is a copy of the appropriate resume and PE license for Sandra Gorman, PE to be pre-approved for future traffic analysis within Monroe County.

APPENDIX B
COMMENTS AND RESPONSES

Gorman, Sandra

From: Bond-Kevin <Bond-Kevin@MonroeCounty-FL.Gov>
Sent: Tuesday, November 03, 2015 12:18 PM
To: Collins, Christopher (P.E.); Gorman, Sandra
Cc: Crystal-Mitzi; John Arrieta (john.arrieta@aecom.com)
Subject: FW: Key Largo Tree, LLC Major CU (File#2015-163) - Traffic Study Methodology

Hi, Sandra. Hi, Chris.

Below are our comments on the revised traffic study methodology dated October 2015. Please make the following corrections and submit an amended methodology for our review.

Thank you.

Kevin Bond, AICP
Planning and Development Review Manager
Monroe County Planning and Environmental Resources Department
2798 Overseas Highway, Suite 410 | Marathon, Florida 33050-4277
P: 305-289-2507 | M: 305-509-2477 | F: 305-289-2536
www.monroecounty-fl.gov

From: Arrieta, John [mailto:john.arrieta@aecom.com]
Sent: Tuesday, November 03, 2015 12:00 PM
To: Bond-Kevin
Cc: Crystal-Mitzi
Subject: Key Largo Tree, LLC Major CU (File#2015-163) - Traffic Study Methodology

Hello Kevin,

The following are my comments for the Revised Traffic Study Methodology submitted by CPH.

1. The street number "1010000" needs to be verified.
2. The methodology states that the Pass-By capture was calculated based on ITE Trip Generation Handbook / ITE TGH (and it will be capped at 10% of the adjacent street traffic). However, the ITE TGH 3rd Edition (page 242) shows an average of 34% for ITE LU 820 – Shopping Center and the trip generation prepared for the site by CPH shows approximately 61%. CPH also does not show a different Pass-By rate for ITE LU 934 – Fast Food Restaurant with a Drive-Through Window, which ITE TGH 3rd Edition (page 265) shows an average of 49%.
3. The methodology does not state if equations or average rates have been use to develop the trip generation. Given the characteristics of the site (size and different land uses; some of which do not have ITE trip generation equations), using all average rates for consistency would be appropriate. Rates will need to be included in the report for proper review.
4. The last paragraph in the first page should note the total number of gross trips and the need for the corresponding Level 3 analysis.
5. In addition to site trip generation for traffic analysis, the Revised Traffic Study Methodology needs to include a separate Site Trip Intensity Calculation per Section 101-1 of the County Land Development Code. The calculation is to be based on the number of total gross daily trips divided by the floor area of the buildings on the proposed site. The generation rate is to be reported in trips-per-1,000 sf.
6. Weekday trip generation does not seem to be calculated based on a weighted average per Monroe County Methodology.

7. Trip Distribution and Assignment section: Trip distribution and assignment for intersection and link analyses need to correlate. Trip distribution and assignment based on observed traffic patterns should be appropriate. Trip Dissipation for link analysis should be linear in the absence of an adequate alternative procedure per Monroe County Traffic Report Guidelines Manual (Section IX, pages 14-16).
8. Study Area section: add overall US 1 analysis.
9. Report section: replace "Traffic Impact Statement" with "Level 3 Traffic Impact Report".
10. Report section: replace "Marion County" with "Monroe County".
11. Report section: replace "and will include the following information: [list]" with "in compliance with Section XIII, Requirements of Level 3 Traffic Impact Reports of the Monroe County Traffic Guidelines Manual." Note that item 6. Safety and Visibility for properties accessing US 1 is generally interpreted for Safety: to meet FDOT Access Management policies and standards (Major References: Median Handbook, Driveway Information Guide); for visibility to meet FDOT sight distance standards (Major Reference: Standard Index 546).

Thank you,

John Arrieta, PE, PTOE
Project Manager
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john.arrieta@aecom.com

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4/8/2016

JOHN ARIETA, P.E., PTOE
URS Corporation Southern
Senior Traffic Engineer/Transportation Planner
AECOM
7800 Congress Avenue, Suite 200, Boca Raton, Florida 33487-1350
Ph: 1-561-862-1113
Email: iohn.arrieta@aecom.com

RE: Key Largo Tree, LLC Major CU (File#2015-163)
Traffic Study Methodology Standards Review
CPH Job No: I3604

Dear Mr. Arieta,

Please see attached responses to the comment letter sent dated November 03, 2015 for the project listed above.

1. **Comment:** The street number "1010000" needs to be verified.

   Response: Acknowledged.

2. **Comment:** The methodology states that the Pass-By capture was calculated based on ITE Trip Generation Handbook / ITE TGH (and it will be capped at 10% of the adjacent street traffic). However, the ITE TGH 3rd Edition (page 242) shows an average of 34% for ITE LU 820 - Shopping Center and the trip generation prepared for the site by CPH shows approximately 61%. CPH also does not show a different Pass-By rate for ITE LU 934 - Fast Food Restaurant with a Drive-Through Window, which ITE TGH 3rd Edition (page 265) shows an average of 49%.

   Response: Trip generation was calculated using the rates and equations from the 9th Edition ITE Trip Generation, pass-by percentages were revised accordingly on the revised analysis.

3. **Comment:** The methodology does not state if equations or average rates have been use to develop the trip generation. Given the characteristics of the site (size and different land uses; some of which do not have ITE trip generation equations), using all average rates for consistency would be appropriate. Rates will need to be included in the report for proper review.

Response: Average rates and equations have been included in Trip Generation reports attached to the revised analysis.

4. **Comment:** The last paragraph in the first page should note the total number of gross trips and the need for the corresponding Level 3 analysis.

   Response: Acknowledged.

5. **Comment:** In addition to site trip generation for traffic analysis, the Revised Traffic Study Methodology needs to include a separate Site Trip Intensity Calculation per Section 101-1 of the County Land Development Code. The calculation is to be based on the number of total gross daily trips divided by the floor area of the buildings on the proposed site. The generation rate is to be reported in trips-per-1,000 sf.

   Response: Trips-per-1,000 sf and Site Trip Intensity Calculation were added to Table 1 in the revised analysis.

6. **Comment:** Weekday trip generation does not seem to be calculated based on a weighted average per Monroe County Methodology

   Response: Weekday trip generation was calculated based on average rates in the revised analysis.

7. **Comment:** Trip Distribution and Assignment section: Trip distribution and assignment for intersection and link analyses need to correlate. Trip distribution and assignment based on observed traffic patterns should be appropriate. Trip Dissipation for link analysis should be linear in the absence of an adequate alternative procedure per Monroe County Traffic.

   Response: Acknowledged.

8. **Comment:** Study Are Section: add overall US 1 analysis.

   Response: Acknowledged.

9. **Comment:** Report section: replace "Traffic Impact Statement" with "Level 3 Traffic Impact Report".

   Response: Acknowledged.

10. **Comment:** Report section: replace "Marion County" with "Monroe County".

    Response: Acknowledged.

11. **Comment:** Report section: replace "and will include the following information: [list]" with "in compliance with Section XIII, Requirements of Level 3 Traffic Impact Reports of the Monroe County Traffic Guidelines Manual." Note that item 6. Safety and Visibility for

properties accessing US 1 is generally interpreted for Safety: to meet FDOT Access Management policies and standards (Major References: Median Handbook, Driveway Information Guide); for visibility to meet FDOT sight distance standards (Major Reference: Standard Index 546).

Response: Acknowledged.

If you have any questions please feel free to contact our office at (813) 288-0233.

Sincerely,
CPH, INC.

Sandra Gorman, P.E.
Senior Traffic Engineer

URS

January 11, 2016

Mr. Kevin Bond, AICP – Planning and Development Review Manager **via eMail**
Monroe County Planning & Environmental Resources Department
2798 Overseas Highway, Suite 410
Marathon, FL 33050-4277

Re: File #2015-163, Key Largo Tree, LLC Major CU – Key Largo (Overseas Highway – MM 101.0) Level III Traffic Impact Study dated November 2015 - Review

Dear Mr. Bond:

We have reviewed the traffic impact study dated November 2015 submitted by *CPH, Inc.* for the applicant *IMC-Key Largo Commercial Center,* and received via email on December 9, 2015.

- A Traffic Methodology Memorandum was included with the report in Appendix A. Appendix A also includes previous review comments. Comments 5, 8, and 11 have not been properly addressed.

- *Background data:* The site is located near MM 101.0 along US 1 at 101000 Overseas Highway, Key Largo, Florida. The site is currently developed with 21,050 square feet of retail space; and it is proposed to be redeveloped into a 3,116 square foot fast food restaurant with drive through service and an adjoining 15,000 square foot retail building.

- *Site Plan*: A reduced size site plan is included with the traffic report. Access to the site is proposed to be provided via two (2) existing driveways along Overseas Highway. The site plan does not show the sight triangles at the driveways to attest for clear sight visibility, nor are the vehicle maneuverability details presented on the site plan. A review of the provided site plan yielded the following comments (see attachment):

    1. Connection Spacing distance between the two site driveways is approximately 125 feet, which is 120 feet less than the recommended minimum of 245 feet for an FDOT Access Class 5 roadway with a posted speed limit of 45 mph. As previously stated in comment 11 (see Appendix A of report), compliance with Item 6 of Section XIII, Safety and Visibility for properties accessing Overseas Highway is generally interpreted for Safety: to meet FDOT Access Management policies and standards (Major References: Median Handbook, Driveway Information Guide); for visibility to meet FDOT sight distance standards (Major Reference: Standard Index 546).
    2. Need to show drive through queue capacity and direction.

- *Trip Generation*: The trip generation for this traffic study is based on *ITE Trip Generation Manual - 9th Edition* using ITE land uses 820 and 934. The report indicates that the proposed development is anticipated to generate 1,188 additional site driveway daily trips, of which 59 are PM peak hour trips (33 inbound and 26 outbound); and an additional 604 daily new link trips along Overseas Highway, respectively.

  Table 1, ITE Trip Generation shows Peak Hour and Weekday Trips-per 1,000 square feet for each land use. However, a total site trip per total square footage should have been calculated for Site Trip Intensity per Section 101-1 of the County Land Development Code (previous comment 5; see Appendix A of report). The correct Site Trip Intensity is 121 trips per 1000 square feet (2184/18.116).

  The trip generation calculation indicates an increase of approximately 28% for the driveway trips during the PM peak hour period (59/211), which is greater than the 20% typical threshold FDOT has used to consider a significant change in volume for requesting a new driveway permit application. Therefore, further review of the access configuration is expected as part of the access permit application.

URS Corporation Southern
7800 Congress Avenue, Suite 200
Boca Raton, FL 33487-1350
Tel: 561.994.6500
Fax: 561.994.6524

- *U.S. 1 Traffic Impact and Reserve Capacity*: The analysis uses the 2013 TTDS Level of Service and Reserve Capacity Table per Traffic Methodology agreement. Based on this table, reserve capacities for Overseas Highway Segments # 22 through 24 are identified to have adequate reserve capacity to accommodate the project trips based on a linear trip dissipation with a maximum trip length of 10 miles each direction and a 52% north/east and 48% south/west distribution.

- *Intersection Analysis:* The study presents inbound/outbound volumes and analysis for the site driveways, but it does not provide intersection analyses for the nearby signalized intersections of Overseas Highway at Atlantic Avenue and Overseas Highway at Tarpon Basin Drive. As stated in page 9 of the report, *Intersection analyses at the intersections of Atlantic Ave and Tarpon Dr have been requested by Monroe County. As documented during the methodology process, turning movement counts have been scheduled and analysis will be forwarded as an addendum to the report.* An addendum to the report has not been provided as yet.

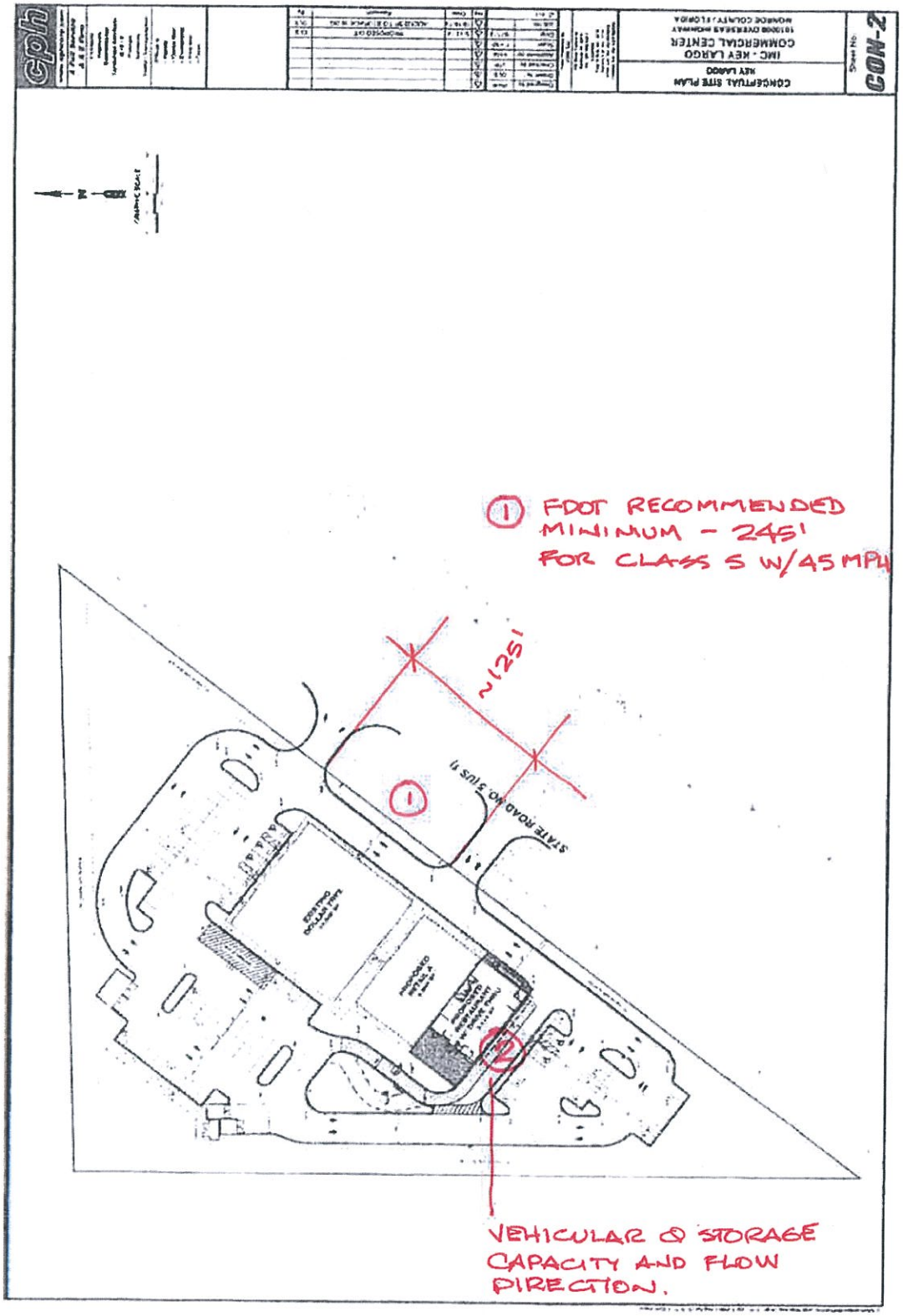
  Table 5 – Driveway Level of Service shows a LOS E for the EBL movement at Driveway 2 and Overseas Highway intersection. The proposed site does add trips to this movement, the access connection distance standard is not met, and site trips increase does require an access permit; therefore, an alternate configuration should be considered and reviewed.

At this time, we concur with the findings that the proposed Key Largo Tree site redevelopment would not degrade the LOS of surrounding roadways (pending the analyses for the two nearby signalized intersections). However, it is County policy to reduce the number of driveways along Overseas Highway when feasible to improve traffic safety and operations. As previously stated, further consideration should be given to the current two (2) driveway access configuration. Also, the applicant's consultant should certify that the site driveways provide clear sight visibility and the site is designed to accommodate the design vehicle. The final report needs to be signed and sealed. Should you have any questions, feel free to call me.

Sincerely,
URS Corporation Southern

John Arrieta, PE, PTOE
Senior Traffic Engineer/Transportation Planner

cc: Ms. Mayte Santamaria – Monroe County
Ms. Mitzi Crystal – Monroe County


CONCEPTUAL SITE PLAN
KEY LARGO
IMC - KEY LARGO
COMMERCIAL CENTER
CON-2
STATE ROAD NO. 3 (US 1)
~125'
1
2
1 FDOT RECOMMENDED MINIMUM - 245' FOR CLASS 5 W/45 MPH
VEHICULAR Q STORAGE CAPACITY AND FLOW DIRECTION.

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4/8/2016

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AECOM
7800 Congress Avenue, Suite 200, Boca Raton, Florida 33487-1350
Ph: 1-561-862-1113
Email: iohn.arrieta@aecom.com

RE: Key Largo Tree, LLC Major CU (File#2015-163)
Traffic Study Methodology Standards Review
CPH Job No: I3604

Dear Mr. Arieta,

Please see attached responses to the comment letter sent dated January 11,2016 for the project listed above.

1. **Comment:** A Traffic Methodology Memorandum was included with the report in Appendix A. Appendix A also includes previous review comments. Comments 5, 8, and 11 have not been properly addressed.

   Response: Acknowledged. The final analysis has been revised to incorporate all comments.

2. **Comment:** The site is located near MM 101.0 along US 1 at 101000 Overseas Highway, Key Largo, Florida. The site is currently developed with 21,050 square feet of retail space; and it is proposed to be redeveloped into a 3,116 square foot fast food restaurant with drive through service and an adjoining 15,000 square foot retail building

   Response: Acknowledged.

3. **Comment:** A reduced size site plan is included with the traffic report. Access to the site is proposed to be provided via two (2) existing driveways along Overseas Highway. The site plan does not show the sight triangles at the driveways to attest for clear sight visibility, nor are the vehicle maneuverability details presented on the site plan. A review of the provided site plan yielded the following comments (see attachment):

   Response: A site plan with sight-triangle was added to the submittal package.

- Connection Spacing distance between the two site driveways is approximately 125 feet, which is 120 feet less than the recommended minimum of 245 feet for an FDOT Access Class 5 roadway with a posted speed limit of 45 mph. As previously stated in comment 11 (see Appendix A of report), compliance with Item 6 of Section XIII, Safety and Visibility for properties accessing Overseas Highway is generally interpreted for Safety: to meet FDOT Access Management policies and standards (Major References: Median Handbook, Driveway Information Guide); for visibility to meet FDOT sight distance standards (Major Reference: Standard Index 546).

  Response: Preliminary discussions with FDOT have resulted in no objections to the configuration of the existing driveways with the proposed redevelopment. However, modifying driveway 1 to right in only access can be a potential option to mitigate impacts of the sub-standard spacing distance between the two driveways. Maintaining a right-in only driveway would facilitate on-site circulation for the proposed drive-through. By changing driveway1 to right in only access, all of the exiting traffic will be loaded on driveway 2, however acceptable levels of service are anticipated to be maintained even with the consolidated exiting traffic.

- Need to show drive through queue capacity and direction

  Response: Acknowledged. Queue studies performed for similar land uses indicate an 85th percentile queue of 12 vehicles and the proposed site plan is anticipated to accommodate 12 vehicles. Attach you can find the Cars.com study regarding queue analysis for the similar land uses.

4. **Comment:** The trip generation for this traffic study is based on ITE Trip Generation Manual - 9th Edition using ITE land uses 820 and 934. The report indicates that the proposed development is anticipated to generate 1,188 additional site driveway daily trips, of which 59 are PM peak hour trips (33 inbound and 26 outbound); and an additional 604 daily new link trips along Overseas Highway, respectively.

   Response: Acknowledged.

5. **Comment:** Table 1, ITE Trip Generation shows Peak Hour and Weekday Trips-per 1,000 square feet for each land use. However, a total site trip per total square footage should have been calculated for Site Trip Intensity per Section 101-1 of the County Land Development Code (previous comment 5; see Appendix A of report). The correct Site Trip Intensity is 121 trips per 1000 square feet (2184/18.116).

   Response: Trips-per-1,000 sf and Site Trip Intensity Calculation were added to Table 1 in the revised analysis.

6. **Comment:** The trip generation calculation indicates an increase of approximately 28% for the driveway trips during the PM peak hour period (59/211), which is greater than the 20% typical threshold FDOT has used to consider a significant change in volume for requesting a new driveway permit application. Therefore, further review of the access configuration is expected as part of the access permit application.

   Response: Preliminary discussions with FDOT have resulted in no objections to the configuration of the existing driveways with the proposed redevelopment. However, modifying driveway 1 to right in only access can be a potential option to mitigate impacts of the sub-standard spacing distance between the two driveways. Maintaining a right-in only driveway would facilitate on-site circulation for the proposed drive-through. By changing driveway1 to right in only access, all of the exiting traffic will be loaded on driveway 2, however acceptable levels of service are anticipated to be maintained even with the consolidated exiting traffic

7. **Comment:** Trip Distribution and Assignment section: Trip distribution and assignment for intersection and link analyses need to correlate. Trip distribution and assignment based on observed traffic patterns should be appropriate. Trip Dissipation for link analysis should be linear in the absence of an adequate alternative procedure per Monroe County Traffic.

   Response: Acknowledged.

8. **Comment:** U.S. 1 Traffic Impact and Reserve Capacity. The analysis uses the 2013 TTDS Level of Service and Reserve Capacity Table per Traffic Methodology agreement. Based on this table, reserve capacities for Overseas Highway Segments # 22 through 24 are identified to have adequate reserve capacity to accommodate the project trips based on a linear trip dissipation with a maximum trip length of 10 miles each direction and a 52% north/east and 48% south/west distribution.

   Response: Acknowledged.

9. **Comment:** Report section: replace "Traffic Impact Statement" with "Level 3 Traffic Impact Report".

   Response: Acknowledged.

10. **Comment:** The study presents inbound/outbound volumes and analysis for the site driveways, but it does not provide intersection analyses for the nearby signalized intersections of Overseas Highway at Atlantic Avenue and Overseas Highway at Tarpon Basin Drive. As stated in page 9 of the report, Intersection analyses at the intersections of Atlantic Ave and Tarpon Dr have been requested by Monroe County. As documented during the methodology process, turning movement counts have been scheduled and analysis will be forwarded as an addendum to the report. An addendum to the report has not been provided as yet.

Response: Intersections at Atlantic Avenue and Tarpon Basin Drive were analyzed using Synchro 8.Turning movement counts provided by Quality Counts and signal timing plans provided by Monroe County were attached to the revised analysis.

11. **Comment:** Table 5 - Driveway Level of Service shows a LOS E for the EBL movement at Driveway 2 and Overseas Highway intersection. The proposed site does add trips to this movement, the access connection distance standard is not met, and site trips increase does require an access permit; therefore, an alternate configuration should be considered and reviewed

    Response: Preliminary discussions with FDOT have resulted in no objections to the configuration of the existing driveways with the proposed redevelopment. However, modifying driveway 1 to right in only access can be a potential option to mitigate impacts of the sub-standard spacing distance between the two driveways. Maintaining a right-in only driveway would facilitate on-site circulation for the proposed drive-through. By changing driveway1 to right in only access, all of the exiting traffic will be loaded on driveway 2, however acceptable levels of service are anticipated to be maintained even with the consolidated exiting traffic

If you have any questions please feel free to contact our office at (813) 288-0233.

Sincerely,
CPH, INC.

Sandra Gorman, P.E.
Senior Traffic Engineer

APPENDIX C
TRAFFIC COUNTS

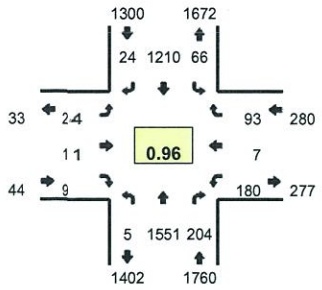
Type of peak hour being reported: Intersection Peak

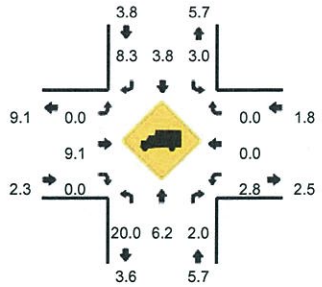
Method for determining peak hour: Total Entering Volume

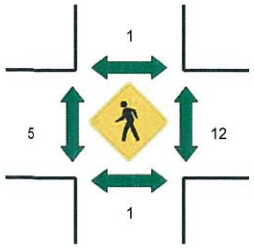
LOCATION: US 1 -- Tarpon Basin Dr
CITY/STATE: Key Largo, FL

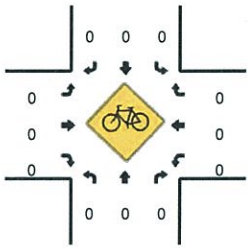
QC JOB #: 13717001
DATE: Thu, Feb 25 2016

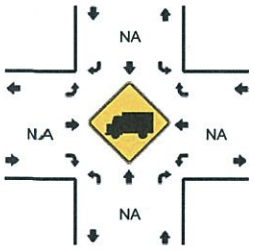
Peak-Hour: 4:00 PM -- 5:00 PM
Peak 15-Min: 4:45 PM -- 5:00 PM

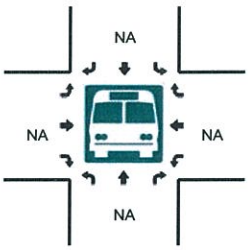












R* = RTOR

15-Min Count Period Beginning At	US 1 (Northbound)					US 1 (Southbound)					Tarpon Basin Dr (Eastbound)					Tarpon Basin Dr (Westbound)					Total	Hourly Totals
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*		
4:00 PM	0	372	37	1	11	15	340	5	1	0	6	2	3	0	0	43	2	10	0	14	862	
4:15 PM	1	379	48	1	14	14	292	2	2	2	5	2	0	0	3	32	0	8	0	17	822	
4:30 PM	0	397	29	1	13	17	274	3	0	1	7	2	2	0	0	51	3	9	0	14	823	
4:45 PM	1	403	41	0	11	16	304	10	1	1	6	5	0	0	1	54	2	14	0	7	877	3384
5:00 PM	1	391	31	0	6	18	300	6	0	1	7	3	3	0	2	48	0	13	0	9	839	3361
5:15 PM	1	377	43	2	9	9	304	7	0	0	5	6	0	0	2	62	1	9	0	8	845	3384
5:30 PM	1	306	22	2	10	19	278	3	0	0	2	2	1	0	2	39	1	3	0	16	707	3268
5:45 PM	2	348	27	3	10	12	225	6	2	0	6	2	0	0	2	42	1	8	0	3	699	3090

Peak 15-Min Flowrates	Northbound					Southbound					Eastbound					Westbound					Total
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	
All Vehicles	4	1612	164	0	44	64	1216	40	4	4	24	20	0	0	4	216	8	56	0	28	3508
Heavy Trucks	4	160	8			0	40	4			0	0	0			12	0	0			228
Pedestrians		0					4					0					28				32
Bicycles	0	0	0			0	0	0			0	0	0			0	0	0			0
Railroad																					
Stopped Buses																					

Comments:

Report generated on 3/8/2016 9:20 AM

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

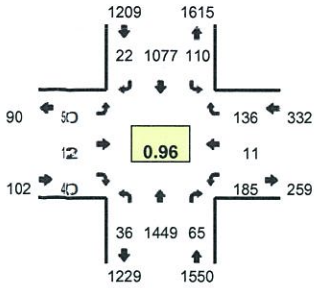
Type of peak hour being reported: Intersection Peak

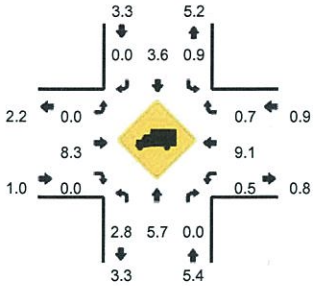
Method for determining peak hour: Total Entering Volume

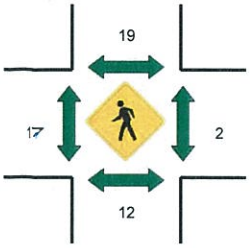
LOCATION: US 1 -- Atlantic Ave
CITY/STATE: Key Largo, FL

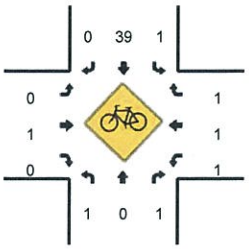
QC JOB #: 13717002
DATE: Thu, Feb 25 2016

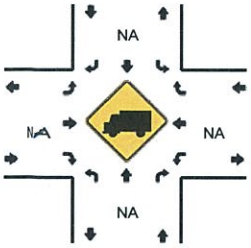
Peak-Hour: 4:30 PM -- 5:30 PM
Peak 15-Min: 5:00 PM -- 5:15 PM

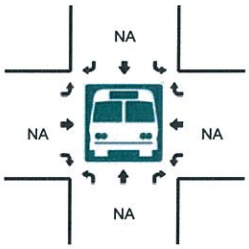












R* = RTOR

15-Min Count Period Beginning At	US 1 (Northbound)					US 1 (Southbound)					Atlantic Ave (Eastbound)					Atlantic Ave (Westbound)					Total	Hourly Totals
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*		
4:00 PM	0	370	15	2	2	27	298	4	3	3	6	3	2	3	3	19	4	11	24	24	823	
4:15 PM	2	380	12	1	1	21	263	4	3	3	7	1	2	5	5	29	2	9	21	21	792	
4:30 PM	8	347	18	1	1	19	260	5	2	2	7	2	0	7	7	31	4	16	17	17	771	
4:45 PM	10	359	15	1	1	28	255	3	1	1	9	4	6	7	7	25	2	11	23	23	791	3177
5:00 PM	6	399	10	3	3	21	282	6	1	1	2	3	3	10	10	25	3	12	16	16	832	3186
5:15 PM	7	344	17	0	0	36	280	2	2	2	6	3	5	2	2	26	2	19	22	22	799	3193
5:30 PM	7	297	14	0	0	17	250	8	1	1	11	1	3	5	5	23	5	9	21	21	699	3121
5:45 PM	9	289	11	1	1	17	225	5	0	0	6	1	1	12	12	19	3	11	19	19	661	2991

Peak 15-Min Flowrates	Northbound					Southbound					Eastbound					Westbound					Total
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	
All Vehicles	24	1596	40	12	12	84	1128	24	4	4	8	12	12	40	40	100	12	48	64	64	3328
Heavy Trucks	4	92	0			0	40	0			0	0	0			4	0	0			140
Pedestrians		12					24					12					0				48
Bicycles	1	0	1			0	10	0			0	0	0			1	0	0			13
Railroad																					
Stopped Buses																					

Comments:

Report generated on 3/8/2016 9:20 AM

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

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2014 HISTORICAL AADT REPORT

OUNTY: 90 - MONROE

ITE: 0064 - SR 5/US-1, 50' N SUNSET DR(KEY LARGO MM 99.85)

EAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
014	36000 C	N 18000	S 18000	9.50	55.20	9.20
013	30000 C	N 15000	S 15000	9.50	54.80	9.30
012	29000 C	N 15000	S 14000	9.50	55.00	8.60
011	30000 C	N 15500	S 14500	9.50	55.10	8.70
010	28000 C	N 14000	S 14000	10.26	56.84	9.10
009	35000 C	N 17500	S 17500	10.23	56.56	8.30
008	30000 C	N 15000	S 15000	10.45	54.98	10.90
007	33000 C	N 16500	S 16500	10.00	55.10	11.30
006	31500 C	N 16000	S 15500	10.08	55.69	9.80
005	32000 C	N 16000	S 16000	10.40	55.70	9.30
004	27000 C	N 13500	S 13500	10.00	56.00	8.60
003	28500 C	N 14500	S 14000	10.10	56.30	9.30
002	26000 C	N 13000	S 13000	10.00	54.20	6.10
001	28500 C	N 14000	S 14500	10.00	55.90	8.90
000	26500 C	N 13500	S 13000	9.90	54.80	4.50
999	26500 C	N 13000	S 13500	9.50	56.70	7.30

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; F = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

OUNTY: 90
TATION: 0064
ESCRIPTION: SR 5/US-1, 50' N SUNSET DR(KEY LARGO MM 99.85)
TART DATE: 05/08/2014
TART TIME: 0000

	DIRECTION: N					DIRECTION: S					COMBINED
IME	1ST	2ND	3RD	4TH	TOTAL	1ST	2ND	3RD	4TH	TOTAL	TOTAL
000	30	22	42	28	122	35	46	18	27	126	248
100	19	22	15	10	66	15	25	16	14	70	136
200	16	17	5	20	58	11	13	16	3	43	101
300	18	23	13	25	79	26	20	21	21	88	167
400	18	20	15	29	82	16	36	39	40	131	213
500	28	42	47	47	164	39	54	74	95	262	426
600	48	64	68	111	291	116	152	215	256	739	1030
700	86	129	197	199	611	275	309	292	331	1207	1818
800	251	232	268	314	1065	259	322	319	370	1270	2335
900	299	268	273	312	1152	318	315	321	299	1253	2405
000	299	314	351	318	1282	295	331	312	370	1308	2590
100	350	334	351	389	1424	350	377	388	329	1444	2868
200	344	399	333	340	1416	382	387	411	339	1519	2935
300	352	342	351	372	1417	338	371	307	324	1340	2757
400	336	313	340	318	1307	355	325	317	312	1309	2616
500	345	410	394	397	1546	312	274	329	378	1293	2839
600	378	404	373	397	1552	329	326	280	296	1231	2783
700	373	424	375	334	1506	288	349	316	257	1210	2716
800	264	248	267	229	1008	248	253	222	218	941	1949
900	235	207	201	182	825	213	174	172	190	749	1574
000	181	171	168	128	648	171	165	121	110	567	1215
100	130	136	119	118	503	121	130	124	116	491	994
200	125	100	106	78	409	78	75	92	63	308	717
300	64	60	55	58	237	67	69	57	40	233	470
4-HOUR TOTALS:					18770					19132	37902

PEAK VOLUME INFORMATION

	DIRECTION: N		DIRECTION: S		COMBINED DIRECTIONS	
	HOUR	VOLUME	HOUR	VOLUME	HOUR	VOLUME
.M.	845	1154	815	1329	845	2478
.M.	1515	1579	1200	1519	1200	2935
AILY	1515	1579	1200	1519	1145	2974

ENERATED BY SPS 5.0.45P

OUNTY: 90
TATION: 0064
ESCRIPTION: SR 5/US-1, 50' N SUNSET DR(KEY LARGO MM 99.85)
TART DATE: 05/06/2014
TART TIME: 0000

	DIRECTION: N					DIRECTION: S					COMBINED
IME	1ST	2ND	3RD	4TH	TOTAL	1ST	2ND	3RD	4TH	TOTAL	TOTAL
000	45	28	24	23	120	35	26	34	29	124	244
100	23	24	27	14	88	20	13	18	16	67	155
200	15	16	8	15	54	14	13	12	16	55	109
300	11	18	9	15	53	13	9	17	21	60	113
400	19	31	25	25	100	21	17	13	29	80	180
500	32	42	37	36	147	47	58	86	94	285	432
600	50	51	64	88	253	102	115	233	236	686	939
700	96	118	166	227	607	287	308	297	305	1197	1804
800	243	226	209	325	1003	279	308	360	343	1290	2293
900	264	255	251	296	1066	329	319	272	318	1238	2304
000	287	313	320	321	1241	326	292	316	325	1259	2500
100	350	320	328	359	1357	290	359	311	368	1328	2685
200	386	341	322	305	1354	364	374	353	305	1396	2750
300	364	361	342	336	1403	317	362	334	313	1326	2729
400	372	328	348	328	1376	299	346	327	296	1268	2644
500	348	368	391	361	1468	311	304	324	339	1278	2746
600	375	389	404	379	1547	334	325	326	294	1279	2826
700	375	427	366	350	1518	292	285	297	252	1126	2644
800	280	249	291	255	1075	243	221	201	199	864	1939
900	206	211	180	171	768	178	182	199	168	727	1495
000	198	166	117	167	648	179	157	125	115	576	1224
100	162	136	103	95	496	108	108	86	103	405	901
200	91	85	82	77	335	91	94	63	59	307	642
300	74	92	50	41	257	46	47	33	39	165	422
4-HOUR TOTALS:					18334					18386	36720

PEAK VOLUME INFORMATION

	DIRECTION: N		DIRECTION: S		COMBINED DIRECTIONS	
	HOUR	VOLUME	HOUR	VOLUME	HOUR	VOLUME
.M.	845	1095	830	1351	830	2404
.M.	1630	1585	1200	1396	1545	2853
AILY	1630	1585	1145	1459	1145	2867

ENERATED BY SPS 5.0.45P

OUNTY: 90
TATION: 0064
ESCRIPTION: SR 5/US-1, 50' N SUNSET DR(KEY LARGO MM 99.85)
TART DATE: 05/07/2014
TART TIME: 0000

	DIRECTION: N					DIRECTION: S					COMBINED
IME	1ST	2ND	3RD	4TH	TOTAL	1ST	2ND	3RD	4TH	TOTAL	TOTAL
000	36	33	29	24	122	34	26	23	21	104	226
100	21	12	15	12	60	21	17	17	16	71	131
200	16	13	8	23	60	8	5	13	25	51	111
300	17	15	16	17	65	17	11	16	19	63	128
400	28	23	22	26	99	13	24	26	44	107	206
500	38	43	52	57	190	36	47	69	80	232	422
600	49	50	79	93	271	110	167	206	219	702	973
700	91	142	176	221	630	315	305	288	316	1224	1854
800	247	240	265	270	1022	269	288	389	350	1296	2318
900	277	276	264	299	1116	312	304	300	314	1230	2346
000	309	320	343	313	1285	331	313	331	326	1301	2586
100	348	327	366	332	1373	344	352	345	357	1398	2771
200	356	357	358	304	1375	360	392	342	331	1425	2800
300	330	330	298	344	1302	337	334	315	371	1357	2659
400	313	335	316	307	1271	335	302	298	295	1230	2501
500	365	385	364	341	1455	335	304	305	327	1271	2726
600	399	420	398	400	1617	335	352	297	274	1258	2875
700	368	418	356	324	1466	339	302	323	283	1247	2713
800	291	264	253	263	1071	257	238	212	187	894	1965
900	202	211	194	202	809	196	189	175	172	732	1541
000	183	164	178	161	686	178	160	114	124	576	1262
100	135	126	116	99	476	129	110	81	91	411	887
200	89	101	99	87	376	93	60	70	58	281	657
300	82	64	44	41	231	60	48	34	34	176	407
4-HOUR TOTALS:					18428					18637	37065

PEAK VOLUME INFORMATION

	DIRECTION: N		DIRECTION: S		COMBINED DIRECTIONS	
	HOUR	VOLUME	HOUR	VOLUME	HOUR	VOLUME
.M.	830	1088	830	1355	830	2443
.M.	1600	1617	1200	1425	1600	2875
AILY	1600	1617	1130	1454	1600	2875

ENERATED BY SPS 5.0.45P

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2014 HISTORICAL AADT REPORT

OUNTY: 90 - MONROE

ITE: 5042 - SR-5/US-1/OVERSEAS HWY, 400' S OF HARBOR SHORES RD

EAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
014	16000 C	S 16000		9.00	99.90	6.10
013	14500 C	S 14500	0	9.00	99.90	8.50
012	13500 C	S 13500	0	9.00	99.90	7.20
011	14000 C	S 14000	0	9.00	99.90	5.80
010	13500 C	S 13500	0	10.26	99.99	9.50
009	12000 C	S 12000	0	10.23	99.99	11.50
008	12000 C	S 12000	0	10.45	99.99	9.40
007	13000 C	S 13000	0	10.00	99.99	15.10
006	13500 C	S 13500	0	10.08	99.99	22.80
005	29000 E	S 29000		10.40	99.90	5.50

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; F = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

OUNTY: 90
TATION: 5042
ESCRIPTION: SR-5/US-1/OVERSEAS HWY, 200' S OF GRAND ST. O-W
TART DATE: 01/07/2014
TART TIME: 0000

DIRECTION: S

IME	1ST	2ND	3RD	4TH	TOTAL
000	26	29	25	26	106
100	18	20	17	23	78
200	10	13	14	14	51
300	8	15	15	10	48
400	16	11	14	28	69
500	22	48	57	65	192
600	82	119	124	133	458
700	197	203	219	224	843
800	228	252	279	275	1034
900	255	263	314	299	1131
000	275	327	335	341	1278
100	384	393	369	376	1522
200	391	347	363	399	1500
300	394	385	342	364	1485
400	393	390	425	374	1582
500	368	331	350	337	1386
600	336	327	306	299	1268
700	337	292	291	264	1184
800	253	209	215	191	868
900	196	180	203	150	729
000	163	131	131	136	561
100	124	121	109	92	446
200	106	71	80	52	309
300	66	50	72	41	229
4-HOUR TOTALS:					18357

PEAK VOLUME INFORMATION

	HOUR	VOLUME
.M.	845	1107
.M.	1400	1582
AILY	1400	1582

RUCK PERCENTAGE 7.19 NAN 7.19

CLASSIFICATION SUMMARY DATABASE

IR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	TOTTRK	TOTVOL
S	99	13288	3651	97	744	48	37	235	144	5	7	2	0	0	0	1319	18357

ENERATED BY SPS 5.0.45P

OUNTY: 90
TATION: 5042
ESCRIPTION: SR-5/US-1/OVERSEAS HWY, 200' S OF GRAND ST. O-W
TART DATE: 01/08/2014
TART TIME: 0000

DIRECTION: S

IME	1ST	2ND	3RD	4TH	TOTAL
000	30	35	36	24	125
100	30	12	25	20	87
200	13	18	6	13	50
300	15	13	14	19	61
400	17	18	16	14	65
500	28	38	60	54	180
600	90	82	121	110	403
700	140	170	203	202	715
800	172	217	229	239	857
900	259	247	308	304	1118
000	282	321	280	359	1242
100	327	335	350	345	1357
200	357	377	376	377	1487
300	329	321	317	330	1297
400	280	328	309	366	1283
500	294	348	272	296	1210
600	289	297	281	244	1111
700	290	257	246	218	1011
800	184	200	177	189	750
900	164	185	124	134	607
000	125	87	102	92	406
100	90	93	88	77	348
200	73	78	56	47	254
300	40	45	38	35	158
4-HOUR TOTALS:					16182

PEAK VOLUME INFORMATION

	HOUR	VOLUME
.M.	845	1053
.M.	1200	1487
AILY	1200	1487

RUCK PERCENTAGE 6.77 NAN 6.77

CLASSIFICATION SUMMARY DATABASE

IR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	TOTTRK	TOTVOL
S	88	12050	2949	84	613	41	15	186	145	0	10	1	0	0	0	1095	16182

ENERATED BY SPS 5.0.45P

OUNTY: 90
TATION: 5042
ESCRIPTION: SR-5/US-1/OVERSEAS HWY, 200' S OF GRAND ST. O-W
TART DATE: 01/09/2014
TART TIME: 0000

DIRECTION: S

IME	1ST	2ND	3RD	4TH	TOTAL
000	15	35	126	74	250
100	60	48	50	38	196
200	30	31	31	39	131
300	15	24	17	12	68
400	26	12	18	17	73
500	22	13	34	43	112
600	35	39	56	40	170
700	60	87	66	85	298
800	76	101	97	137	411
900	124	175	162	217	678
000	210	225	224	275	934
100	273	340	345	334	1292
200	301	320	285	379	1285
300	288	331	338	322	1279
400	347	331	305	341	1324
500	323	326	304	268	1221
600	248	246	238	234	966
700	219	210	219	188	836
800	186	167	162	150	665
900	148	150	125	119	542
000	117	95	101	98	411
100	94	93	74	82	343
200	70	59	64	42	235
300	49	37	34	27	147
4-HOUR TOTALS:					13867

PEAK VOLUME INFORMATION

	HOUR	VOLUME
.M.	845	598
.M.	1315	1338
AILY	1315	1338

RUCK PERCENTAGE 4.05 NAN 4.05

CLASSIFICATION SUMMARY DATABASE

IR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	TOTTRK	TOTVOL
S	122	11073	2110	47	285	13	0	158	58	1	0	0	0	0	0	562	13867

ENERATED BY SPS 5.0.45P

APPENDIX D
SIGNAL TIMINGS

INTERSECTION: US1/Overseas Hwy & Atlantic Blvd

Group Assignment: **NONE**
Field Master Assignment: **NONE**
System Reference Number: **5**

N/S Street Name: **Atlantic Blvd/N Ocean Bay Dr**
E/W Street Name: **SR5/US1/Overseas Highway**

Last Database Change: **12/2/2014 14:26**

Change Record					
Change	By	Date	Change	By	Date

Notes:

Manual Plan
0 = Automatic
1-9 = Plan 1-9
14 = Free
15 = Flash

Manual Offset
0 = Automatic
1 = Offset A
2 = Offset B
3 = Offset C

Drop Number	1	<C/0+0+0>
Zone Number	1	<C/0+0+1>
Area Number	1	<C/0+0+2>
Area Address	10	<C/0+0+3>
QuicNet Channel	0	(QuicNet)

Communication Addresses

Manual Plan		<C/0+A+1>
Manual Offset		<C/0+B+1>

Manual Selection

Flash Start	0	<F/1+0+E>
Red Revert	5.0	<F/1+0+F>
All Red Start	5.0	<F/1+C+0>
FYA Red Revert	2.0	<F/1+0+5>
OVLP CHG Red	6.0	<F/1+0+3>

Start / Revert Times

Exclusive Walk	0	<F/1+0+0>
Exclusive FDW	0	<F/1+0+1>
All Red Clear	0.0	<F/1+0+2>

Exclusive Ped Phase
(Outputs specified in Assignable Outputs at E/127+A+E & F)

Row	Column Numbers ---->	Phase 1	2	3	4	5	6	7	8
	Phase Names ----->								
0	Ped Walk	0	4	7	7	0	7	0	7
1	Ped FDW	0	20	15	15	0	15	0	15
2	Min Green	4	7	8	8	4	7	4	4
3	Type 3 Disconnect	0	20	0	20	0	20	0	20
4	Added per Vehicle	0.0	5.0	0.0	2.0	0.0	2.0	0.0	2.0
5	Veh Extension	3.5	5.0	3.5	3.5	3.5	5.0	2.0	2.5
6	Max Gap	3.5	5.0	3.5	3.5	3.5	5.0	3.0	3.0
7	Min Gap	3.5	5.0	3.5	3.5	3.5	5.0	0.5	1.5
8	Max Limit	20	55	20	25	20	55	20	25
9	Max Limit 2	30	90	30	40	30	90	30	40
A	Adv. / Delay Walk	0	0	0	0	0	0	0	0
B	PE Min Ped FDW	7	7	7	7	7	7	7	7
C	Cond Serv Check	10	10	10	10	10	10	10	10
D	Reduce Every	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
E	Yellow Change	4.0	4.0	4.0	4.0	4.0	4.0	3.0	3.0
F	Red Clear	2.0	2.0	2.0	2.0	2.0	2.0	1.0	1.0

Phase Timing - Bank 1 <C+0+F=1>

	9	A	B	C	D
	---	---	---	---	---
Phase 1	0	0	0	0	0.0
Phase 2	20	0	0	0	0.0
Phase 3	0	0	0	0	0.0
Phase 4	20	0	0	0	0.0
Phase 5	0	0	0	0	0.0
Phase 6	20	0	0	0	0.0
Phase 7	0	0	0	0	0.0
Phase 8	20	0	0	0	0.0

Max Initial
Alternate Walk
Alternate FDW
Alternate Initial
Alternate Extension

Alternate Timing <C+0+F=1>

	E
RR-1 Delay	0
RR-1 Clear	0
EV-A Delay	0
EV-A Clear	0
EV-B Delay	0
EV-B Clear	0
EV-C Delay	0
EV-C Clear	0
EV-D Delay	0
EV-D Clear	0
RR-2 Delay	0
RR-2 Clear	0
View EV Delay	---
View EV Clear	---
View RR Delay	---
View RR Clear	---

Preempt Timing

	F	Row
Permit	123456__	0
Red Lock	_____	1
Yellow Lock	12345678	2
Min Recall	_2___6__	3
Ped Recall	_2_____	4
View Set Peds	-----	5
Rest In Walk	_____	6
Red Rest	_____	7
Dual Entry	_____	8
Max Recall	_____	9
Soft Recall	_____	A
Max 2	_____	B
Cond. Service	_____	C
Man Cntrl Calls	123456__	D
Yellow Start	_2___6__	E
First Phases	___4___8	F

Phase Functions <C+0+F=1>

Row	Column Numbers ---->	Overlap 1	2	3	4	5	6	7	8
	Overlap Name ---->								
0	Load Switch Number	0	0	0	0	0	0	0	0
1	Veh Set 1 - Phases								
2	Veh Set 2 - Phases								
3	Veh Set 3 - Phases								
4	Neg Veh Phases								
5	Neg Ped Phases								
6	Green Omit Phases								
7	Green Clear Omit Phs.								
8	Overlap Recall	N	N	N	N	N	N	N	N
9	Queue Jump Phase								
A	Queue Jump Time	0	0	0	0	0	0	0	0
B	Minimum Green	0	0	0	0	0	0	0	0
C	Maximum Green	0	0	0	0	0	0	0	0
D	Green Clear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
E	Yellow Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
F	Red Clear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Overlap Assignments <C+0+E=29>

Extra 1 Flags
1 = TBC Type 1
2 = NEMA Ext. Coord
3 = Auto Daylight Savings
4 = Solid FDW on EV
5 = Extended Status
6 = International Ped
7 = Flash - Clear Outputs
8 = Split Ring

Extra 2 Flags
1 = AWB During Initial
2 = Reserved
3 = Disable Min Walk
4 = QuicNet System
5 = Ignore P/P on EV
6 = Manual Hold in FDW
7 = Allow QuicNet PE
8 = Flash Grn B4 Yellow

	C
EV-A	0
EV-B	0
EV-C	0
EV-D	0
RR-1 *	- - -
RR-2 *	- - -
SE-1	0
SE-2	0

Preempt Priority
<C+0+E=125>
(* RR-1 is always Highest, and RR-2 is always Second Highest)

Row	Column Numbers ---->	E
0	Exclusive Phases	34
1	RR-1 Clear Phases	
2	RR-2 Clear Phases	
3	RR-2 Limited Service	
4	Prot / Perm Phases	
5	Flash to PE Circuits	
6	Flash Entry Phases	
7	Disable Yellow Range	
8	Disable Ovp Yel Range	
9	Overlap Yellow Flash	
A	EV-A Phases	
B	EV-B Phases	
C	EV-C Phases	
D	EV-D Phases	
E	Extra 1 Config. Bits	1 3
F	IC Select (Interconnect)	2

Configuration <C+0+E=125>

	F
Ext. Permit 1 Phases	
Ext. Permit 2 Phases	
Exclusive Ped Assign	
Preempt Non-Lock	12345678
Ped for 2P Output	2
Ped for 6P Output	6
Ped for 4P Output	4
Ped for 8P Output	3
Yellow Flash Phases	
Low Priority A Phases	
Low Priority B Phases	
Low Priority C Phases	
Low Priority D Phases	
Restricted Phases	
Extra 2 Config. Bits	

Configuration <C+0+E=125>

	F
Fast Green Flash Phase	
Green Flash Phases	
Flashing Walk Phases	
Guaranteed Passage	
Simultaneous Gap Term	12345678
Sequential Timing	
Advance Walk Phases	
Delay Walk Phases	
External Recall	
Start-up Overlap Green	
Max Extension	
Inhibit Ped Reservice	
Semi-Actuated	
Start-up Overlap Yellow	
Start-up Vehicle Calls	12345678
Start-up Ped Calls	12345678

Specials <C+0+F=2>

Flash to PE & PE Non-Lock
1 = EV A 5 = RR 1
2 = EV B 6 = RR 2
3 = EV C 7 = SE 1
4 = EV D 8 = SE 2

IC Select Flags
1 =
2 = Modem
3 = 7-Wire Slave
4 =
5 =
6 = Simplex Master
7 =
8 = Offset Interrupter

	2
Phase 1	10
Phase 2	10
Phase 3	10
Phase 4	10
Phase 5	10
Phase 6	10
Phase 7	10
Phase 8	10

Coordination Transition Minimums
<C+0+C=5>

Coord Extra
1 = Programmed WALK Time for Sync Phases
2 = Always Terminate Sync Phase Peds

Row	Column Numbers ---->	Plan 1	2	3	4	5	6	7	8	9	Row
	Plan Name ---->										
0	Cycle Length	100	100	100	100	100	100	100	100	100	0
1	Phase 1 - ForceOff	55	55	55	55	55	55	55	55	55	1
2	Phase 2 - ForceOff	0	0	0	0	0	0	0	0	0	2
3	Phase 3 - ForceOff	20	20	20	20	20	20	20	20	20	3
4	Phase 4 - ForceOff	40	40	40	40	40	40	40	40	40	4
5	Phase 5 - ForceOff	55	55	55	55	55	55	55	55	55	5
6	Phase 6 - ForceOff	0	0	0	0	0	0	0	0	0	6
7	Phase 7 - ForceOff	20	20	20	20	20	20	20	20	20	7
8	Phase 8 - ForceOff	40	40	40	40	40	40	40	40	40	8
9	Ring Offset	0	0	0	0	0	0	0	0	0	9
A	Offset 1	0	0	0	0	0	0	0	0	0	A
B	Offset 2	0	0	0	0	0	0	0	0	0	B
C	Offset 3	0	0	0	0	0	0	0	0	0	C
D	Perm 1 - End	15	15	15	15	15	15	15	15	15	D
E	Hold Release	255	255	255	255	255	255	255	255	255	E
F	Reserved	0	0	0	0	0	0	0	0	0	F

Coordination - Bank 1 <C+0+C=1>

Row		E	Row
0			0
1	Plan 1 - Sync	_2__6__	1
2	Plan 2 - Sync	_2__6__	2
3	Plan 3 - Sync	_2__6__	3
4	Plan 4 - Sync	_2__6__	4
5	Plan 5 - Sync	_2__6__	5
6	Plan 6 - Sync	_2__6__	6
7	Plan 7 - Sync	_2__6__	7
8	Plan 8 - Sync	_2__6__	8
9	Plan 9 - Sync	_2__6__	9
A	NEMA Sync	_____	A
B	NEMA Hold	_____	B
C			C
D			D
E			E
F			F

Sync Phases <C+0+C=1>

Row		1	2	3	4	5	6	7	8	9	Row
0	Ped Adjustment	0	0	0	0	0	0	0	0	0	0
1	Perm 2 - Start	0	0	0	0	0	0	0	0	0	1
2	Perm 2 - End	0	0	0	0	0	0	0	0	0	2
3	Perm 3 - Start	0	0	0	0	0	0	0	0	0	3
4	Perm 3 - End	0	0	0	0	0	0	0	0	0	4
5	Reservice Time	0	0	0	0	0	0	0	0	0	5
6	Reservice Phases										6
7											7
8	Pretimed Phases										8
9	Max Recall										9
A	Perm 1 Veh Phase	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678	A
B	Perm 1 Ped Phase	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678	B
C	Perm 2 Veh Phase										C
D	Perm 2 Ped Phase										D
E	Perm 3 Veh Phase										E
F	Perm 3 Ped Phase										F

Coordination - Bank 2 <C+0+C=2>

Row		F	Row
0	Free Lag	_2_4_6_8	0
1	Plan 1 - Lag	_2_4_6_8	1
2	Plan 2 - Lag	_2_4_6_8	2
3	Plan 3 - Lag	_2_4_6_8	3
4	Plan 4 - Lag	_2_4_6_8	4
5	Plan 5 - Lag	_2_4_6_8	5
6	Plan 6 - Lag	_2_4_6_8	6
7	Plan 7 - Lag	_2_4_6_8	7
8	Plan 8 - Lag	_2_4_6_8	8
9	Plan 9 - Lag	_2_4_6_8	9
A	External Lag	_____	A
B	Lag Hold	_____	B
C			C
D			D
E			E
F			F

Lag Phases <C+0+C=1>

Row	Column 8		Column 9		Column A		Column B		Column C		Column D		Column E		Column F		Row
0	One-Shot Timer	0	Latch 1 Set	0	NOT-3	0	Max 2	0	Pretimed	0	Set Monday	0	Dial 2 (7-Wire)	0	Sim Term	0	0
1	AND-5 (a)	0	Latch 1 Reset	0	NOT-4	0	Reserved	0	Plan 1	0	Ext. Perm 1	0	Dial 3 (7-Wire)	0	EV-A	71	1
2	AND-5 (b)	0	Latch 2 Set	0	OR-4 (a)	0	Reserved	0	Plan 2	0	Ext. Perm 2	0	Offset 1 (7-Wire)	0	EV-B	72	2
3	AND-6 (a)	0	Latch 2 Reset	0	OR-4 (b)	0	Reserved	0	Plan 3	0	Gate Down	0	Offset 2 (7-Wire)	0	EV-C	73	3
4	AND-6 (b)	0	NAND-3 (a)	0	OR-5 (a)	0	Reserved	0	Plan 4	0	Set Clock	0	Offset 3 (7-Wire)	0	EV-D	74	4
5	Reserved		NAND-3 (b)	0	OR-5 (b)	0	Reserved	0	Plan 5	0	Stop Time	82	Free (7-Wire)	0	RR-1	51	5
6	Reserved		NAND-4 (a)	0	OR-6 (a)	0	Reserved	0	Plan 6	0	Flash Sense	81	Flash (7-Wire)	0	RR-2	52	6
7	Reserved		NAND-4 (b)	0	OR-6 (b)	0	Reserved	0	Plan 7	0	Manual Enable	0	Excl. Ped Omit	0	Spec. Event 1	0	7
8	Spec. Funct. 1	0	OR-7 (a)	0	EXTMR	0	Reserved	0	Plan 8	0	Man. Advance	0	NOT-1	0	Spec. Event 2	0	8
9	Spec. Funct. 2	0	OR-7 (b)	0	Reserved		Max Inhibit (nema)	0	Plan 9	0	External Alarm	0	NOT-2	0	External Lag	0	9
A	Spec. Funct. 3	0	OR-7 (c)	0	AND-4 (a)	0	Force A (nema)	0	DELAY-A	0	Phase Bank 2	0	OR-1 (a)	0	AND-1 (a)	201	A
B	Spec. Funct. 4	0	OR-7 (d)	0	AND-4 (b)	0	Force B (nema)	0	DELAY-B	0	Phase Bank 3	0	OR-1 (b)	0	AND-1 (b)	203	B
C	Reserved		OR-8 (a)	0	NAND-1 (a)	0	C.N.A. (nema)	0	DELAY-C	0	Overlap Set 2	0	OR-2 (a)	0	AND-2 (a)	202	C
D	Reserved		OR-8 (b)	0	NAND-1 (b)	0	Hold (nema)	0	DELAY-D	0	Overlap Set 3	0	OR-2 (b)	0	AND-2 (b)	204	D
E	Reserved		OR-8 (c)	0	NAND-2 (a)	0	Max Recall	0	DELAY-E	0	Detector Set 2	0	OR-3 (a)	0	AND-3 (a)	0	E
F	Reserved		OR-8 (d)	0	NAND-2 (b)	0	Min Recall	0	DELAY-F	0	Detector Set 3	0	OR-3 (b)	0	AND-3 (b)	0	F

Assignable Inputs <C+0+E=126>

Row	Column 8		Column 9		Column A		Column B		Column C		Column D		Column E		Column F		Row
0	Reserved		Phase ON - 1	0	Preempt Fail	0	Flasher 0	203	Free	0	NOT-1	0	TOD Out 1	0	Dial 2 (7-Wire)	0	0
1	Reserved		Phase ON - 2	0	Sp Evnt Out 1	0	Flasher 1	204	Plan 1	0	OR-1	0	TOD Out 2	0	Dial 3 (7-Wire)	0	1
2	Reserved		Phase ON - 3	0	Sp Evnt Out 2	0	Fast Flasher	0	Plan 2	0	OR-2	0	TOD Out 3	0	Offset 1 (7-Wire)	0	2
3	Reserved		Phase ON - 4	0	Sp Evnt Out 3	0	EXTMR	0	Plan 3	0	OR-3	0	TOD Out 4	0	Offset 2 (7-Wire)	0	3
4	Reserved		Phase ON - 5	0	Sp Evnt Out 4	0	One-Shot Timer	0	Plan 4	0	AND-1	36	TOD Out 5	0	Offset 3 (7-Wire)	0	4
5	Reserved		Phase ON - 6	0	Sp Evnt Out 5	0	Reserved		Plan 5	0	AND-2	38	TOD Out 6	0	Free (7-Wire)	0	5
6	Reserved		Phase ON - 7	0	Sp Evnt Out 6	0	Latch 1	0	Plan 6	0	AND-3	0	TOD Out 7	0	Flash (7-Wire)	75	6
7	Reserved		Phase ON - 8	0	Sp Evnt Out 7	0	Latch 2	0	Plan 7	0	NOT-2	0	TOD Out 8	0	Preempt	0	7
8	Flh Yell Arrow 1	0	Ph. Check - 1	0	Sp Evnt Out 8	0	NOT-3	0	Plan 8	0	EV-A	0	Adv. Warn - 1	201	Low Priority A	0	8
9	Green 1	0	Ph. Check - 2	0	Coord On	0	NOT-4	0	Plan 9	0	EV-B	0	Adv. Warn - 2	202	Low Priority B	0	9
A	Flh Yell Arrow 3	0	Ph. Check - 3	0	Detector Fail	0	OR-4	0	Spec. Funct. 3	0	EV-C	0	DELAY-A	0	Low Priority C	0	A
B	Green 3	0	Ph. Check - 4	0	Spec. Funct. 1	0	OR-5	0	Spec. Funct. 4	0	EV-D	0	DELAY-B	0	Low Priority D	0	B
C	Flh Yell Arrow 5	0	Ph. Check - 5	0	Spec. Funct. 2	0	OR-6	0	NAND-3	0	RR-1	0	DELAY-C	0	AND-5	0	C
D	Green 5	0	Ph. Check - 6	0	Central Control	0	AND-4	0	NAND-4	0	RR-2	0	DELAY-D	0	AND-6	0	D
E	Flh Yell Arrow 7	0	Ph. Check - 7	0	Excl. Ped DW	0	NAND-1	0	OR-7	0	Spec. Event 1	0	DELAY-E	0	Reserved		E
F	Green 7	0	Ph. Check - 8	0	Excl. Ped WK	0	NAND-2	0	OR-8	0	Spec. Event 2	0	DELAY-F	0	Reserved		F

Assignable Outputs <C+0+E=127>

Row	Column Numbers ---> / Phase Names --->	Phase 1	2	3	4	5	6	7	8
0	Ped Walk	0	7	0	7	0	7	0	7
1	Ped FDW	0	15	0	15	0	15	0	15
2	Min Green	4	7	4	4	4	7	4	4
3	Type 3 Disconnect	0	20	0	20	0	20	0	20
4	Added per Vehicle	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
5	Veh Extension	2.0	4.0	2.0	2.5	2.0	4.0	2.0	2.5
6	Max Gap	3.0	6.0	3.0	3.0	3.0	6.0	3.0	3.0
7	Min Gap	0.5	2.0	0.5	1.5	0.5	2.0	0.5	1.5
8	Max Limit	20	30	20	25	20	30	20	25
9	Max Limit 2	30	50	30	40	30	50	30	40
A	Adv. / Delay Walk	0	0	0	0	0	0	0	0
B	PE Min Ped FDW	7	7	7	7	7	7	7	7
C	Cond Serv Check	10	10	10	10	10	10	10	10
D	Reduce Every	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
E	Yellow Change	3.0	4.0	3.0	3.0	3.0	4.0	3.0	3.0
F	Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Phase Timing - Bank 2 <C+0+F=2>

	9	A	B	C	D
	---	---	---	---	---
Phase 1	0	0	0	0	0.0
Phase 2	20	0	0	0	0.0
Phase 3	0	0	0	0	0.0
Phase 4	20	0	0	0	0.0
Phase 5	0	0	0	0	0.0
Phase 6	20	0	0	0	0.0
Phase 7	0	0	0	0	0.0
Phase 8	20	0	0	0	0.0
Max Initial					
Alternate Walk					
Alternate FDW					
Alternate Initial					
Alternate Extension					

Alternate Timing

Transition Type
0.X = Shortway
1.X = Lengthen
X.1 thru X.4 = Number of cycles when lengthing

Transition Type	0.3	<C/5+1+9>

TBC Transition

Hawk Select	0	F/1+0+4>

Hawk Select 200 = Mid-Block, 201 = Hawk

Address	0	<C/1+0+6>
Select Parity	0	<C/1+0+5>

AB3418 Comm 2 0 = No Parity, 1 = Even

Daylight Savings Date
If set to all zeros, standard dates will be used.

Begin Month	3	<C/5+2+A>
Begin Week	2	<C/5+2+B>
End Month	11	<C/5+2+C>
End Week	1	<C/5+2+D>

Daylight Savings Time

Time B4 Yellow	0.0	<F/1+C+E>
Phase Number	0	<F/1+C+F>

Advance Warning Beacon - Sign 1

Time B4 Yellow	0.0	
Phase Number	6	<F/1+D+F>

Advance Warning Beacon - Sign 2

Offset Time	0	<C/5+2+E>
Max Cycle Time	20	<C/5+2+F>

Yellow Yield Coordination

	12345678	
Omit Alarm	12345678	<C/5+F+0>

Local Alarm Disable

Row		1	2	3	4	5	6	7	8
0	Ped Walk	0	7	0	7	0	7	0	7
1	Ped FDW	0	15	0	15	0	15	0	15
2	Min Green	4	7	4	4	4	7	4	4
3	Type 3 Disconnect	0	20	0	20	0	20	0	20
4	Added per Vehicle	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
5	Veh Extension	2.0	4.0	2.0	2.5	2.0	4.0	2.0	2.5
6	Max Gap	3.0	6.0	3.0	3.0	3.0	6.0	3.0	3.0
7	Min Gap	0.5	2.0	0.5	1.5	0.5	2.0	0.5	1.5
8	Max Limit	20	30	20	25	20	30	20	25
9	Max Limit 2	30	50	30	40	30	50	30	40
A	Adv. / Delay Walk	0	0	0	0	0	0	0	0
B	PE Min Ped FDW	7	7	7	7	7	7	7	7
C	Cond Serv Check	10	10	10	10	10	10	10	10
D	Reduce Every	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
E	Yellow Change	3.0	4.0	3.0	3.0	3.0	4.0	3.0	3.0
F	Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Phase Timing - Bank 3 <C+0+F=3>

	9	A	B	C	D
	---	---	---	---	---
Phase 1	0	0	0	0	0.0
Phase 2	20	0	0	0	0.0
Phase 3	0	0	0	0	0.0
Phase 4	20	0	0	0	0.0
Phase 5	0	0	0	0	0.0
Phase 6	20	0	0	0	0.0
Phase 7	0	0	0	0	0.0
Phase 8	20	0	0	0	0.0
Max Initial					
Alternate Walk					
Alternate FDW					
Alternate Initial					
Alternate Extension					

Alternate Timing

Column Numbers ---->		0	1	2	3	1	3
Row	Detector Name	C1 Pin Number	Attributes	Phase(s)	Assign	Delay	Carry-over
0		39	45_7_	2	123 8	0.0	0.0
1		40	45_7_	6	123 8	0.0	0.0
2		41	45_7_	4	123 8	0.0	0.0
3		42	45_7_	8	123 8	0.0	0.0
4		43	45_7_	2	123 8	0.0	0.0
5		44	45_7_	6	123 8	0.0	0.0
6		45	45_7_	4	123 8	0.0	0.0
7		46	45_7_	8	123 8	0.0	0.0
8		47	67_	2	123 8	0.0	0.0
9		48	67_	6	123 8	0.0	0.0
A		49	67_	4	123 8	0.0	0.0
B		50	67_	8	123 8	0.0	0.0
C		55	45_7_	5	123 8	0.0	0.0
D		56	45_7_	1	123 8	0.0	0.0
E		57	45_7_	7_	123 8	0.0	0.0
F		58	45_7_	3	123 8	0.0	0.0

		4	5	6	7	2	4
Row	Detector Name	C1 Pin Number	Attributes	Phase(s)	Assign	Delay	Carry-over
0		59	45_7_	5	123 8	0.0	0.0
1		60	45_7_	1	123 8	0.0	0.0
2		61	45_7_	7_	123 8	0.0	0.0
3		62	45_7_	3	123 8	0.0	0.0
4		63	45_7_	2	123 8	0.0	0.0
5		64	45_7_	6	123 8	0.0	0.0
6		65	45_7_	4	123 8	0.0	0.0
7		66	45_7_	8	123 8	0.0	0.0
8		67	2	2	123 8	0.0	0.0
9		68	2	6	123 8	0.0	0.0
A		69	2	4	123 8	0.0	0.0
B		70	2	3	123 8	0.0	0.0
C		76	45_7_	2	123 8	0.0	0.0
D		77	45_7_	6	123 8	0.0	0.0
E		78	45_7_	4	123 8	0.0	0.0
F		79	45_7_	8	123 8	0.0	0.0

Detector Assignments <C+0+E=126> <C+0+D=0>

Detector Attributes
1 = Full Time Delay
2 = Ped Call
3 = Overlap
4 = Count
5 = Extension
6 = Type 3
7 = Calling
8 = Alternate

Det. Assignments
1 = Det. Set 1
2 = Det. Set 2
3 = Det. Set 3
4 =
5 =
6 = Failure - Min Recall
7 = Failure - Max Recall
8 = Report on Failure

	Ped / Phase / Overlap								
Column Numbers ---->	1	2	3	4	5	6	7	8	Row
Walk	0	0	0	0	0	0	0	0	0
Don't Walk	0	0	0	0	0	0	0	0	1
Phase Green	0	0	0	0	0	0	0	0	2
Phase Yellow	0	0	0	0	0	0	0	0	3
Phase Red	0	0	0	0	0	0	0	0	4
Overlap Green	0	0	0	0	0	0	0	0	5
Overlap Yellow	0	0	0	0	0	0	0	0	6
Overlap Red	0	0	0	0	0	0	0	0	7

Redirect Phase Outputs <C+0+E=127>

Cabinet Type	0	<E/125+D+0>

Enable Redirection
(Enable Redirection = 30)

Max OFF (minutes)	20	<D/0+0+1>
Max ON (minutes)	7	<D/0+0+2>
Chatter Fail Time	0	<D/0+0+4>

Detector Failure Monitor

	B	Row
One-Shot	0	8
Ext. Timer	0	9
DELAY-A	0	A
DELAY-B	0	B
DELAY-C	0	C
DELAY-D	0	D
DELAY-E	0	E
DELAY-F	0	F

Delay Logic Times
<C+0+D=0> (seconds)

Row	Time	Plan	Offset	Day of Week
0	00 : 00	0	0	
1	00 : 00	0	0	
2	00 : 00	0	0	
3	00 : 00	0	0	
4	00 : 00	0	0	
5	00 : 00	0	0	
6	00 : 00	0	0	
7	00 : 00	0	0	
8	00 : 00	0	0	
9	00 : 00	0	0	
A	00 : 00	0	0	
B	00 : 00	0	0	
C	00 : 00	0	0	
D	00 : 00	0	0	
E	00 : 00	0	0	
F	00 : 00	0	0	

TOD Coordination <C+0+9=0.1>
(Bank 1)

Time	Funct.	Day of Week	Column 4 Phases/Bits
10 : 00	B	1	2 6
20 : 00	B	1	
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		

TOD Function <C+0+7=0.1> <C+0+E=27>

Day	Year	Month	Holiday Type
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	

Holiday Dates <C+0+8=1.1>
(Bank 1)

Time	Plan	Offset	Holiday Type
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	

Holiday Events <C+0+9=1.1>
(Bank 1)

T.O.D. Functions
0 =
1 = Red Lock
2 = Yellow Lock
3 = Veh Min Recall
4 = Ped Recall
5 =
6 = Rest In Walk
7 = Red Rest
8 = Double Entry
9 = Veh Max Recall
A = Veh Soft Recall
B = Maximum 2
C = Conditional Service
D = Free Lag Phases
E = Bit 1 - Local Override
Bit 4 - Disable Detector OFF Monitor
Bit 5 - Disable Low Priority Preempt
Bit 6 - FYA Inhibit
Bit 7 - Detector Count Monitor
Bit 8 - Real Time Split Monitor
F = Output Bits 1 thru 8

Row	Time	Plan	Offset	Day of Week
0	00 : 00	0	0	
1	00 : 00	0	0	
2	00 : 00	0	0	
3	00 : 00	0	0	
4	00 : 00	0	0	
5	00 : 00	0	0	
6	00 : 00	0	0	
7	00 : 00	0	0	
8	00 : 00	0	0	
9	00 : 00	0	0	
A	00 : 00	0	0	
B	00 : 00	0	0	
C	00 : 00	0	0	
D	00 : 00	0	0	
E	00 : 00	0	0	
F	00 : 00	0	0	

TOD Coordination <C+0+9=0.2>
(Bank 2)

Time	Funct.	Holiday Type	Column 4 Phases/Bits
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		

Holiday TOD Function <C+0+7=0.2> <C+0+E=28>

Day	Year	Month	Holiday Type
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	

Holiday Dates <C+0+8=1.2>
(Bank 2)

Time	Plan	Offset	Holiday Type
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	

Holiday Events <C+0+9=1.2>
(Bank 2)

Plan Select
1 thru 9 = Coordination Plan 1 thru 9
14 or E = Free
15 or F = Flash

Offset Select
A = Offset A
B = Offset B
C = Offset C

Month Select: October = A, November = B, Decmber = C

Row	6 Clear	7 Time	8 Ped Call	9 Hold	A Advance	B Force Off	C Vehicle Call	D Permit Phases	E Ped Omit	F Output
0		0								
1		0								
2		0								
3		0								
4		0								
5		0								
6		0								
7		0								
8		0								
9		0								
A		0								
B		0								
C		0								
D		0								
E		0								
F		0								

Special Event Schedule -- Table 1 <C+0+E=27>

Notes:

0 <E/27+5+F>

Limited Service Interval

Row	6 Clear	7 Time	8 Ped Call	9 Hold	A Advance	B Force Off	C Vehicle Call	D Permit Phases	E Ped Omit	F Output
0		0								
1		0								
2		0								
3		0								
4		0								
5		0								
6		0								
7		0								
8		0								
9		0								
A		0								
B		0								
C		0								
D		0								
E		0								
F		0								

Special Event Schedule -- Table 2 <C+0+E=28>

Notes:

0 <E/28+5+F>

Limited Service Interval

Min Time (seconds)	0	<F/1+0+8>

Min Green Before PE Force Off

Max Time (minutes)	255	<F/1+0+9>

Max Preempt Time Before Failure

Min Time (seconds)	0	<F/1+0+A>

Min Time Between Same Preempts
(Does Not Apply To Railroad Preempt)

Low Pri. Channel	_____	<E/125+C+8>

Disable Low Priority Channel

Low Priority
1 = Channel A
2 = Channel B
3 = Channel C
4 = Channel D

Row		
C	Bus Headway	0
D	Bus Delay	0
E	Max Early Grn	0
F	Max Grn Ext.	0

Priority Parameters
<F/1 +A+Row>

Row	Time	Headway	Direction	Day of Week
0	00 : 00	0	0	_____
1	00 : 00	0	0	_____
2	00 : 00	0	0	_____
3	00 : 00	0	0	_____
4	00 : 00	0	0	_____
5	00 : 00	0	0	_____
6	00 : 00	0	0	_____
7	00 : 00	0	0	_____
8	00 : 00	0	0	_____
9	00 : 00	0	0	_____
A	00 : 00	0	0	_____
B	00 : 00	0	0	_____
C	00 : 00	0	0	_____
D	00 : 00	0	0	_____
E	00 : 00	0	0	_____
F	00 : 00	0	0	_____

Headway Schedule <C+0+9=2.1>

Headway Time
(minutes)
1 thru 9 = 1 thru 9
A = 10
B = 11
C = 12
D = 13
E = 14
F = 15

Low Priority Preemption (Bus Priority)

Note: Also see "Time of Day Functions", Function E, Bit 5 (Disable Low Priority)

COMMUNITY ASPHALT CORP
SHOP DRAWING REVIEW
DATE: 5-14-15
PROJECT: CAC 86682/E670-930568-0-52-01
REVIEWER: John Nader
STATUS: No Comments/Exceptions

635-3 Ped head = 1
641 Ped Pole = 1

670-5-140 = 1
690-50 = 1
670-313-1A = 1

635-2-11 = 6

SIGNAL HEAD DETAILS

3-SECT., 1-WAY (EXIST. TO REMAIN)
3-SECT., 1-WAY (EXIST. TO REMAIN)
3-SECT., 1-WAY (EXIST. TO REMAIN)
PED. SIGNAL COUNT-DOWN 1-SECT., 1-WAY (EXIST. TO REMAIN)
PED. SIGNAL COUNT-DOWN 1-SECT., 2-WAY (EXIST. TO REMAIN)

SIGN DETAILS

US 1 (EXIST. TO REMAIN)
TARPON BASIN DR (EXIST. TO REMAIN)
(EXIST. TO REMAIN)

CONTROLLER OPERATION

MODEL 2070 CONTROLLER ASSEMBLY
MAJOR STREET: US 1/SR5- OVERSEAS HIGHWAY
MINOR STREET: TARPON BASIN DRIVE
SOP: 11
PHASE 2 AND 6 RECALL
FLASHING OPERATIONS:
MOVEMENTS 216 YELLOW
MOVEMENTS 218, 417 AND 215 RED
DELAY DETECTION ON LOOP 4H AND LOOP U.

SIGNAL OPERATING PLAN USO #1

PHASE 1 → PHASE 2 → PHASE 3

DETECTIONS FOR LOOPS				
LOOP	NO. OF LOOPS	NO. OF NEW DETS.	NO. OF EXIST. DETS.	DELAY TIME (SEC)
L-1	1		1	
L-2	2		1	
L-4	2		1	
L-H	1		1	
L-G	2		1	
L-U	1		1	

* THE MAINTAINING AGENCY PREFERENCE IS TO USE A NEMA CONTROLLER. THE CONTRACTOR SHALL COORDINATE WITH THE MAINTAINING AGENCY PRIOR TO THE PURCHASE OF THE CONTROLLER.

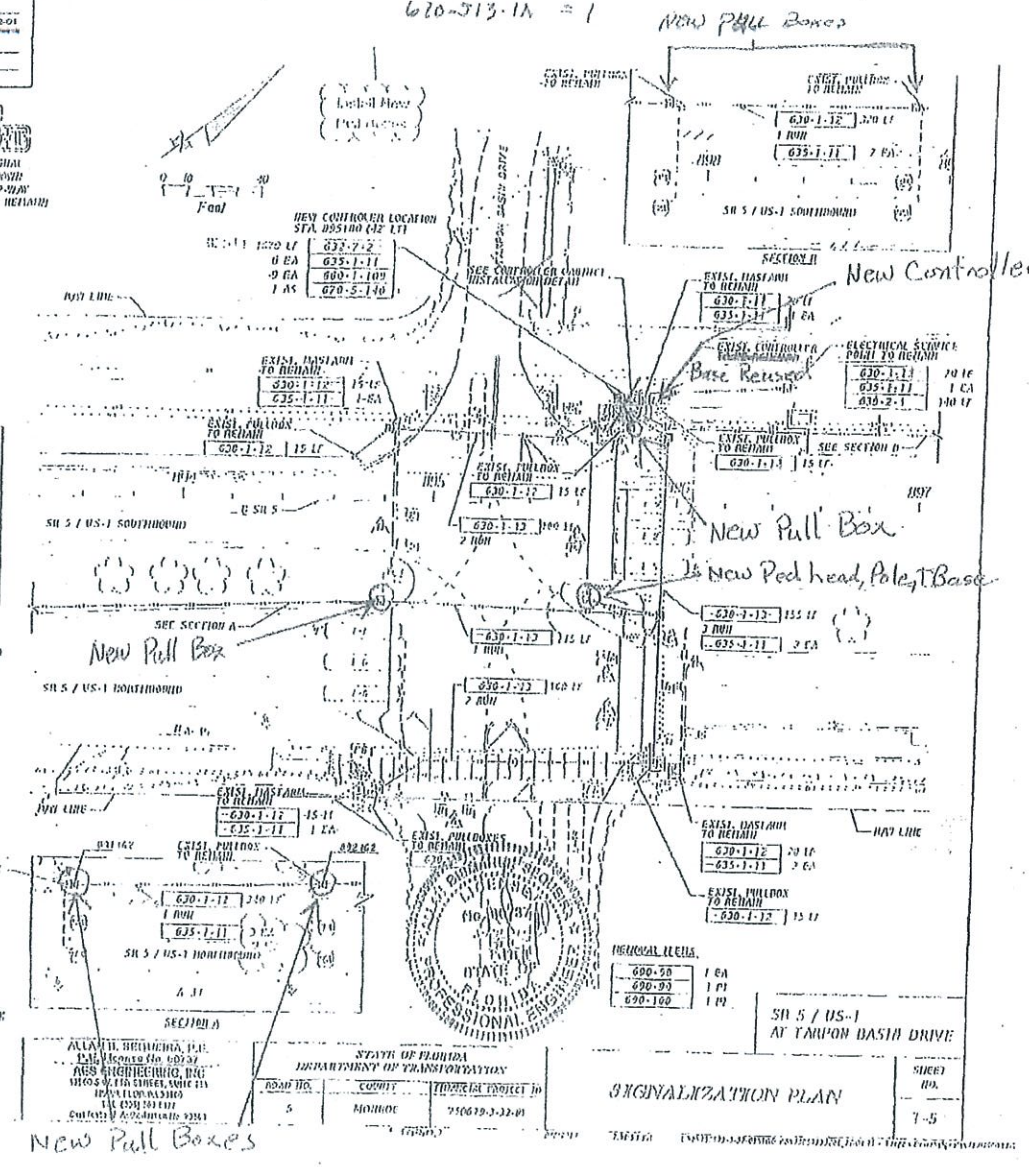
CONTROLLER TIMING								
TIMING FUNCTION								
MOVMENTS	1	2	3	4	5	6	7	8
TIMING FUNCTION: Direction	-	SB	-	WB	SBL	NB	-	EB
Initial Green	-	25	-	10	7	25	-	10
Gap	-	3	-	2.0	2.5	3.0	-	2.0
Max. Green	-	90	-	20	15	90	-	20
All Red	-	2.0	-	2.0	2.0	2	-	2.0
Recall	-	Min	-	-	-	Min	-	-
Walk	-	7	-	7	-	7	-	-
Ped/Clear	-	25	-	25	-	25	-	-

6100-23100
23100-6100 216 YELLOW FLASH
OTHERS RED

LEGEND: DENOTES 1' CONC. SIDEWALK

REVISIONS

DATE	DESCRIPTION	DATE	DESCRIPTION



ALLAN H. BERUBE, P.E.
P.E. License No. 60137
AES ENGINEERING, INC.
1605 S. 11th STREET, SUITE 11
NAPLES, FLORIDA 34102
TEL (239) 261-1117
Certificate of Authorization 9361

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
5	MONROE	930568-0-52-01

SIGNALIZATION PLAN

SHEET NO. 7-5

Signal Technology, Inc.
As-Builts
MAY 21 2015

APPENDIX E
TRIP GENERATION

EXISTING
TRIP GENERATION

PERIOD SETTING

Analysis Name :	Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m.		
Project Name :	Key largo commercial/Existing/MK	**No :**	
Date:	9/30/2015	**City:**	
State/Province:		**Zip/Postal Code:**	
Country:		**Client Name:**	
Analyst's Name:		**Edition:**	ITE-TGM 9th Edition

Land Use	Independent Variable	Size	Time Period	Method	Entry	Exit	Total
820 - Shopping Center	1000 Sq. Feet Gross Leasable Area	21.05	Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m.	Best Fit (LOG) Ln(T) = 0.67Ln(X) +3.31	101 48%	110 52%	211

TRAFFIC REDUCTIONS

Land Use	Entry Reduction	Adjusted Entry	Exit Reduction	Adjusted Exit
820 - Shopping Center	0 %	101	0 %	110

EXTERNAL TRIPS

Land Use	External Trips	Pass-by%	Pass-by Trips	Non-pass-by Trips
820 - Shopping Center	211	35 %	74	137

ITE DEVIATION DETAILS

Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m.

Landuse No deviations from ITE.

Methods No deviations from ITE.

External Trips 820 - Shopping Center
The chosen pass-by% (35) is not provided by ITE. ITE recommends 61.

SUMMARY

Total Entering	101
Total Exiting	110
Total Entering Reduction	0
Total Exiting Reduction	0
Total Entering Internal Capture Reduction	0
Total Exiting Internal Capture Reduction	0
Total Entering Pass-by Reduction	35
Total Exiting Pass-by Reduction	39
Total Entering Non-Pass-by Trips	66
Total Exiting Non-Pass-by Trips	71

PERIOD SETTING

Analysis Name :	Weekday		
Project Name :	Key largo commercial/Existing/MK	**No :**	
Date:	9/30/2015	**City:**	
State/Province:		**Zip/Postal Code:**	
Country:		**Client Name:**	
Analyst's Name:		**Edition:**	ITE-TGM 9th Edition

Land Use	Independent Variable	Size	Time Period	Method	Entry	Exit	Total
820 - Shopping Center	1000 Sq. Feet Gross Leasable Area	21.05	Weekday	Average 42.7	450 50%	449 50%	899

TRAFFIC REDUCTIONS

Land Use	Entry Reduction	Adjusted Entry	Exit Reduction	Adjusted Exit
820 - Shopping Center	0 %	450	0 %	449

EXTERNAL TRIPS

Land Use	External Trips	Pass-by%	Pass-by Trips	Non-pass-by Trips
820 - Shopping Center	899	35 %	315	584

ITE DEVIATION DETAILS

Weekday

Landuse	No deviations from ITE.
Methods	820 - Shopping Center The chosen method (Average) is not recommended by ITE. ITE recommends LOG based on the criterion.
External Trips	820 - Shopping Center ITE does not recommend a particular pass-by% for this case.

SUMMARY

Total Entering	450
Total Exiting	449
Total Entering Reduction	0
Total Exiting Reduction	0
Total Entering Internal Capture Reduction	0
Total Exiting Internal Capture Reduction	0
Total Entering Pass-by Reduction	158
Total Exiting Pass-by Reduction	157
Total Entering Non-Pass-by Trips	292
Total Exiting Non-Pass-by Trips	292

Project Information	
Project Name:	Key largo
No:	
Date:	9/30/2015
City:	
State/Province:	
Zip/Postal Code:	
Country:	
Client Name:	
Analyst's Name:	
Edition:	ITE-TGM 9th

Land Use	Size	Weekday		Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m.	
		Entry	Exit	Entry	Exit
820 - Shopping	21.05 1000 Sq.	450	449	101	110
Reduction		0	0	0	0
Internal		0	0	0	0
Pass-by		158	157	35	39
Non-pass-by		292	292	66	71
Total		450	449	101	110
Total Reduction		0	0	0	0
Total Internal		0	0	0	0
Total Pass-by		158	157	35	39
Total Non-pass-by		292	292	66	71

PROPOSED
TRIP GENERATION

PERIOD SETTING

Analysis Name :	Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m.		
Project Name :	Key largo commercial/Proposed/MK	**No :**	
Date :	9/30/2015	**City:**	
State/Province:		**Zip/Postal Code:**	
Country:		**Client Name:**	
Analyst's Name:		**Edition:**	ITE-TGM 9th Edition

Land Use	Independent Variable	Size	Time Period	Method	Entry	Exit	Total
820 - Shopping Center	1000 Sq. Feet Gross Leasable Area	15	Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m.	Best Fit (LOG) Ln(T) = 0.67Ln(X) +3.31	81 48%	87 52%	168
934 - Fast-Food Restaurant with Drive-Through Window	1000 Sq. Feet Gross Floor Area	3.11	Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m.	Average 32.65	53 52%	49 48%	102

TRAFFIC REDUCTIONS

Land Use	Entry Reduction	Adjusted Entry	Exit Reduction	Adjusted Exit
820 - Shopping Center	0 %	81	0 %	87
934 - Fast-Food Restaurant with Drive-Through Window	0 %	53	0 %	49

INTERNAL TRIPS

820 - Shopping Center | **934 - Fast-Food Restaurant with Drive-Through Window**

Exit	87	Demand Exit:	0 % (0)	Balanced: 0	Demand Entry:	0 % (0)	**Entry**	53
Entry	81	Demand Entry:	0 % (0)	Balanced: 0	Demand Exit:	0 % (0)	**Exit**	49

820 - Shopping Center

Total Trips	Internal Trips: 934 - Fast-Food Restaurant with Drive-Through Window	Internal Trips: Total	External Trips

Entry	81 (100%)	0 (0%)	0 (0%)	81 (100%)
Exit	87 (100%)	0 (0%)	0 (0%)	87 (100%)
Total	168 (100%)	0 (0%)	0 (0%)	168 (100%)

934 - Fast-Food Restaurant with Drive-Through Window

	Total Trips	Internal Trips		External Trips
		820 - Shopping Center	Total	
Entry	53 (100%)	0 (0%)	0 (0%)	53 (100%)
Exit	49 (100%)	0 (0%)	0 (0%)	49 (100%)
Total	102 (100%)	0 (0%)	0 (0%)	102 (100%)

EXTERNAL TRIPS

Land Use	External Trips	Pass-by%	Pass-by Trips	Non-pass-by Trips
820 - Shopping Center	168	35 %	59	109
934 - Fast-Food Restaurant with Drive-Through Window	102	50 %	51	51

ITE DEVIATION DETAILS

Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m.

Landuse No deviations from ITE.

Methods No deviations from ITE.

External Trips 820 - Shopping Center
The chosen pass-by% (35) is not provided by ITE. ITE recommends 68.

SUMMARY

Total Entering	134
Total Exiting	136
Total Entering Reduction	0
Total Exiting Reduction	0
Total Entering Internal Capture Reduction	0
Total Exiting Internal Capture Reduction	0
Total Entering Pass-by Reduction	54
Total Exiting Pass-by Reduction	56
Total Entering Non-Pass-by Trips	80
Total Exiting Non-Pass-by Trips	80

PERIOD SETTING

Analysis Name :	Weekday		
Project Name :	Key largo commercial/Proposed/MK	**No :**	
Date:	9/30/2015	**City:**	
State/Province:		**Zip/Postal Code:**	
Country:		**Client Name:**	
Analyst's Name:		**Edition:**	ITE-TGM 9th Edition

Land Use	Independent Variable	Size	Time Period	Method	Entry	Exit	Total
820 - Shopping Center	1000 Sq. Feet Gross Leasable Area	15	Weekday	Average 42.7	321 50%	320 50%	641
934 - Fast-Food Restaurant with Drive-Through Window	1000 Sq. Feet Gross Floor Area	3.11	Weekday	Average 496.12	772 50%	771 50%	1543

TRAFFIC REDUCTIONS

Land Use	Entry Reduction	Adjusted Entry	Exit Reduction	Adjusted Exit
820 - Shopping Center	0 %	321	0 %	320
934 - Fast-Food Restaurant with Drive-Through Window	0 %	772	0 %	771

INTERNAL TRIPS

820 - Shopping Center

Exit 320	Demand Exit:	0 % (0)	Balanced: 0	Demand Entry:	0 % (0)
Entry 321	Demand Entry:	0 % (0)	Balanced: 0	Demand Exit:	0 % (0)

934 - Fast-Food Restaurant with Drive-Through Window

Entry 772

Exit 771

820 - Shopping Center

	Total Trips	Internal Trips		External Trips
		934 - Fast-Food Restaurant with Drive-Through Window	Total	
Entry	321 (100%)	0 (0%)	0 (0%)	321 (100%)
Exit	320 (100%)	0 (0%)	0 (0%)	320 (100%)
Total	641 (100%)	0 (0%)	0 (0%)	641 (100%)

934 - Fast-Food Restaurant with Drive-Through Window

	Total Trips	Internal Trips		External Trips
		820 - Shopping Center	Total	
Entry	772 (100%)	0 (0%)	0 (0%)	772 (100%)
Exit	771 (100%)	0 (0%)	0 (0%)	771 (100%)
Total	1543 (100%)	0 (0%)	0 (0%)	1543 (100%)

EXTERNAL TRIPS

Land Use	External Trips	Pass-by%	Pass-by Trips	Non-pass-by Trips
820 - Shopping Center	641	35 %	224	417
934 - Fast-Food Restaurant with Drive-Through Window	1543	50 %	772	771

ITE DEVIATION DETAILS

Weekday

Landuse — No deviations from ITE.

Methods — 820 - Shopping Center
The chosen method (Average) is not recommended by ITE. ITE recommends LOG based on the criterion.

External Trips — 820 - Shopping Center
ITE does not recommend a particular pass-by% for this case.

934 - Fast-Food Restaurant with Drive-Through Window
ITE does not recommend a particular pass-by% for this case.

SUMMARY

Total Entering	1093
Total Exiting	1091
Total Entering Reduction	0
Total Exiting Reduction	0
Total Entering Internal Capture Reduction	0
Total Exiting Internal Capture Reduction	0
Total Entering Pass-by Reduction	498
Total Exiting Pass-by Reduction	498
Total Entering Non-Pass-by Trips	595
Total Exiting Non-Pass-by Trips	593

Project Information	
Project Name:	Key largo
No:	
Date:	9/30/2015
City:	
State/Province:	
Zip/Postal Code:	
Country:	
Client Name:	
Analyst's Name:	
Edition:	ITE-TGM 9th

Land Use	Size	Weekday		Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m.	
		Entry	Exit	Entry	Exit
820 - Shopping	15 1000 Sq. Feet	321	320	81	87
Reduction		0	0	0	0
Internal		0	0	0	0
Pass-by		112	112	28	31
Non-pass-by		209	208	53	56
934 - Fast-Food	3.11 1000 Sq. Feet	772	771	53	49
Reduction		0	0	0	0
Internal		0	0	0	0
Pass-by		386	386	26	25
Non-pass-by		386	385	27	24
Total		1093	1091	134	136
Total Reduction		0	0	0	0
Total Internal		0	0	0	0
Total Pass-by		498	498	54	56
Total Non-pass-by		595	593	80	80

APPENDIX F
TRIP DISTRIBUTION

Proposed (PM-Peak Hour)

APPENDIX G
TURNING MOVEMENT COUNT WORKSHEETS

TRAFFIC VOLUMES FOR PROPOSED PROJECT AT STUDY INTERSECTIONS

INTERSECTION:	Overseas Highway & Driveway 1
COUNT DATE:	5/6/2014
TIME PERIOD:	4:00 - 5:00
PEAK HOUR FACTOR:	0.920

"EXISTING TRAFFIC"	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Raw Turning Movements			18	0	0	0		1629	0	0	1440	26
100th Highest Hour Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
EXISTING PEAK SEASON			**18**	**0**	**0**	**0**		**1629**	**0**	**0**	**1440**	**26**

"BACKGROUND TRAFFIC"	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Years To Buildout	1	1	1	1	1	1	1	1	1	1	1	1
Yearly Growth Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
BACKGROUND TRAFFIC GROWTH			0	0	0	0		33	0	0	29	1
NON-PROJECT TRAFFIC			**18**	**0**	**0**	**0**		**1662**	**0**	**0**	**1469**	**27**

"PROJECT TRAFFIC"

LAND USE	TRIP TYPE	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	TOTAL
Proposed Project	Pass - By	0	0	2		0	0	0	-1	0	0	-2	2	1
	New	0	0	1		0	0	0	5	0	0	3	4	13
TOTAL PROJECT TRAFFIC				**3**	**0**	**0**	**0**		**4**	**0**	**0**	**1**	**6**	**14**
TOTAL TRAFFIC				**21**	**0**	**0**	**0**		**1666**	**0**	**0**	**1470**	**33**	

TRAFFIC VOLUMES FOR PROPOSED PROJECT AT STUDY INTERSECTIONS

INTERSECTION: Overseas Highway & Driveway 2
COUNT DATE: 5/6/2014
TIME PERIOD: 4:00 - 5:00
PEAK HOUR FACTOR: 0.920

"EXISTING TRAFFIC"	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Raw Turning Movements	53	0	39	0	0	0	53	1576	0	0	1437	22
100th Highest Hour Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
EXISTING PEAK SEASON	**53**	**0**	**39**	**0**	**0**	**0**	**53**	**1576**	**0**	**0**	**1437**	**22**

"BACKGROUND TRAFFIC"	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Years To Buildout	1	1	1	1	1	1	1	1	1	1	1	1
Yearly Growth Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
BACKGROUND TRAFFIC GROWTH	1	0	1	0	0	0	1	32	0	0	29	0
NON-PROJECT TRAFFIC	**54**	**0**	**40**	**0**	**0**	**0**	**54**	**1608**	**0**	**0**	**1466**	**22**

"PROJECT TRAFFIC"

LAND USE	TRIP TYPE	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	TOTAL
Proposed Project	Pass - By	9	0	6	0	0	0	10	-10	0	0	-7	7	**15**
	New	5	0	3	0	0	0	7	0	0	0	1	3	**19**
TOTAL PROJECT TRAFFIC		**14**	**0**	**9**	**0**	**0**	**0**	**17**	**-10**	**0**	**0**	**-6**	**10**	**34**
TOTAL TRAFFIC		**68**	**0**	**49**	**0**	**0**	**0**	**71**	**1598**	**0**	**0**	**1460**	**32**	

TRAFFIC VOLUMES FOR PROPOSED PROJECT AT STUDY INTERSECTIONS

INTERSECTION: Overseas Highway (US1) & Tarpon Basin Dr
COUNT DATE: 3/25/2016
TIME PERIOD: 4:00 - 5:00
PEAK HOUR FACTOR: 0.960

"EXISTING TRAFFIC"	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Raw Turning Movements	24	11	9	180	7	93	5	1551	204	66	1210	24
100th Highest Hour Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
EXISTING PEAK SEASON	**24**	**11**	**9**	**180**	**7**	**93**	**5**	**1551**	**204**	**66**	**1210**	**24**

"BACKGROUND TRAFFIC"	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Years To Buildout	1	1	1	1	1	1	1	1	1	1	1	1
Yearly Growth Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
BACKGROUND TRAFFIC GROWTH	0	0	0	4	0	2	0	31	4	1	24	0
NON-PROJECT TRAFFIC	**24**	**11**	**9**	**184**	**7**	**95**	**5**	**1582**	**208**	**67**	**1234**	**24**

"PROJECT TRAFFIC"

LAND USE	TRIP TYPE	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	TOTAL
Proposed Project	Pass - By	0	0	0	0	0	0	0	-1	0	0	0	0	-1
	New	0	0	0	0	0	0	0	5	0	0	7	0	12
TOTAL PROJECT TRAFFIC		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**0**	**7**	**0**	**11**
TOTAL TRAFFIC		**24**	**11**	**9**	**184**	**7**	**95**	**5**	**1586**	**208**	**67**	**1241**	**24**	

TRAFFIC VOLUMES FOR PROPOSED PROJECT AT STUDY INTERSECTIONS

INTERSECTION: Overseas Highway (US1) & Atlantic Ave
COUNT DATE: 3/25/2016
TIME PERIOD: 4:00 - 5:00
PEAK HOUR FACTOR: 0.960

"EXISTING TRAFFIC"	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Raw Turning Movements	50	12	40	185	11	136	36	1449	65	110	1077	22
100th Highest Hour Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
EXISTING PEAK SEASON	**50**	**12**	**40**	**185**	**11**	**136**	**36**	**1449**	**65**	**110**	**1077**	**22**

"BACKGROUND TRAFFIC"	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Years To Buildout	1	1	1	1	1	1	1	1	1	1	1	1
Yearly Growth Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
BACKGROUND TRAFFIC GROWTH	1	0	1	4	0	3	1	29	1	2	22	0
NON-PROJECT TRAFFIC	**51**	**12**	**41**	**189**	**11**	**139**	**37**	**1478**	**66**	**112**	**1099**	**22**

"PROJECT TRAFFIC"

LAND USE	TRIP TYPE	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	TOTAL
Proposed Project	Pass - By	0	0	0	0	0	0	0	0	0	0	-1	0	-1
	New	0	0	0	0	0	0	0	7	0	0	4	0	11
TOTAL PROJECT TRAFFIC		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**7**	**0**	**0**	**0**	**0**	**10**
TOTAL TRAFFIC		**51**	**12**	**41**	**189**	**11**	**139**	**37**	**1485**	**66**	**112**	**1099**	**22**	

APPENDIX H
EXISTING CONDITIONS INTERSECTION ANALYSIS

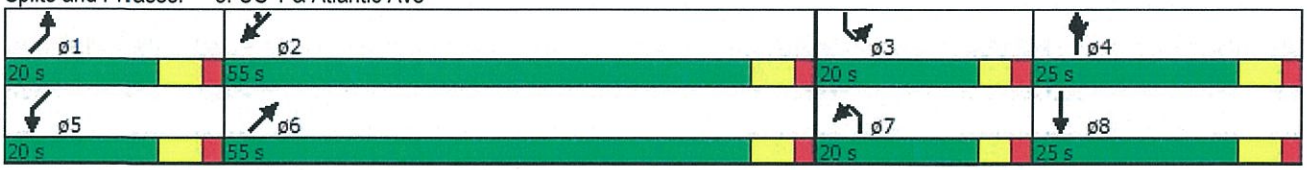
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	185	11	136	50	12	40	36	1449	65	110	1077	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	302		0	200		750
Storage Lanes	1		1	1		0	1		0	1		1
Taper Length (ft)	25			25			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor				0.96	0.97		0.99	1.00		1.00		
Frt			0.850		0.883			0.994				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1601	0	1770	3515	0	1770	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1863	1583	1690	1601	0	1752	3515	0	1768	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			142		42			5				127
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		580			441			647			983	
Travel Time (s)		13.2			10.0			14.7			22.3	
Confl. Peds. (#/hr)				19		12	17		2	2		17
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	193	11	142	52	12	42	38	1509	68	115	1122	23
Shared Lane Traffic (%)												
Lane Group Flow (vph)	193	11	142	52	54	0	38	1577	0	115	1122	23
Turn Type	Prot	NA	Prot	Prot	NA		Prot	NA		Prot	NA	Prot
Protected Phases	7	4	4	3	8		1	6		5	2	2
Permitted Phases												
Detector Phase	7	4	4	3	8		1	6		5	2	2
Switch Phase												
Minimum Initial (s)	4.0	8.0	8.0	4.0	8.0		4.0	7.0		4.0	7.0	7.0
Minimum Split (s)	20.0	25.0	25.0	20.0	25.0		20.0	55.0		20.0	55.0	55.0
Total Split (s)	20.0	25.0	25.0	20.0	25.0		20.0	55.0		20.0	55.0	55.0
Total Split (%)	16.7%	20.8%	20.8%	16.7%	20.8%		16.7%	45.8%		16.7%	45.8%	45.8%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0		4.0	4.0		4.0	4.0	4.0
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)	5.0	6.0	6.0	5.0	6.0		6.0	6.0		6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	Min		None	Min	Min
Act Effct Green (s)	14.3	13.5	13.5	8.5	8.4		7.7	49.5		11.4	58.5	58.5
Actuated g/C Ratio	0.14	0.13	0.13	0.08	0.08		0.07	0.48		0.11	0.57	0.57

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
v/c Ratio	0.79	0.05	0.43	0.36	0.32		0.29	0.94		0.59	0.56	0.02
Control Delay	67.7	43.1	12.0	53.8	24.8		52.9	39.1		57.9	18.4	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	67.7	43.1	12.0	53.8	24.8		52.9	39.1		57.9	18.4	0.0
LOS	E	D	B	D	C		D	D		E	B	A
Approach Delay		44.1			39.1			39.5			21.7	
Approach LOS		D			D			D			C	
Queue Length 50th (ft)	130	7	0	35	8		25	544		76	286	0
Queue Length 95th (ft)	#254	25	59	74	48		59	#764		138	389	0
Internal Link Dist (ft)		500			361			567			903	
Turn Bay Length (ft)							302			200		750
Base Capacity (vph)	259	345	409	259	331		241	1682		241	1998	949
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	0.75	0.03	0.35	0.20	0.16		0.16	0.94		0.48	0.56	0.02

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 103.5
Natural Cycle: 120
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.94
Intersection Signal Delay: 33.2 Intersection LOS: C
Intersection Capacity Utilization 80.1% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: US 1 & Atlantic Ave



Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	24	11	9	180	7	93	5	1551	204	66	1210	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	100		400	150		170
Storage Lanes	0		0	0		1	1		1	1		1
Taper Length (ft)	25			25			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor		1.00			1.00	0.99	1.00		0.98	1.00		0.98
Frt		0.973				0.850			0.850			0.850
Flt Protected		0.973			0.954		0.950			0.950		
Satd. Flow (prot)	0	1759	0	0	1777	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.798			0.765		0.221			0.950		
Satd. Flow (perm)	0	1441	0	0	1422	1561	411	3539	1559	1763	3539	1548
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9				97			139			104
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		209			196			1960			1017	
Travel Time (s)		4.8			4.5			44.5			23.1	
Confl. Peds. (#/hr)	1		1	1		1	5		12	12		5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	25	11	9	188	7	97	5	1616	212	69	1260	25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	45	0	0	195	97	5	1616	212	69	1260	25
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Free	Prot	NA	Free
Protected Phases		8			4			6		5	2	
Permitted Phases	8			4		4	6		Free			Free
Detector Phase	8	8		4	4	4	6	6		5	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0	10.0	25.0	25.0		7.0	25.0	
Minimum Split (s)	20.0	20.0		20.0	20.0	20.0	37.0	37.0		12.5	37.0	
Total Split (s)	20.0	20.0		20.0	20.0	20.0	75.0	75.0		15.0	90.0	
Total Split (%)	18.2%	18.2%		18.2%	18.2%	18.2%	68.2%	68.2%		13.6%	81.8%	
Yellow Time (s)	2.0	2.0		2.0	2.0	2.0	3.0	3.0		2.5	3.0	
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	
Total Lost Time (s)		4.0			4.0	4.0	5.0	5.0		4.5	5.0	
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?							Yes	Yes		Yes		
Recall Mode	None	None		None	None	None	Min	Min		None	Min	
Act Effct Green (s)		16.7			16.7	16.7	53.0	53.0	89.4	9.1	63.1	89.4
Actuated g/C Ratio		0.19			0.19	0.19	0.59	0.59	1.00	0.10	0.71	1.00

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
v/c Ratio		0.16			0.74	0.26	0.02	0.77	0.14	0.38	0.50	0.02
Control Delay		33.9			58.1	10.9	8.0	16.7	0.2	50.2	6.1	0.0
Queue Delay		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		33.9			58.1	10.9	8.0	16.7	0.2	50.2	6.1	0.0
LOS		C			E	B	A	B	A	D	A	A
Approach Delay		33.9			42.5			14.7			8.2	
Approach LOS		C			D			B			A	
Queue Length 50th (ft)		18			113	0	1	353	0	39	136	0
Queue Length 95th (ft)		57			#279	48	6	452	0	93	167	0
Internal Link Dist (ft)		129			116			1880			937	
Turn Bay Length (ft)							100		400	150		170
Base Capacity (vph)		281			270	375	319	2751	1559	221	3179	1548
Starvation Cap Reductn		0			0	0	0	0	0	0	0	0
Spillback Cap Reductn		0			0	0	0	0	0	0	0	0
Storage Cap Reductn		0			0	0	0	0	0	0	0	0
Reduced v/c Ratio		0.16			0.72	0.26	0.02	0.59	0.14	0.31	0.40	0.02

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 89.4
Natural Cycle: 75
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.77
Intersection Signal Delay: 14.8 Intersection LOS: B
Intersection Capacity Utilization 78.9% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 13: US 1 & Tarpon Basin Dr

APPENDIX J
FUTURE CONDITIONS INTERSECTION ANALYSIS

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	189	11	139	51	12	41	37	1485	66	112	1099	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	302		0	200		750
Storage Lanes	1		1	1		0	1		0	1		1
Taper Length (ft)	25			25			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor				0.96	0.97		0.99	1.00		1.00		
Frt			0.850		0.883			0.994				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1601	0	1770	3515	0	1770	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1863	1583	1690	1601	0	1753	3515	0	1768	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			145		43			4				127
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		580			441			647			983	
Travel Time (s)		13.2			10.0			14.7			22.3	
Confl. Peds. (#/hr)				19		12	17		2	2		17
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	197	11	145	53	12	43	39	1547	69	117	1145	23
Shared Lane Traffic (%)												
Lane Group Flow (vph)	197	11	145	53	55	0	39	1616	0	117	1145	23
Turn Type	Prot	NA	Prot	Prot	NA		Prot	NA		Prot	NA	Prot
Protected Phases	7	4	4	3	8		1	6		5	2	2
Permitted Phases												
Detector Phase	7	4	4	3	8		1	6		5	2	2
Switch Phase												
Minimum Initial (s)	4.0	8.0	8.0	4.0	8.0		4.0	7.0		4.0	7.0	7.0
Minimum Split (s)	20.0	25.0	25.0	20.0	25.0		20.0	55.0		20.0	55.0	55.0
Total Split (s)	20.0	25.0	25.0	20.0	25.0		20.0	55.0		20.0	55.0	55.0
Total Split (%)	16.7%	20.8%	20.8%	16.7%	20.8%		16.7%	45.8%		16.7%	45.8%	45.8%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0		4.0	4.0		4.0	4.0	4.0
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)	5.0	6.0	6.0	5.0	6.0		6.0	6.0		6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	Min		None	Min	Min
Act Effct Green (s)	14.5	13.5	13.5	8.5	8.4		7.8	49.4		11.5	58.4	58.4
Actuated g/C Ratio	0.14	0.13	0.13	0.08	0.08		0.08	0.48		0.11	0.56	0.56

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
v/c Ratio	0.80	0.05	0.44	0.37	0.33		0.29	0.96		0.60	0.57	0.02
Control Delay	68.7	43.2	12.0	53.9	24.6		53.0	43.2		58.2	18.7	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	68.7	43.2	12.0	53.9	24.6		53.0	43.2		58.2	18.7	0.0
LOS	E	D	B	D	C		D	D		E	B	A
Approach Delay		44.6			39.0			43.4			22.0	
Approach LOS		D			D			D			C	
Queue Length 50th (ft)	133	7	0	35	8		26	~579		77	296	0
Queue Length 95th (ft)	#262	25	59	75	48		61	#797		139	401	0
Internal Link Dist (ft)		500			361			567			903	
Turn Bay Length (ft)							302			200		750
Base Capacity (vph)	258	344	410	258	330		241	1678		241	1994	947
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	0.76	0.03	0.35	0.21	0.17		0.16	0.96		0.49	0.57	0.02

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 103.7
Natural Cycle: 120
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.96
Intersection Signal Delay: 35.3 Intersection LOS: D
Intersection Capacity Utilization 81.5% ICU Level of Service D
Analysis Period (min) 15

~ 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: 3: US 1 & Atlantic Ave

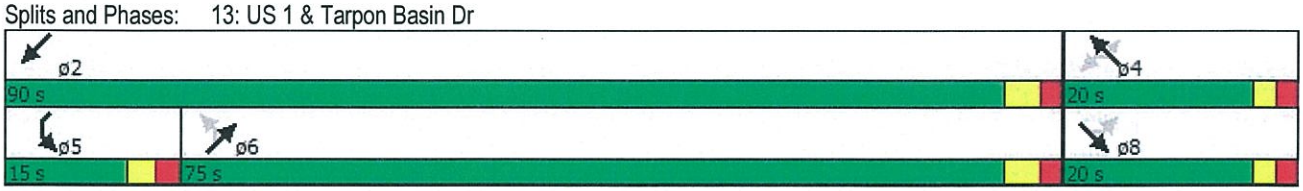
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	24	11	9	184	7	95	5	1586	208	67	1241	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	100		400	150		170
Storage Lanes	0		0	0		1	1		1	1		1
Taper Length (ft)	25			25			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor		1.00			1.00	0.99	1.00		0.98	1.00		0.98
Frt		0.973				0.850			0.850			0.850
Flt Protected		0.973			0.954		0.950			0.950		
Satd. Flow (prot)	0	1759	0	0	1777	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.781			0.764		0.214			0.950		
Satd. Flow (perm)	0	1411	0	0	1421	1561	398	3539	1559	1763	3539	1548
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9				99			139			104
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		209			196			1960			1017	
Travel Time (s)		4.8			4.5			44.5			23.1	
Confl. Peds. (#/hr)	1		1	1		1	5		12	12		5
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	25	11	9	192	7	99	5	1652	217	70	1293	25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	45	0	0	199	99	5	1652	217	70	1293	25
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Free	Prot	NA	Free
Protected Phases		8			4			6		5	2	
Permitted Phases	8			4		4	6		Free			Free
Detector Phase	8	8		4	4	4	6	6		5	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0	10.0	25.0	25.0		7.0	25.0	
Minimum Split (s)	20.0	20.0		20.0	20.0	20.0	37.0	37.0		12.5	37.0	
Total Split (s)	20.0	20.0		20.0	20.0	20.0	75.0	75.0		15.0	90.0	
Total Split (%)	18.2%	18.2%		18.2%	18.2%	18.2%	68.2%	68.2%		13.6%	81.8%	
Yellow Time (s)	2.0	2.0		2.0	2.0	2.0	3.0	3.0		2.5	3.0	
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	
Total Lost Time (s)		4.0			4.0	4.0	5.0	5.0		4.5	5.0	
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?							Yes	Yes		Yes		
Recall Mode	None	None		None	None	None	Min	Min		None	Min	
Act Effct Green (s)		17.0			17.0	17.0	54.8	54.8	91.5	9.1	65.0	91.5
Actuated g/C Ratio		0.19			0.19	0.19	0.60	0.60	1.00	0.10	0.71	1.00

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
v/c Ratio		0.17			0.76	0.27	0.02	0.78	0.14	0.40	0.51	0.02
Control Delay		34.7			60.8	11.0	7.8	16.9	0.2	51.6	6.2	0.0
Queue Delay		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		34.7			60.8	11.0	7.8	16.9	0.2	51.6	6.2	0.0
LOS		C			E	B	A	B	A	D	A	A
Approach Delay		34.7			44.2			14.9			8.4	
Approach LOS		C			D			B			A	
Queue Length 50th (ft)		19			120	0	1	370	0	41	141	0
Queue Length 95th (ft)		57			#288	48	6	471	0	94	174	0
Internal Link Dist (ft)		129			116			1880			937	
Turn Bay Length (ft)							100		400	150		170
Base Capacity (vph)		269			263	370	304	2704	1559	215	3131	1548
Starvation Cap Reductn		0			0	0	0	0	0	0	0	0
Spillback Cap Reductn		0			0	0	0	0	0	0	0	0
Storage Cap Reductn		0			0	0	0	0	0	0	0	0
Reduced v/c Ratio		0.17			0.76	0.27	0.02	0.61	0.14	0.33	0.41	0.02

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 91.5
Natural Cycle: 75
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.78
Intersection Signal Delay: 15.1 Intersection LOS: B
Intersection Capacity Utilization 80.1% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 13: US 1 & Tarpon Basin Dr



APPENDIX K
HCS DRIVEWAY FUTURE CONDITION ANALYSIS

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	MK	Intersection	Driveway 1 & Overseas Highway
Agency/Co.	CPH Engineering	Jurisdiction	
Date Performed	8/13/2015	Analysis Year	
Analysis Time Period			

Project Description	
East/West Street:	North/South Street: Driveway 1
Intersection Orientation: North-South	Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		1666			1470	33
Peak-Hour Factor, PHF	1.00	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	0	1810	0	0	1597	35
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Raised curb					
RT Channelized			0			0
Lanes	0	2	0	0	2	1
Configuration		T			T	R
Upstream Signal		0			0	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)			21			
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	0	0	22	0	0	0
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	1	0	0	0
Configuration			R			

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration								R
v (veh/h)								22
C (m) (veh/h)								389
v/c								0.06
95% queue length								0.18
Control Delay (s/veh)								14.8
LOS								B
Approach Delay (s/veh)	--	--				14.8		
Approach LOS	--	--				B		

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	MK
Agency/Co.	CPH Engineering
Date Performed	8/13/2015
Analysis Time Period	

Site Information

Intersection	Driveway 2 & Overseas Highway
Jurisdiction	
Analysis Year	

Project Description

East/West Street:

North/South Street: Driveway 2

Intersection Orientation: North-South

Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	71	1598			1460	32
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	77	1736	0	0	1586	34
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Raised curb					
RT Channelized			0			0
Lanes	1	2	0	0	2	1
Configuration	L	T			T	R
Upstream Signal		0			0	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	68		49			
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	73	0	53	0	0	0
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	1	0	1	0	0	0
Configuration	L		R			

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L					L		R
v (veh/h)	77					73		53
C (m) (veh/h)	407					152		392
v/c	0.19					0.48		0.14
95% queue length	0.69					2.26		0.46
Control Delay (s/veh)	15.9					48.8		15.6
LOS	C					E		C
Approach Delay (s/veh)	--	--				34.9		
Approach LOS	--	--				D		

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APPENDIX J
MONROE COUNTY LEVEL OF SERVICE AND RESERVE CAPACITY TABLE

2013 LEVEL OF SERVICE AND RESERVE CAPACITY

SEGMENT	LENGTH (miles)	FACILITY TYPE	POSTED SPEED Limits (mph)	POSTED SPEED Average (mph)	ADJ. FOR SIGNAL (mph)	ADJUSTED LOS C CRITERIA (mph)	MEDIAN TRAVEL SPEED (mph)	LOS	RESERVE SPEED (mph)	2013 MAXIMUM RESERVE VOLUME (trips)	2013 5% ALLOCATION BELOW LOS C (trips)	2012 MAXIMUM RESERVE VOLUME (trips)	2012 5% ALLOCATION BELOW LOS C (trips)
1 Stock Island (4.0 - 5.0)	1.1	4-L/D	35/45/55	42.2	N/A	22.0	**33.1**	**B**	**11.1**	**2,022**	**N/A**	1,822	N/A
2 Boca Chica (5.0- 9.0)	3.9	4-L/D	45/55	54.6	N/A	50.1	**57.1**	**A**	**7.0**	**4,521**	**N/A**	4,779	N/A
3 Big Coppitt (9.0- 10.5)	1.5	2-L/U	45/55	46.5	N/A	42.0	**46.5**	**B**	**4.5**	**1,118**	**N/A**	373	N/A
4 Saddlebunch (10.5- 16.5)	5.8	2-L/U	45/55	53.6	N/A	49.1	**51.2**	**C**	**2.1**	**2,017**	**N/A**	2,881	N/A
5 Sugarloaf (16.5- 20.5)	3.9	2-L/U	45	45.0	4.4	36.1	**47.4**	**A**	**11.3**	**7,298**	**N/A**	1,938	N/A
6 Cudjoe (20.5- 23.0)	2.5	2-L/U	45	45.0	N/A	40.5	**48.0**	**A**	**7.5**	**3,105**	**N/A**	1,822	N/A
7 Summerland (23.0- 25.0)	2.2	2-L/U	45	45.0	N/A	40.5	**44.9**	**B**	**4.4**	**1,603**	**N/A**	1,530	N/A
8 Ramrod (25.0- 27.5)	2.3	2-L/U	45	45.0	N/A	40.5	**45.8**	**B**	**5.3**	**2,019**	**N/A**	2,019	N/A
9 Torch (27.5- 29.5)	2.1	2-L/U	45	45.0	N/A	40.5	**47.9**	**A**	**7.4**	**2,573**	**N/A**	2,400	N/A
10 Big Pine (29.5- 33.0)	3.4	2-L/U	45	45.0	3.6	36.9	**40.1**	**B**	**3.2**	**1,802**	**N/A**	1,182	N/A
11 Bahia Honda (33.0- 40.0)	7.0	2-L/U (70%) 4-L/D (30%)	45/50/55	52.4	N/A	47.9	**53.7**	**B**	**5.8**	**6,723**	**N/A**	6,839	N/A
12 7-Mile Bridge (40.0- 47.0)	6.8	2-L/U	45/50/55	54.5	N/A	50.0	**54.9**	**B**	**4.9**	**5,518**	**N/A**	3,378	N/A
13 Marathon (47.0- 54.0)	7.3	2-L/U (13%) 4-L/D (87%)	35/45	42.1	N/A	22.0	**35.8**	**A**	**13.8**	**16,683**	**N/A**	17,771	N/A
14 Grassy (54.0- 60.5)	6.4	2-L/U	45/55	54.5	1.5	48.5	**51.0**	**C**	**2.5**	**2,650**	**N/A**	2,756	N/A
15 Duck (60.5- 63.0)	2.7	2-L/U	55	55.0	N/A	50.5	**47.8**	**D**	**-2.7**	**(1,207)**	**4**	1,118	N/A
16 Long (63.0- 73.0)	9.9	2-L/U	45/55	53.4	N/A	48.9	**51.2**	**C**	**2.3**	**3,771**	**N/A**	5,902	N/A
17 L Matecumbe (73.0- 77.5)	4.5	2-L/U	55	55.0	N/A	50.5	**49.9**	**D**	**-0.6**	**(447)**	**4**	(969)	950
18 Tea Table (77.5- 79.5)	2.2	2-L/U	55	55.0	N/A	50.5	**47.4**	**E**	**-3.1**	**(1,129)**	**4**	(1,785)	0
19 U Matecumbe (79.5- 84.0)	4.1	2-L/U	45/55	46.4	N/A	41.9	**40.2**	**D**	**-1.7**	**(1,154)**	**3**	136	N/A
20 Windley (84.0- 86.0)	1.9	2-L/U	45	45.0	N/A	40.5	**41.2**	**C**	**0.7**	**220**	**N/A**	252	N/A
21 Plantation (86.0- 91.5)	5.8	2-L/U	45	45.0	3.6	36.9	**41.3**	**B**	**4.4**	**4,226**	**N/A**	4,898	N/A
22 Tavernier (91.5- 99.5)	8.0	4-L/D	45/50	47.2	2.0	40.7	**46.9**	**A**	**6.2**	**8,214**	**N/A**	10,863	N/A
23 Key Largo (99.5- 106.0)	6.8	4-L/D	45	45.0	3.2	37.3	**43.9**	**A**	**6.6**	**7,432**	**N/A**	11,936	N/A
24 Cross (106.0- 112.5)	6.2	2-L/U	45/55	51.5	N/A	47.0	**52.9**	**B**	**5.9**	**6,058**	**N/A**	8,727	N/A
Overall	108.3					45.0	45.9	**C**	**0.9**	16,692			

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