1902104

Directive Number 325-04
Route 15 and Houses Corner Road
Township of Sparta
County of Sussex

NEMA PHASE	PHASE	WITHOUT PEDESTRIAN ACTUATION	ROUTE 15				HOUSES CORNER ROAD		HOUSES CORNER ROAD					
	DIRECTION		NORTHBOUND	NORTHBOUND	SOUTHBOUND	SOUTHBOUND	EASTBOUND	EASTBOUND	WESTBOUND	WESTBOUND				
			1,2	3	5,6	4,7	11,12	13	8,9	10	TP1 SECONDS	TP2 SECONDS	TP3 SECONDS	TP4 SECONDS
	A	ROUTE 15 R.O.W.												
		CHANGE	G	G	G	G	R	R	R	R	130-105	130-105	70-53	30
		CLEARANCE.	Y	Y	Y	Y	R	R	R	R	5	5	5	5
			R	R	R	R	R	R	R	R	2	2	2	2
	B	HOUSES CORNER ROAD R.O.W.												
		CHANGE	R	R	R	R	G	G	G	G	7-32	7-32	7-24	7-24
		CLEARANCE	R	R	R	R	Y	Y	Y	Y	4	4	4	4
			R	R	R	R	R	R	R	R	2	2	2	2
		MANUAL SWITCH EMERGENCY FLASHING OPERATION	FY	FY	FY	FY	FR	FR	FR	FR				
		INITIALIZATION FROM POWER INTERRUPTION												
		TO STOP-AND-GO OPERATION	FY	FY	FY	FY	FR	FR	FR	FR	7			
		CYCLE LENGTH (SECONDS)									150	150	90	50-67
		OFFSET (SECONDS)									80	80	49	NA

TIMING PATTERN	TIME OF DAY (MILITARY HOURS)	DAY OF WEEK
TP1	06:00-09:00 14:00-22:00	M-T-W-T-F Sunday
TP2 PM SAT	15:00-20:00 13:00-23:00 08:00-18:00 10:00-14:00	M-T-W-T Friday Saturday Sunday
TP3	09:00-15:00 20:00-23:00 09:00-13:00 06:00-08:00 18:00-23:00 06:00-10:00 22:00-23:00	M-T-W-T M-T-W-T Friday Saturday Saturday Sunday Sunday
TP4	23:00-06:00	M-T-W-T-F-S-S

NOTES:

1. The controller is to rest in the Route 15 (Phase "A") right-of-way.

2. The offset is to be measured from the beginning of yellow to Route 15 traffic at Wilson Drive-White Lake Road to the beginning of yellow to Route 15 traffic at this intersection.

3. Actuation of the pedestrian push button detector shall guarantee a minimum green time of fifteen(15) seconds to Houses Corner Road (Phase "B") traffic.

4. The memory mode function is to be retained in the "OFF" position (presence), and the passage time interval established at 2.0 seconds for Phase "B" traffic.

5. The manual cord feature is to be disconnected.

Directive No. 027 – 10

Route 15 and White Lake Road / Wilson Drive
Sparta Twp., Sussex Co.

PM & SAT

90 – 120 SECOND CYCLE

Phase	Signal Indications								Time (Seconds)		
	1 – 3	4 – 6	7, 8	9	10, 11	12	13 – 16	17, 18	I	II	III
NORMAL OPERATION											
A) Route 15 ROW	G	G	R	R	R	R	W	DW	36-27	66-59	36-27
Pedestrian Clearance	G	G	R	R	R	R	FDW	DW	24	24	24
Change	Y	Y	R	R	R	R	DW	DW	5	5	5
Clearance	R	R	R	R	R	R	DW	DW	2	2	2
B) White Lake Rd. / Wilson Dr. Left Turns	R	R	<G-/R	R	<G-/R	R	DW	DW	4-7	4-7	4-7
Change	R	R	<Y-/R	R	<Y-/R	R	DW	DW	5	5	5
C) White Lake Rd. / Wilson Dr. ROW	R	R	G	G	G	G	DW	DW	7-13	7-11	7-13
Change	R	R	Y	Y	Y	Y	DW	DW	3	3	3
Clearance	R	R	R	R	R	R	DW	DW	4	4	4
Emergency Flash	Y	Y	R	R	R	R	DARK	DARK	-	-	-
WITH PEDESTRIAN ACTUATION											
A) Route 15 ROW	G	G	R	R	R	R	W	DW	20-17	50-47	20-17
Pedestrian Clearance	G	G	R	R	R	R	FDW	DW	24	24	24
Change	Y	Y	R	R	R	R	DW	DW	5	5	5
Clearance	R	R	R	R	R	R	DW	DW	2	2	2
B) White Lake Rd. / Wilson Dr. Left Turns	R	R	<G-/R	R	<G-/R	R	DW	DW	4-7	4-7	4-7
Change	R	R	<Y-/R	R	<Y-/R	R	DW	DW	5	5	5
C) White Lake Rd. / Wilson Dr. ROW	R	R	G	G	G	G	DW	W	7	7	7
Pedestrian Clearance	R	R	G	G	G	G	DW	FDW	16	16	16
Change	R	R	Y	Y	Y	Y	DW	DW	3	3	3
Clearance	R	R	R	R	R	R	DW	DW	4	4	4
Emergency Flash	Y	Y	R	R	R	R	DARK	DARK	-	-	-

NOTES:

1. Vehicle memory shall be off.
2. Vehicle interval extension shall be 2 seconds.
3. Manual control shall be disconnected.
4. Recall shall be off.
5. Signal shall rest in Phase A / Walk.
6. Phase B shall always be followed by Phase C.
7. Phase B shall be skipped if not called, time reverting to Phase A.
8. Phase C shall be skipped if not called, time reverting to Phase A.
9. White Lake Road and Wilson Drive left-turn slots are to be wired separately but concurrently timed if actuation occurs in both slots. Each slot shall have the capability of terminating or extending independently of the other, thereby reverting the timing to the non-conflicting through movements.
10. Cycle Length and Hours of Operation:

Timing I (90-Second Cycle)	-	6:00 A.M. – 9:00 A.M., Monday – Friday
Timing II (120-Second Cycle)	-	3:00 P.M. – 8:00 P.M., Monday – Thursday PM
		1:00 P.M. – 11:00 P.M., Friday
		8:00 A.M. – 6:00 P.M., Saturday PM
		10:00 A.M. – 10:00 P.M., Sunday
Timing III (90-Second Cycle)	-	All Other Times

1902103d

Directive No. 18 - 05

Route 15 and Route 94 -
Limecrest Road (CR 623)
Lafayette Twp., Sussex Co.

Phase		Signal Faces 1-6	7-11	12,13	I	II	III
	(No Pedestrian Actuation)						
1	Routes 15/94 N/B	G	R	DW	101-71	71-41	41
	Change	Y	R	DW	4*	4*	4*
	Clearance	R	R	DW	2	2	2
2	Route 94 S/B – CR 623 (Limecrest Road)	R	G	DW	7-37	7-37	7-37
	Change	R	Y	DW	4	4	4
	Clearance	R	R	DW	2	2	2
	(With Pedestrian Actuation)						
1	Routes 15/94 N/B	G	R	DW	89-71	59-41	41
	Change	Y	R	DW	4*	4*	4*
	Clearance	R	R	DW	2	2	2
2	Route 94 S/B – CR 623 (Limecrest Road)	R	G	W	7	7	7
	Pedestrian Clearance	R	G	FDW	12	12	12
	Vehicle Extension	R	G	DW	0-18	0-18	0-18
	Change	R	Y	DW	4	4	4
	Clearance	R	R	DW	2	2	2
	Emergency Flash	Y	R	DARK	-	-	-

*Offsets are 0 seconds measured from the beginning of yellow to Route 15 traffic at this intersection.

The vehicular memory is to be disconnected and the extension set at 2.0 seconds.

Hours of Operation and Offsets:

Timing I (120-Second Cycle)

6:00 A.M. – 9:00 A.M. (Monday – Friday)
3:00 P.M. – 8:00 P.M. (Monday – Thursday)
1:00 P.M. – 11:00 P.M. (Friday)
8:00 A.M. – 6:00 P.M. (Saturday)
10:00 A.M. – 10:00 P.M. (Sunday)

Timing III (Variable)

11:00 P.M. – 6:00 A.M.

Timing II (90-Second Cycle)

All Other Times

The manual control is to be removed.

1922101p

Route 15 & Lafayette Ave.-
Meadows Rd. (C.R. 659)
Lafayette Township
Sussex County
Directive No. 224-12

SIGNAL INDICATIONS

PHASE		1-4	5-9	10,11	12-15	120 Sec.Cycle TIME I	90 Sec.Cycle TIME II	Variable TIME III
A.	Route 15	G	R	DW	W	90-78	60-52	29
	Pedestrian Clearance	G	R	DW	FDW	11	11	11
	Change	Y	R	DW	DW	4*	4*	4
	Clearance	R	R	DW	DW	2	2	2
B.	Lafayette Ave.-Meadows Rd.	R	G	DW	DW	7-19	7-15	7-12
	Change	R	Y	DW	DW	4	4	4
	Clearance	R	R	DW	DW	2	2	2
	WITH PEDESTRIAN ACTUATION							
A.	Route 15	G	R	DW	W	78	48	29
	Pedestrian Clearance	G	R	DW	FDW	11	11	11
	Change	Y	R	DW	DW	4*	4*	4
	Clearance	R	R	DW	DW	2	2	2
B.	Lafayette Ave.-Meadows Rd.	R	G	W	DW	7	7	7
	Pedestrian Clearance	R	G	FDW	DW	12	12**	12**
	Change	R	Y	DW	DW	4	4	4
	Clearance	R	R	DW	DW	2	2	2
	Emergency Flash	Y	R	DARK	DARK	-	-	-

*Offsets to be measured from the beginning of yellow to Route 15 traffic at Route 15 and Route 94-Limecrest Road (C.R.623) to the beginning of yellow to Route 15 traffic at this intersection are as follows:

Hours of Operation:

Time 1 (120 Second Cycle)

6:00am - 9:00am	(Monday-Friday) Offset 1, 60 Seconds
3:00pm - 8:00pm	(Monday-Thursday) Offset 2, 79 Seconds
1:00pm - 11:00pm	(Friday) Offset 2, 79 Seconds
8:00am - 6:00pm	(Saturday) Offset 2, 79 Seconds
10:00am - 2:00pm	(Sunday) Offset 3, 70 Seconds
2:00pm - 10:00pm	(Sunday) Offset 1, 60 Seconds

Time III (Variable)
11:00pm – 6:00am (Daily)

Time II (90 Second Cycle)
All other times Offset 4, 5 Seconds

**The Phase B, Plans II and III, maximum green times will be exceeded during pedestrian actuation using the pedestrian-override feature.
The manual control is to be removed.
The memory is to be disconnected and a 2 second vehicle extension is to be employed for Phase B.

APPENDIX B

TRIP GENERATION AND TRAFFIC VOLUME WORKSHEETS

TRIP GENERATION WORKSHEET

ITE Trip Generation Manual, 9th Edition

PROJECT NAME NORTH VILLAGE AT SPARTA DATE APRIL 2014

PROJECT LOCATION RT. 15 NB, TWP. OF SPARTA, SUSSEX CO.

ITE LAND USE CATEGOY SHOPPING CENTER (820)

INDEPENDENT VARIABLE KSF NUMBER OF UNITS 134

PERIOD	TOTAL TRIPS	TRIPS ENTERING/EXITING
24-Hour Weekday		% enter= % exit=
AM Peak Street Hour		% enter= % exit=
PM Peak Street Hour	$\ln T = 0.67 \ln(134) + 3.31$ $T = 728$	48 % enter= 350 52 % exit= 378
AM Peak Generator Hour		% enter= % exit=
PM Peak Generator Hour		% enter= % exit=
24-Hour Saturday		% enter= % exit=
SAT Peak Generator Hour	$\ln T = 0.65 \ln(134) + 3.78$ $T = 1058$	52 % enter= 550 48 % exit= 508
24-Hour Sunday		% enter= % exit=
SUN Peak Generator Hour		% enter= % exit=

DOLAN & DEAN
CONSULTING ENGINEERS, LLC

TRIP GENERATION WORKSHEET

ITE Trip Generation Manual, 9th Edition

PROJECT NAME NORTH VILLAGE AT SPARTA DATE APRIL 2014

PROJECT LOCATION RT. 15 NB, TWP. OF SPARTA, SUSSEX CO.

ITE LAND USE CATEGOY HOTEL (310)

INDEPENDENT VARIABLE OCCUPIED ROOMS NUMBER OF UNITS 100

PERIOD	TOTAL TRIPS	TRIPS ENTERING/EXITING
24-Hour Weekday		% enter= % exit=
AM Peak Street Hour		% enter= % exit=
PM Peak Street Hour	0.6 (100) = 60	49 % enter= 30 51 % exit= 30
AM Peak Generator Hour		% enter= % exit=
PM Peak Generator Hour		% enter= % exit=
24-Hour Saturday		% enter= % exit=
SAT Peak Generator Hour	0.72 (100) = 72	50 % enter= 36 50 % exit= 36
24-Hour Sunday		% enter= % exit=
SUN Peak Generator Hour		% enter= % exit=

DOLAN & DEAN
CONSULTING ENGINEERS, LLC

TRIP GENERATION WORKSHEET

ITE Trip Generation Manual, 9th Edition

PROJECT NAME NORTH VILLAGE AT SPARTA DATE APRIL 2014

PROJECT LOCATION RT. 15 NB, TWP. OF SPARTA, SUSSEX CO.

ITE LAND USE CATEGOY SINGLE FAMILY HOUSING (210)

INDEPENDENT VARIABLE UNITS NUMBER OF UNITS 90

PERIOD	TOTAL TRIPS	TRIPS ENTERING/EXITING
24-Hour Weekday		% enter= % exit=
AM Peak Street Hour		% enter= % exit=
PM Peak Street Hour	1.0 (90) = 90	63 % enter= 56 37 % exit= 34
AM Peak Generator Hour		% enter= % exit=
PM Peak Generator Hour		% enter= % exit=
24-Hour Saturday		% enter= % exit=
SAT Peak Generator Hour	0.93 (90) = 84	54 % enter= 46 46 % exit= 38
24-Hour Sunday		% enter= % exit=
SUN Peak Generator Hour		% enter= % exit=

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CONSULTING ENGINEERS, LLC

TRIP GENERATION WORKSHEET

ITE Trip Generation Manual, 9th Edition

PROJECT NAME NORTH VILLAGE AT SPARTA DATE APRIL 2014

PROJECT LOCATION RT. 15 NB, TWP. OF SPARTA, SUSSEX CO.

ITE LAND USE CATEGOY APARTMENT (220)

INDEPENDENT VARIABLE UNITS NUMBER OF UNITS 114

PERIOD	TOTAL TRIPS	TRIPS ENTERING/EXITING
24-Hour Weekday		% enter= % exit=
AM Peak Street Hour		% enter= % exit=
PM Peak Street Hour	0.62 (114) = 70	65 % enter= 46 35 % exit= 24
AM Peak Generator Hour		% enter= % exit=
PM Peak Generator Hour		% enter= % exit=
24-Hour Saturday		% enter= % exit=
SAT Peak Generator Hour	0.52 (114) = 60	50 % enter= 30 50 % exit= 30
24-Hour Sunday		% enter= % exit=
SUN Peak Generator Hour		% enter= % exit=

TOTAL RESIDENTIAL

	PM IN	PM OUT	PM TOTAL	SAT IN	SAT OUT	SAT TOTAL
SINGLE FAMILY	56	34	90	46	38	84
APARTMENTS/MULTI	46	24	70	30	30	60
	102	58	160	76	68	144

DOLAN & DEAN
CONSULTING ENGINEERS, LLC

Analyst: DSD
Date: APRIL 2014

MULTI-USE DEVELOPMENT TRIP GENERATION AND INTERNAL CAPTURE SUMMARY

Name of Dvlpt:
Time Period: PM PEAK HOUR

RETAIL PASS-BY = 35.86%

	ENTER	EXIT	TOTAL
NEW	205	210	415
PASSBY	116	116	232
	321	326	647

(647)(.3586) = 232

LAND USE A RETAIL

ITE LU Code: 820
Size: 134 KSF

	Total	Internal	External
Enter	350	29	321
Exit	378	52	326
Total	728	81	647
%			

Exit to External
Enter from External

(-76)

5% 19 Demand
5 Balanced
17% 5 Demand

2% 7 Demand
5 Balanced
16% 5 Demand

26% 98 Demand
47 Balanced
46% 47 Demand

10% 35 Demand
24 Balanced
42% 24 Demand

LAND USE B HOTEL

ITE LU Code: 310
Size: 100 ROOMS

	Total	Internal	External
Enter	30	7	23
Exit	30	5	25
Total	60	12	48
%			

Exit to External
Enter from External

Demand 12% 4 — Balanced 2 — Demand 3% 2

Demand 2% — Balanced 0 — Demand 0% 0

LAND USE C RESIDENTIAL

ITE LU Code: 210 + 220
Size: 28% UNITS

	Total	Internal	External
Enter	102	47	55
Exit	58	26	32
Total	160	73	87
%			

Enter from External
Exit to External

Net External Trips for Multi-Use Development

	LAND USE A	LAND USE B	LAND USE C	TOTAL
Enter				
Exit				
Total				
Single-Use Trip Gen. Est.				

INTERNAL CAPTURE

Source: Kaku Associates, Inc.

Analyst D&D
Date APRIL 2014

MULTI-USE DEVELOPMENT TRIP GENERATION AND INTERNAL CAPTURE SUMMARY

Name of Dvlpt
Time Period SAT PEAK HOUR

LAND USE A RETAIL

ITE LU Code 820
Size 134 KSF

	Total	Internal	External
Enter	550	35	515
Exit	508	41	467
Total	1058	76	982
%			

Exit to External
Enter from External

RETAIL PASS-BY = 35.9%

	ENTER	EXIT	TOTAL
NON PASSBY	339	291	630
PASSBY	176	176	352
TOTAL	515	467	982

(982)(.359) = 352

-104

5% 25 Demand
6 Balanced
17% 8 Demand

2% 11 Demand
6 Balanced
16% 6 Demand

26% 132 Demand
35 Balanced
46% 35 Demand

10% 55 Demand
29 Balanced
42% 29 Demand

LAND USE B HOTEL

ITE LU Code 310
Size 100 ROOMS

	Total	Internal	External
Enter	36	8	28
Exit	36	6	30
Total	72	14	58
%			

Exit to External
Enter from External

Demand 12% 4 — Balanced 2 — Demand 3% 2

2% Demand — Balanced 0 — 0% Demand

LAND USE C RESIDENTIAL

ITE LU Code 210 & 220
Size 204 UNITS

	Total	Internal	External
Enter	76	35	41
Exit	68	31	37
Total	144	66	78
%			

Enter from External
Exit to External

Net External Trips for Multi-Use Development

	LAND USE A	LAND USE B	LAND USE C	TOTAL
Enter				
Exit				
Total				
Single-Use Trip Gen. Est.				

INTERNAL CAPTURE

Source: Kaku Associates, Inc.

APPENDIX C

LEVEL OF SERVICE CALCULATIONS

CAPACITY ANALYSIS SUMMARY TABLE 4/16/2014

INTERSECTION: Rt 15 and Lafayette Rd
PEAK HOUR: PM Peak

APPROACH	MOVEMENT	NO BUILD CONDITIONS					BUILD CONDITIONS					CHANGE IN DELAY			BUILD WITH MITIGATION					CHANGE IN DELAY		
		# LANES	VOLUME	GREEN TIME	DELAY	LOS	# LANES	VOLUME	GREEN TIME	DELAY	LOS	ALLOWED	COMPUTED	EXCEEDED	# LANES	VOLUME	GREEN TIME	DELAY	LOS	ALLOWED	COMPUTED	EXCEEDED
EB	LEFT	0.5	250	24	31.0	C	0.5	356	24	76.3	E	12.3	45.3	YES	0.5	356	29	35.7	D	12.25	4.7	NO
	THRU																					
	RIGHT	0.5	6	24	31.0	C	0.5	6	24	76.3	E	12.3	45.3	YES	0.5	6	29	35.7	D	12.25	4.7	NO
	OVERALL	1	256	24	31.0	C	1	362	24	76.3	E	12.3	45.3	YES	1	362	29	35.7	D	12.25	4.7	NO
WB	LEFT	0.5	0	24	19.6	B	0.5	0	24	19.6	B	15.1	0.0	NO	0.5	0	29	16.3	B	15.10	-3.3	NO
	THRU	0.5	4	24	19.6	B	0.5	4	24	19.6	B	15.1	0.0	NO	0.5	4	29	16.3	B	15.10	-3.3	NO
	RIGHT																					
	OVERALL	1	4	24	19.6	C	1	4	24	19.6	B	15.1	0.0	NO	1	4	29	16.3	B	15.10	-3.3	NO
NB	LEFT																					
	THRU	2	946	43	13.5	B	2	990	43	13.9	B	16.6	0.4	NO	2	990	38	18.3	B	16.63	4.8	NO
	RIGHT																					
	OVERALL	2	946	43	13.5	B	2	990	43	13.9	B	16.6	0.4	NO	2	990	38	18.3	B	16.63	4.8	NO
SB	LEFT																					
	THRU	2	637	43	11.3	B	2	683	43	11.6	B	17.2	0.3	NO	2	683	38	15.0	B	17.18	3.7	NO
	RIGHT																					
	OVERALL	2	637	43	11.3	B	2	683	43	11.6	B	17.2	0.3	NO	2	683	38	15.0	B	17.18	3.7	NO

HCS+: Signalized Intersections Release 5.5

Analyst: djp
Agency: D&D
Date: 12-10-2013
Period: PM Peak
Project ID: Dykstra - Sparta
E/W St: Lafayette Rd

Inter.: NJ Rt 15 & Layayette Rd
Area Type: All other areas
Jurisd:
Year : nobuild

N/S St: NJ Route 15

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	0	1	0	0	2	0	0	2	0
LGConfig		LR			LT			T			T	
Volume	250		6	0	4			946			637	
Lane Width		12.0			12.0			12.0			12.0	
RTOR Vol			0									

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination		1	2	3	4			5	6	7	8
EB	Left	A				NB	Left				
	Thru						Thru	P			
	Right	A					Right				
	Peds						Peds				
WB	Left	A				SB	Left				
	Thru	A					Thru	P			
	Right						Right				
	Peds						Peds				
NB	Right					EB	Right				
SB	Right					WB	Right				
Green		24.0						43.0			
Yellow		3.0						6.0			
All Red		3.0						1.0			

Cycle Length: 80.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
LR	398	1328	0.72	0.30	31.0	C	31.0	C
Westbound								
LT	548	1827	0.01	0.30	19.6	B	19.6	B
Northbound								
T	1869	3478	0.56	0.54	13.5	B	13.5	B
Southbound								
T	1869	3478	0.38	0.54	11.3	B	11.3	B

Intersection Delay = 15.2 (sec/veh) Intersection LOS = B

HCS+: Signalized Intersections Release 5.5

Analyst: djp
Agency: D&D
Date: 4-16-2014
Period: PM Peak
Project ID: Dykstra - Sparta
E/W St: Lafayette Rd

Inter.: NJ Rt 15 & Layayette Rd
Area Type: All other areas
Jurisd:
Year : b

N/S St: NJ Route 15

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	0	1	0	0	2	0	0	2	0
LGConfig		LR			LT			T			T	
Volume	356		6	0	4			990			683	
Lane Width		12.0			12.0			12.0			12.0	
RTOR Vol			0									

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination		1	2	3	4			5	6	7	8
EB	Left	A				NB	Left				
	Thru						Thru	P			
	Right	A					Right				
	Peds						Peds				
WB	Left	A				SB	Left				
	Thru	A					Thru	P			
	Right						Right				
	Peds						Peds				
NB	Right					EB	Right				
SB	Right					WB	Right				
Green		24.0						43.0			
Yellow		3.0						6.0			
All Red		3.0						1.0			

Cycle Length: 80.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
LR	398	1326	1.01	0.30	76.3	E	76.3	E
Westbound								
LT	548	1827	0.01	0.30	19.6	B	19.6	B
Northbound								
T	1869	3478	0.59	0.54	13.9	B	13.9	B
Southbound								
T	1869	3478	0.41	0.54	11.6	B	11.6	B

Intersection Delay = 24.2 (sec/veh) Intersection LOS = C

HCS+: Signalized Intersections Release 5.5

Analyst: djp
Agency: D&D
Date: 4-16-2014
Period: PM Peak WITH MIT
Project ID: Dykstra - Sparta
E/W St: Lafayette Rd

Inter.: NJ Rt 15 & Layayette Rd
Area Type: All other areas
Jurisd:
Year : b

N/S St: NJ Route 15

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	0	1	0	0	2	0	0	2	0
LGConfig		LR			LT			T			T	
Volume	356		6	0	4			990			683	
Lane Width		12.0			12.0			12.0			12.0	
RTOR Vol			0									

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination		1	2	3	4			5	6	7	8
EB	Left	A				NB	Left				
	Thru						Thru	P			
	Right	A					Right				
	Peds						Peds				
WB	Left	A				SB	Left				
	Thru	A					Thru	P			
	Right						Right				
	Peds						Peds				
NB	Right					EB	Right				
SB	Right					WB	Right				
Green		29.0						38.0			
Yellow		3.0						6.0			
All Red		3.0						1.0			

Cycle Length: 80.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
LR	481	1326	0.84	0.36	35.7	D	35.7	D
Westbound								
LT	662	1827	0.01	0.36	16.3	B	16.3	B
Northbound								
T	1652	3478	0.67	0.47	18.3	B	18.3	B
Southbound								
T	1652	3478	0.46	0.47	15.0	B	15.0	B

Intersection Delay = 20.3 (sec/veh) Intersection LOS = C

CAPACITY ANALYSIS SUMMARY TABLE 4/16/2014

INTERSECTION: Rt 15 and Lafayette Rd
PEAK HOUR: sat Peak

APPROACH	MOVEMENT	NO BUILD CONDITIONS					BUILD CONDITIONS					CHANGE IN DELAY			BUILD WITH MITIGATION					CHANGE IN DELAY		
		# LANES	VOLUME	GREEN TIME	DELAY	LOS	# LANES	VOLUME	GREEN TIME	DELAY	LOS	ALLOWED	COMPUTED	EXCEEDED	# LANES	VOLUME	GREEN TIME	DELAY	LOS	ALLOWED	COMPUTED	EXCEEDED
EB	LEFT	0.5	256	24	33.3	C	0.5	410	24	136.3	F	11.7	103.0	YES	0.5	410	32	40.0	D	11.68	6.7	NO
	THRU																					
	RIGHT	0.5	15	24	33.3	C	0.5	15	24	136.3	F	11.7	103.0	YES	0.5	15	32	40.0	D	11.68	6.7	NO
	OVERALL	1	271	24	33.3	C	1	425	24	136.3	F	11.7	103.0	YES	1	425	34.5	40.0	D	11.68	6.7	NO
WB	LEFT	0.5	2	24	19.8	B	0.5	2	24	19.8	B	15.1	0.0	NO	0.5	2	32	14.5	B	15.05	-5.3	NO
	THRU	0.5	12	24	19.8	B	0.5	12	24	19.8	B	15.1	0.0	NO	0.5	12	32	14.5	B	15.05	-5.3	NO
	RIGHT																					
	OVERALL	1	14	24	19.8	C	1	14	24	19.8	B	15.1	0.0	NO	1	14	32	14.5	B	15.05	-5.3	NO
NB	LEFT																					
	THRU	2	814	43	12.5	B	2	880	43	13.0	B	16.9	0.5	NO	2	880	35	19.7	B	16.88	7.2	NO
	RIGHT																					
	OVERALL	2	814	43	12.5	B	2	880	43	13.0	B	16.9	0.5	NO	2	880	35	19.7	B	16.88	7.2	NO
SB	LEFT																					
	THRU	2	642	43	11.4	B	2	704	43	11.7	B	17.2	0.3	NO	2	704	35	17.6	B	17.15	6.2	NO
	RIGHT																					
	OVERALL	2	642	43	11.4	B	2	704	43	11.7	B	17.2	0.3	NO	2	704	35	17.6	B	17.15	6.2	NO

HCS+: Signalized Intersections Release 5.5

Analyst: djp
Agency: D&D
Date: 12-10-2013
Period: sat Peak
Project ID: Dykstra - Sparta
E/W St: Lafayette Rd

Inter.: NJ Rt 15 & Layayette Rd
Area Type: All other areas
Jurisd:
Year : nobuild

N/S St: NJ Route 15

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	0	1	0	0	2	0	0	2	0
LGConfig		LR			LT			T			T	
Volume	256		15	2	12			814			642	
Lane Width		12.0			12.0			12.0			12.0	
RTOR Vol			3									

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination		1	2	3	4			5	6	7	8
EB	Left	A				NB	Left				
	Thru						Thru	P			
	Right	A					Right				
	Peds						Peds				
WB	Left	A				SB	Left				
	Thru	A					Thru	P			
	Right						Right				
	Peds						Peds				
NB	Right					EB	Right				
SB	Right					WB	Right				
Green		24.0						43.0			
Yellow		3.0						6.0			
All Red		3.0						1.0			

Cycle Length: 80.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
LR	399	1329	0.75	0.30	33.3	C	33.3	C
Westbound								
LT	550	1832	0.03	0.30	19.8	B	19.8	B
Northbound								
T	1888	3512	0.48	0.54	12.5	B	12.5	B
Southbound								
T	1888	3512	0.38	0.54	11.4	B	11.4	B

Intersection Delay = 15.3 (sec/veh) Intersection LOS = B

HCS+: Signalized Intersections Release 5.5

Analyst: djp
Agency: D&D
Date: 4-16-2014
Period: sat Peak
Project ID: Dykstra - Sparta
E/W St: Lafayette Rd

Inter.: NJ Rt 15 & Layayette Rd
Area Type: All other areas
Jurisd:
Year : b

N/S St: NJ Route 15

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	0	1	0	0	2	0	0	2	0
LGConfig		LR			LT			T			T	
Volume	410		15	2	12			880			704	
Lane Width		12.0			12.0			12.0			12.0	
RTOR Vol			3									

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination		1	2	3	4			5	6	7	8
EB	Left	A				NB	Left				
	Thru						Thru	P			
	Right	A					Right				
	Peds						Peds				
WB	Left	A				SB	Left				
	Thru	A					Thru	P			
	Right						Right				
	Peds						Peds				
NB	Right					EB	Right				
SB	Right					WB	Right				
Green		24.0						43.0			
Yellow		3.0						6.0			
All Red		3.0						1.0			

Cycle Length: 80.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
LR	398	1326	1.19	0.30	136.3	F	136.3	F
Westbound								
LT	550	1832	0.03	0.30	19.8	B	19.8	B
Northbound								
T	1888	3512	0.52	0.54	13.0	B	13.0	B
Southbound								
T	1888	3512	0.42	0.54	11.7	B	11.7	B

Intersection Delay = 38.3 (sec/veh) Intersection LOS = D