

# Shropshire | Associates LLC

Traffic Engineering  
Noise & Air Evaluations  
Eminent Domain Consulting  
Transportation Planning  
Parking Studies  
Access Permitting  
Traffic Signal Design

662 MAIN STREET, SUITE B  
LUMBERTON, NJ 08048

DAVID R SHROPSHIRE, PE, PP  
A ANDREW FERANDA, PE, CME

PHONE  
609 714 0400  
FAX  
609 714 9944

August 21, 2007

Mr. Curt Mitchell  
R.E. Pierson Construction Company, Inc.  
426 Swedesboro Road  
Piles Grove, New Jersey 08098

(via UPS)

**Re: Revised Traffic Engineering Assessment  
R.E. Pierson Construction  
Woodbine-Ocean View Road (CR 550)  
Dennis Township, Cape May County  
SA Project No. 7047-B**

Dear Curt:

In response to your request, a revised traffic engineering assessment has been prepared for the proposed R.E. Pierson construction facility located in Dennis Township, Cape May County, New Jersey (Figure 1). The proposal is for the development of construction facility that will include a concrete plant and recycling facility. These uses are proposed in addition to the existing sand mining operation on-site. The site is located along westbound Woodbine-Ocean View Road, west of its intersection with Corsons Tavern Road, with access being provided via two existing driveways along the roadway. The purpose of this assessment is to determine the amount of additional traffic to be generated by the proposed construction facility and analyze its impact on the adjacent roadway network.

## **Existing Conditions**

A field reconnaissance was conducted to determine the existing intersection and roadway characteristics in the vicinity of the proposed site. A brief description of the roadways and intersections is provided below.

In the vicinity of the site, **Woodbine-Ocean View Road (CR 550)** is a two-lane undivided roadway under the jurisdiction of Cape May County and classified<sup>1</sup> as a Rural Major Collector along the site frontage. Woodbine-Ocean View Road has a posted speed limit of 50 MPH and an approximate cartway width of 40 feet, including 8-foot shoulders in both directions and is designated as a Truck Route. For the purpose of this study, Woodbine-Ocean View Road is assumed to extend in a general east-west direction.

---

<sup>1</sup> 2006 New Jersey Functional Classification Maps



**Corsons Tavern Road (CR 628)** is a two-lane undivided roadway that is classified as an Urban Collector and under the jurisdiction of Cape May County. Corsons Tavern Road has a posted speed limit of 45 MPH in the vicinity of its intersection with Woodbine-Ocean View Road and an approximate cartway width of 35 feet, including 7-foot shoulders in both directions. For the purpose of this study, Corsons Tavern Road is assumed to extend in a general north-south direction.

The four-legged **Woodbine-Ocean View Road/Corsons Tavern Road** intersection is controlled by a two-phase fully-actuated traffic signal with a 41 to 64-second variable cycle length. All approaches consist of a single lane providing for all possible movements.

The T-shaped **Woodbine-Ocean View Road/Site Access** intersections are stop-controlled along the southbound site access approaches. All approaches consist of a single lane providing for all possible movements.

### **Traffic Counts**

In April 2007, manual turning movement counts (MTMC) were originally conducted at the above-mentioned study intersections. This data was analyzed to determine the peak hour traffic volumes that coincide with the peak combined volumes of the roadway and proposed development, which typically occur during the weekday AM (6:00 to 9:00 AM) and weekday PM (1:00 to 4:00 PM) peak periods. These periods were based upon conversations with the applicant regarding the peak operation of the construction facility. However, per the request of the Township after the first public meeting, additional MTMC were conducted at the Woodbine-Ocean View Road/Corsons Tavern Road signalized intersection on July 12, 2007 from 3:00 PM to 6:00 PM. The July 2007 counts will provide peak seasonal roadway conditions for the adjacent roadway network during the PM peak hour.

In order to determine the peak seasonal conditions during the AM peak hour, summer traffic data was obtained from Cape May County for Woodbine-Ocean View Road between its intersections with Corsons Tavern Road and Route 9. This data was used to extrapolate seasonal adjustment factor of 1.50 for the weekday AM peak hour. This seasonal adjustment factor was applied to the April 2007 AM peak hour traffic volumes to adjust for peak seasonal volumes in the vicinity of the site. Figure 2 indicates the seasonally adjusted AM peak hour volumes and PM peak hour volumes obtained from the July 2007 MTMC data. The April 2007 and July 2007 MTMC data is attached for your review.

### **Existing R.E. Pierson Facility**

In order to determine the peak hour operations of the proposed R.E. Pierson construction facility, MTMC were conducted at the existing plant facility in Bridgeport, Gloucester County and are attached for your review. These counts were conducted on July 12, 2007 from 6:00 AM to 6:00 PM. It should be noted that the existing facility in Bridgeport does include an asphalt plant, which will not be part of the Dennis Township facility. Therefore, the traffic generated at the Bridgeport facility is higher than what is anticipated at the Dennis Township facility.

Table 1 indicates the morning and afternoon peak hours for all vehicles and trucks only. As indicated in Table 1, the traffic at the existing facility, vehicular and truck traffic occurs during

non-roadway peak times. The morning peak occurs during the late morning time while the afternoon peak occurs before 3:00 PM. As such, the traffic to be generated by the proposed R.E. Pierson facility in Dennis Township will be similar in nature to the Bridgeport facility, and therefore does not have a significant impact on the adjacent roadway network during typical weekday peak operations.

Table 1 R.E. Pierson Vehicular Peaks		
Vehicle Type	Morning Peak Hour	Afternoon Peak Hour
All Vehicles	10:30 AM to 11:30 AM	1:45 PM to 2:45 PM
Trucks Only	10:30 AM to 11:30 AM	1:00 PM to 2:00 PM

### Future Conditions

The traffic resulting from the proposed R.E. Pierson construction facility will not affect the adjacent roadway network until it is fully built-out and occupied. It is estimated that the proposed development will be completed and occupied by 2009. Therefore, it can be expected that the existing traffic volumes will increase as result of other developments in the area of the site. Based on the New Jersey Functional Classification Maps, as well as the *Annual Background Growth Table* prepared by the New Jersey Department of Transportation, a 2.50% annual traffic growth will occur in the vicinity of the site. Figure 3 shows the projected 2009 No-Build volumes for the adjacent roadway network.

The amount of traffic to be generated by the proposed construction facility can best be determined by comparison with similar sites. Traffic counts were conducted at the existing R.E. Pierson construction facility in Bridgeport on Oak Grove Road in April 2007. The existing facility in Bridgeport contains an asphalt plant, concrete plant, recycling facility, and sand plant and is similar in use to the proposed facility in Dennis Township, however the proposed facility in Dennis Township will not include an asphalt plant. Table 2 indicates the amount of traffic that entered and exited during the weekday AM and PM peak hours at the existing R.E. Pierson facility in Bridgeport.

Table 2 Bridgeport Facility Trip Generation						
Vehicle	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
Large Vehicles	37	34	71	1	1	2
Passenger Vehicles	4	3	7	1	12	13
<b>Totals</b>	<b>41</b>	<b>37</b>	<b>78</b>	<b>2</b>	<b>13</b>	<b>15</b>

Based upon conversations with R.E. Pierson, the traffic counts conducted at the existing Bridgeport facility on July 12, 2007 represent peak operating conditions. As such, the assumption is made that the data collected represents an above average day. In addition, yearly vehicle information provided by R.E. Pierson indicates that on an average day, the existing Bridgeport facility experiences approximately 380 trucks trips per day, while a total of 653 truck trips were counted on July 12, 2007.

The yearly information provided by R.E. Pierson indicates that the existing Bridgeport facility experiences approximately 76,000 trips per year while it is anticipated that the Dennis Township facility will experience approximately 22,860 trips per year. This yields a change factor of approximately 0.301 when comparing the two locations. Applying this change factor to the 653 truck trips counted at the Bridgeport facility indicates that the Dennis Township facility will experience approximately 198 daily trips, 99 in and 99 out, on an above average day.

In order to determine the AM and PM peak hour trips to be generated by the proposed R.E. Pierson facility in Dennis Township, the 0.301 change factor was applied to the AM and PM peak hour volumes indicated in Table 1 for the Bridgeport facility. Table 3 indicates the projected number of trips to be generated by the future Dennis Township facility based upon this assumption.

Table 3 Dennis Township Facility Trip Generation						
Vehicle	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
Large Vehicles	11	10	21	1	0	1
Passenger Vehicles	1	1	2	0	4	4
<b>Totals</b>	<b>12</b>	<b>11</b>	<b>23</b>	<b>1</b>	<b>4</b>	<b>5</b>

The site traffic generated by the Dennis Township facility must then be distributed to the adjacent roadway network based on the routes in which the employees/patrons are expected to travel. Conversations with the applicant indicate that approximately 60% of the large vehicle traffic will travel to/from the west, with the remaining 40% traveling to/from the east along Woodbine-Ocean View Road. As such, the large vehicle trips associated with the construction facility were distributed to the adjacent roadway network utilizing these percentages while the existing distribution of traffic along the adjacent roadway network (Figure 4) was used to determine the movement of the passenger vehicles. Figure 5 indicates the total site traffic for the proposed R.E. Pierson facility in Dennis Township. Adding the site traffic to the 2009 No-Build volumes, results in the Build volumes, which are illustrated in Figure 6.

### Operational Analysis

In order to measure the quality of the traffic flow for the adjacent roadways and intersections, capacity analyses for the study intersections have been completed based upon the methods outlined in the *Highway Capacity Manual (HCM 2000 Edition)*. Capacity analysis is a procedure used to estimate the ability of the roadway network to carry traffic. Capacity analyses are performed based on a level of service methodology. Level of service (LOS) is a qualitative measure that characterizes the operational conditions of a roadway or intersection based on the perceptions by motorists and passengers. Levels of service are defined for each type of facility (i.e. freeways, highways, signalized intersections, unsignalized intersections). These levels of service range from LOS A to LOS F, with a LOS A representing the best operating conditions and a LOS F representing the worst operating conditions.

The levels of service for a signalized intersection are classified in terms of delay, which is based on the extent of driver discomfort and frustration, fuel consumption and lost travel time. The delay experienced by a motorist consists of many factors that relate to control, geometrics and traffic. Some of these factors include the quality of progression, traffic signal cycle length, the

green time ratio and the volume to capacity ratio. The level of service for an unsignalized intersection is determined based on the average control delay associated with each minor movement (i.e. yielding left-turn movements from the major roads and stop-controlled movements from the minor approaches). The Level of Service criteria for unsignalized and signalized intersections are provided in Table 4.

Table 4 Level of Service Criteria		
Level of Service	Unsignalized Delay (sec)	Signalized Delay (sec)
A	≤10	≤10
B	>10 and ≤15	>10 and ≤20
C	>15 and ≤25	>20 and ≤35
D	>25 and ≤35	>35 and ≤55
E	>35 and ≤50	>55 and ≤80
F	>50	>80

In order to assess the traffic impact of the proposed development, the study intersection was evaluated under the Existing, No-Build, and Build scenarios. A detailed description of the study intersection's operations under the three scenarios and a comparison summary for each intersection is provided below. The Existing, No-Build, and Build levels of service are indicated in Figures 7, 8, and 9, respectively. As previously noted, all analyses were conducted using the seasonally adjusted traffic volumes.

#### ***Woodbine-Ocean View Road (CR 550) and Corsons Tavern Road (CR 628)***

Under existing conditions, the Woodbine-Ocean View Road/Corsons Tavern Road signalized intersection functions at an overall LOS B during both the AM and PM peak hours. All individual approaches currently operate at a LOS B or better during both peak hours.

In the 2009 No-Build and Build scenarios, all individual approaches will continue to function at a LOS B or better during both the AM and PM peak hours. Overall, the Woodbine-Ocean View Road/Corsons Tavern Road signalized intersection will continue to function at a LOS B during both peak hours. The traffic resulting from the proposed R.E. Pierson construction facility will account for approximately 1.1% and 0.2% of the total 2009 Build traffic volumes at the above-mentioned intersection during the AM and PM peak hours, respectively.

#### ***Woodbine-Ocean View Road (CR 550) and Site Driveway Intersections***

Under existing conditions, the southbound site driveway stop-controlled approaches operate at a LOS B during both the AM and PM peak hours, while the eastbound Woodbine-Ocean View Road conflicting left-turn movements currently function at a LOS A during both peak hours.

In the 2009 No-Build scenario, all stop-controlled and conflicting left-turn movements at the Woodbine-Ocean View Road/Site Driveway intersections will continue to operate at a LOS B or better during both the AM and PM peak hours.



Under the 2009 Build conditions, the southbound site driveway stop-controlled approaches will function at a LOS B during both the AM and PM peak hours. Maximum queuing for the southbound site driveway approaches and eastbound Woodbine-Ocean View Road conflicting left-turn movements will be one (1) vehicle during both the AM and PM peak hours.

As previously noted, the AM and PM peak hour operation of the proposed R.E. Pierson construction facility will be staggered when compared to the peak hour of the adjacent roadway network and therefore the traffic to be generated by the proposed development will not significantly increase the peak hour volumes along Woodbine-Ocean View Road.

### Use Variance Analysis

The proposed R.E. Pierson construction facility in Dennis Township is located in the Business District. Dennis Township Zoning Ordinance 185-20 defines the Business District as having principal permitted uses of offices and office buildings, warehousing/distribution centers, gasoline service stations, lumber yards, government offices and public works facilities, and other uses related to large machinery equipment services. Therefore, a use variance is required to permit the proposed R.E. Pierson construction facility within the Business District. In support of this variance, a trip generation comparison between the proposed use and permitted uses is provided in Table 5 below.

Table 5 Trip Generation Comparison						
Development	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
<b>Proposed</b>						
R.E. Pierson Facility	12	11	23	1	4	5
<b>Permitted</b>						
Office Building (50,000 SF)	95	13	108	23	112	135
Warehouse (100,000 SF)	68	15	83	16	49	65
Gasoline Station (16 Pumps)	97	97	194	111	111	222

As indicated in Table 5, the proposed R.E. Pierson construction facility will generate significantly less traffic during the AM and PM peak hours when compared to various permitted uses within the Business District. Therefore, from a traffic perspective, the granting of the use variance for the proposed R.E. Pierson construction facility will not result in substantial detriment to the public good and will not substantially impair the intent and purpose of the Dennis Township Zoning Ordinance and Master Plan.

### Conclusion

The amount of traffic to be generated by the proposed R.E. Pierson construction facility in Dennis Township will be similar to the existing Bridgeport facility. As such, it is anticipated that the proposed Dennis Township facility will generate a maximum of 198 daily truck trips



during peak operation. With the additional traffic for the employees and patrons, it is estimated that the proposed R.E. Pierson construction facility in Dennis Township will generate a total of 23 trips during the AM peak hour and 5 trips during the PM peak hour.

The traffic to be generated by the proposed R.E. Pierson construction facility will cause no significant changes in the levels of service at the Woodbine-Ocean View Road/Corsons Tavern Road signalized intersection during both the AM and PM peak hours. All individual approaches will operate at a LOS B or better during both peak hours, while overall the intersection will function at a LOS B during the AM and PM peak hours.

All outbound stop-controlled movements from the site driveways and inbound conflicting left-turn movements into the site driveways will operate at a LOS B or better during the AM and PM peak hours in the 2009 Build scenario. Maximum queuing for all movements will be one (1) vehicle during both peak hours.

Based upon the operation of the existing Bridgeport facility, the peak hour traffic to be generated by the Dennis Township facility will not coincide with the peak hour of the traffic along the adjacent roadway network, specifically during peak summer roadway conditions. Typical peak summer roadway conditions occur on Friday between 4:00 PM and 6:00 PM and on Saturday between 11:00 AM and 2:00 PM. As previously stated, peak hour truck traffic at the existing facility occurred on a typical weekday at 10:30 AM and 1:00 PM.

Please call us if you have any questions or need additional information.

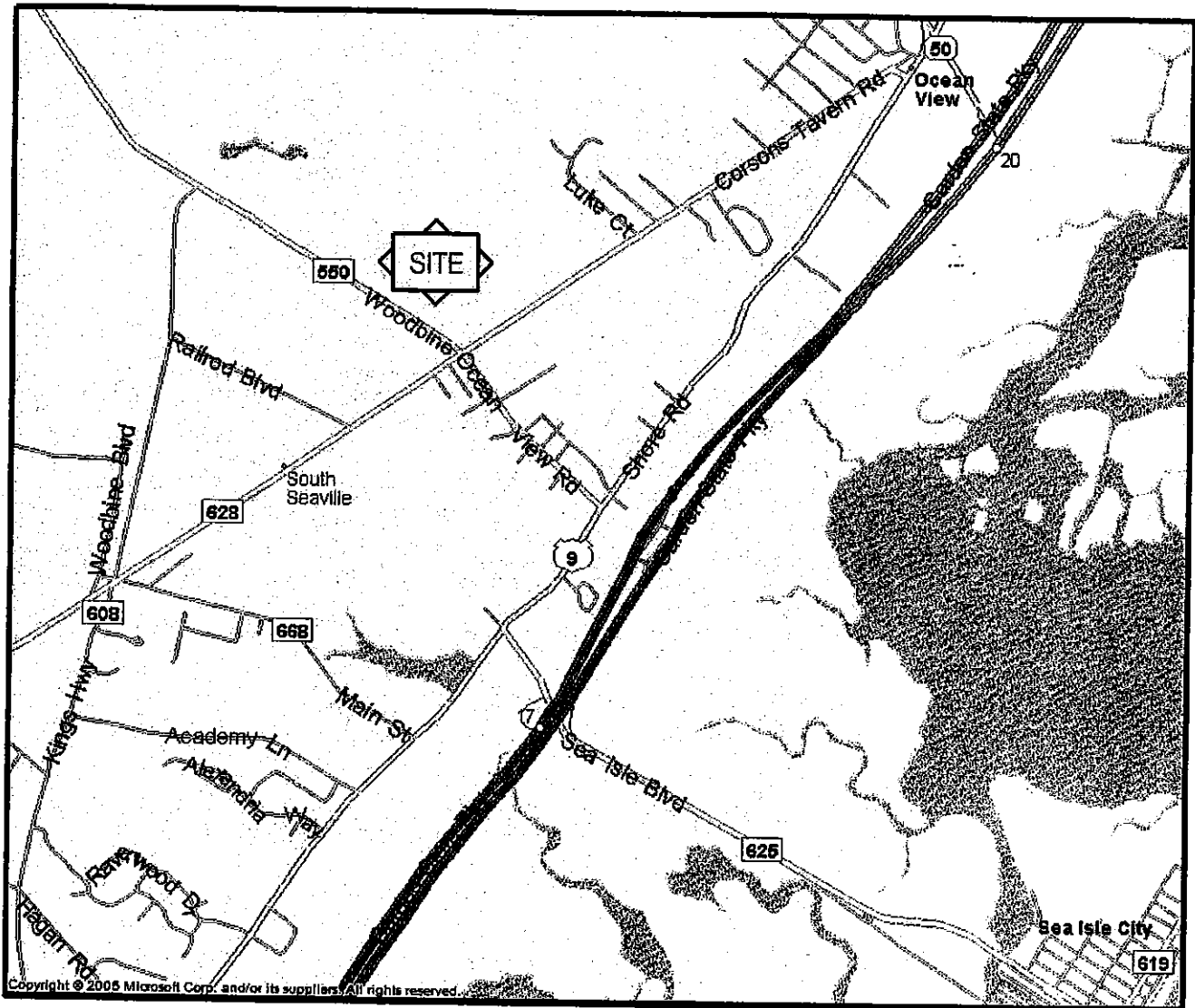
Sincerely,  
**Shropshire Associates LLC**

David R. Shropshire, P.E.  
President  
DRS/mas  
Attachments

Nathan B. Mosley, E.I.T.  
Traffic Consultant

cc: James Pickering, Esq.  
Mark J. Gibson, P.L.S.

(via UPS w/ attachments)  
(via UPS w/ attachments)

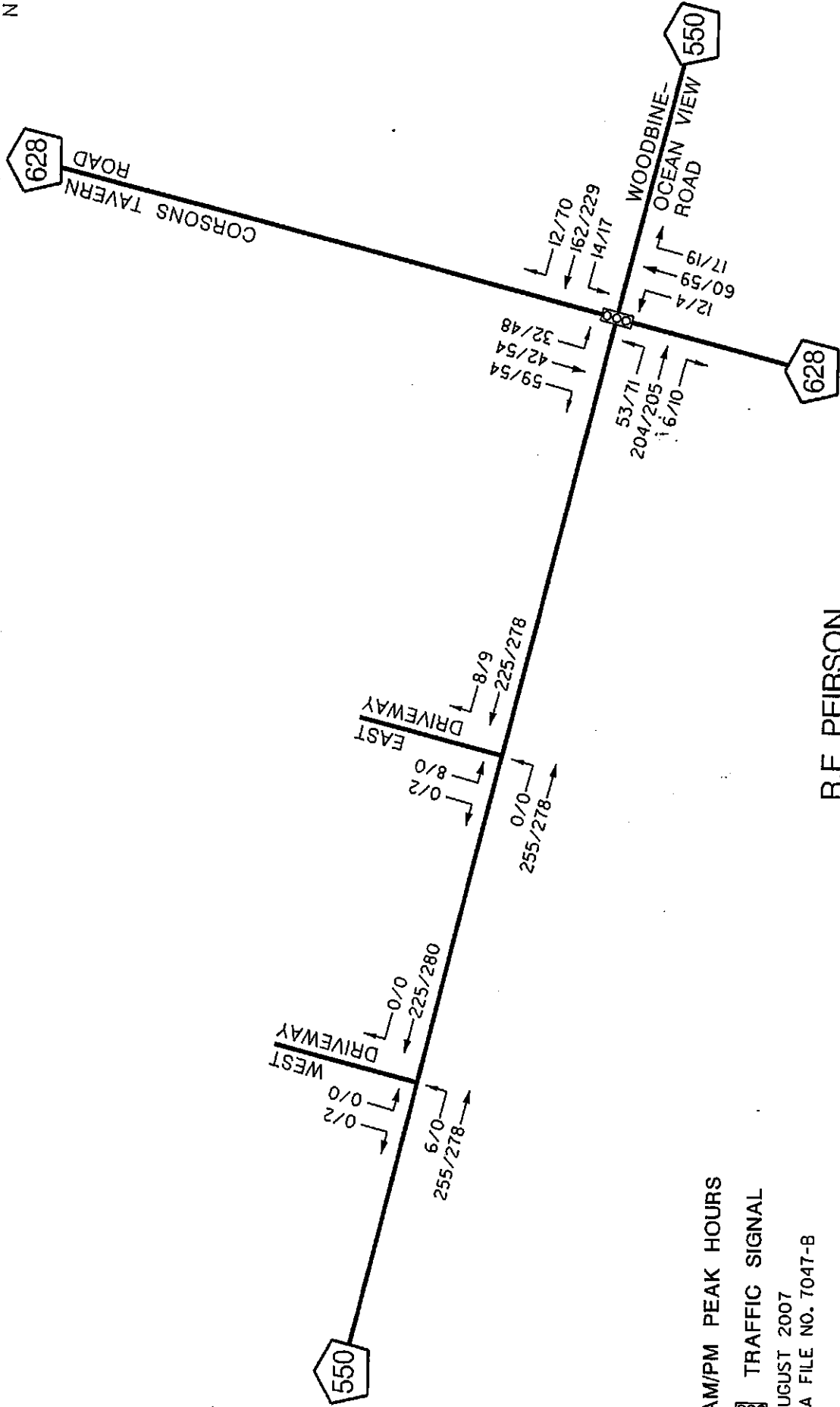


JULY 2007  
SA FILE NO. 7047-B

© COPYRIGHT Shropshire Associates LLC  
The copying or reuse of this document or portions thereof for other than the original project or the purpose primarily intended, without the written permission of Shropshire Associates LLC, is prohibited.

R.E. PIERSON  
DENNIS TOWNSHIP, CAPE MAY COUNTY, NJ

FIGURE 2  
 EXISTING VOLUMES



AM/PM PEAK HOURS

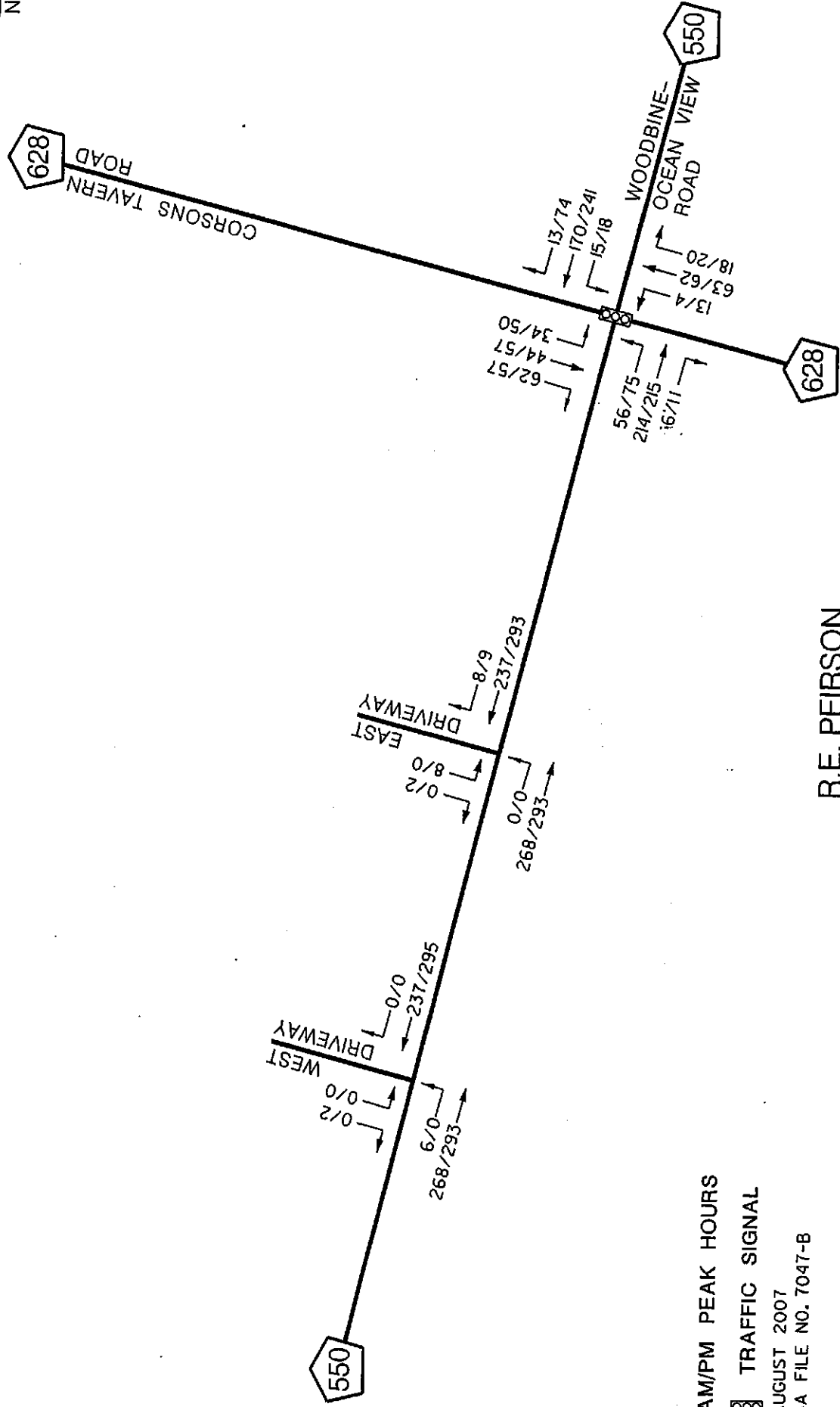
TRAFFIC SIGNAL

AUGUST 2007

SA FILE NO. 7047-B

R.E. PEIRSON  
 DENNIS TOWNSHIP, CAPE MAY COUNTY, NJ

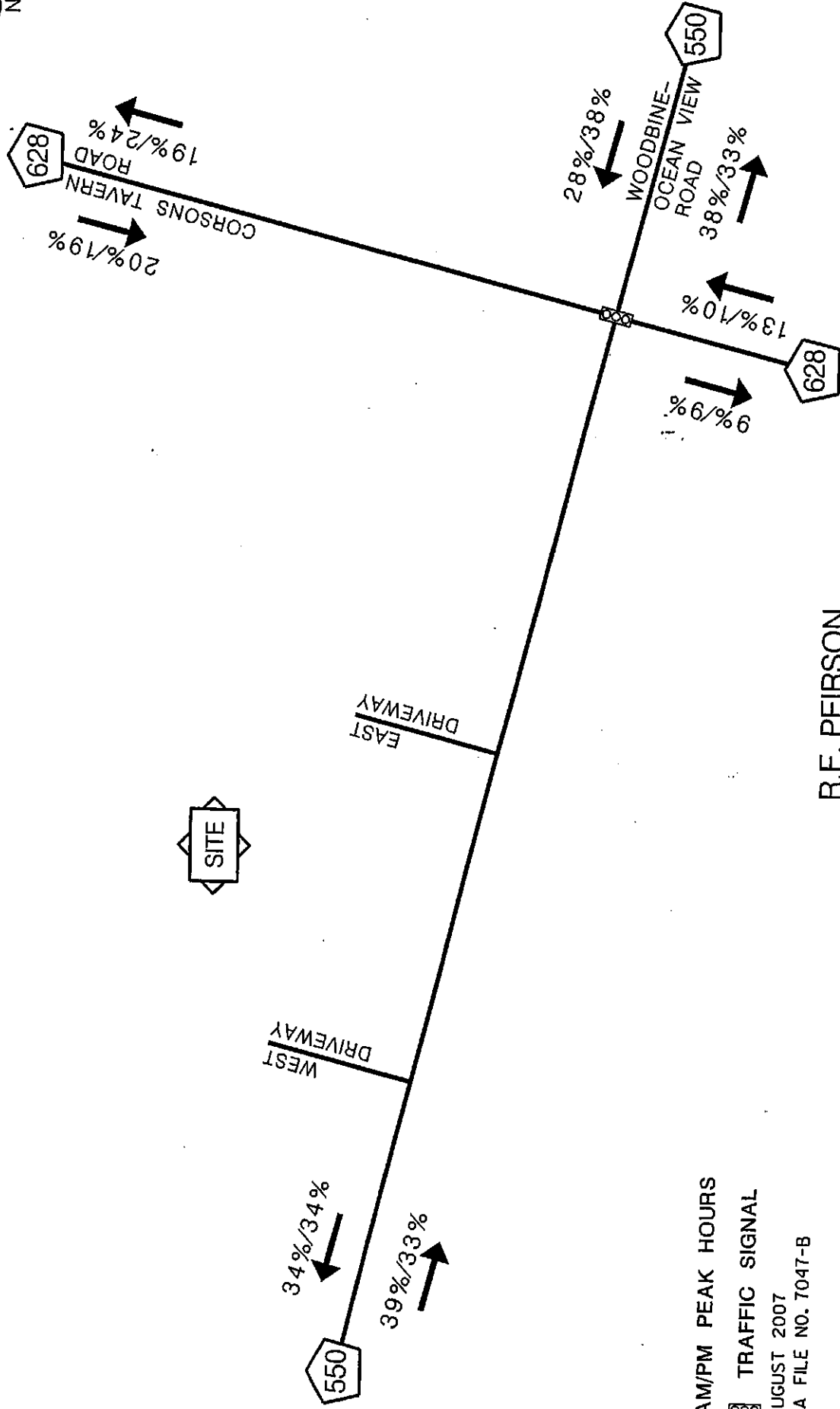
**FIGURE 3**  
**NO-BUILD VOLUMES**



**AM/PM PEAK HOURS**  
**TRAFFIC SIGNAL**  
 AUGUST 2007  
 SA FILE NO. 7047-B

**R.E. PEIRSON**  
 DENNIS TOWNSHIP, CAPE MAY COUNTY, NJ

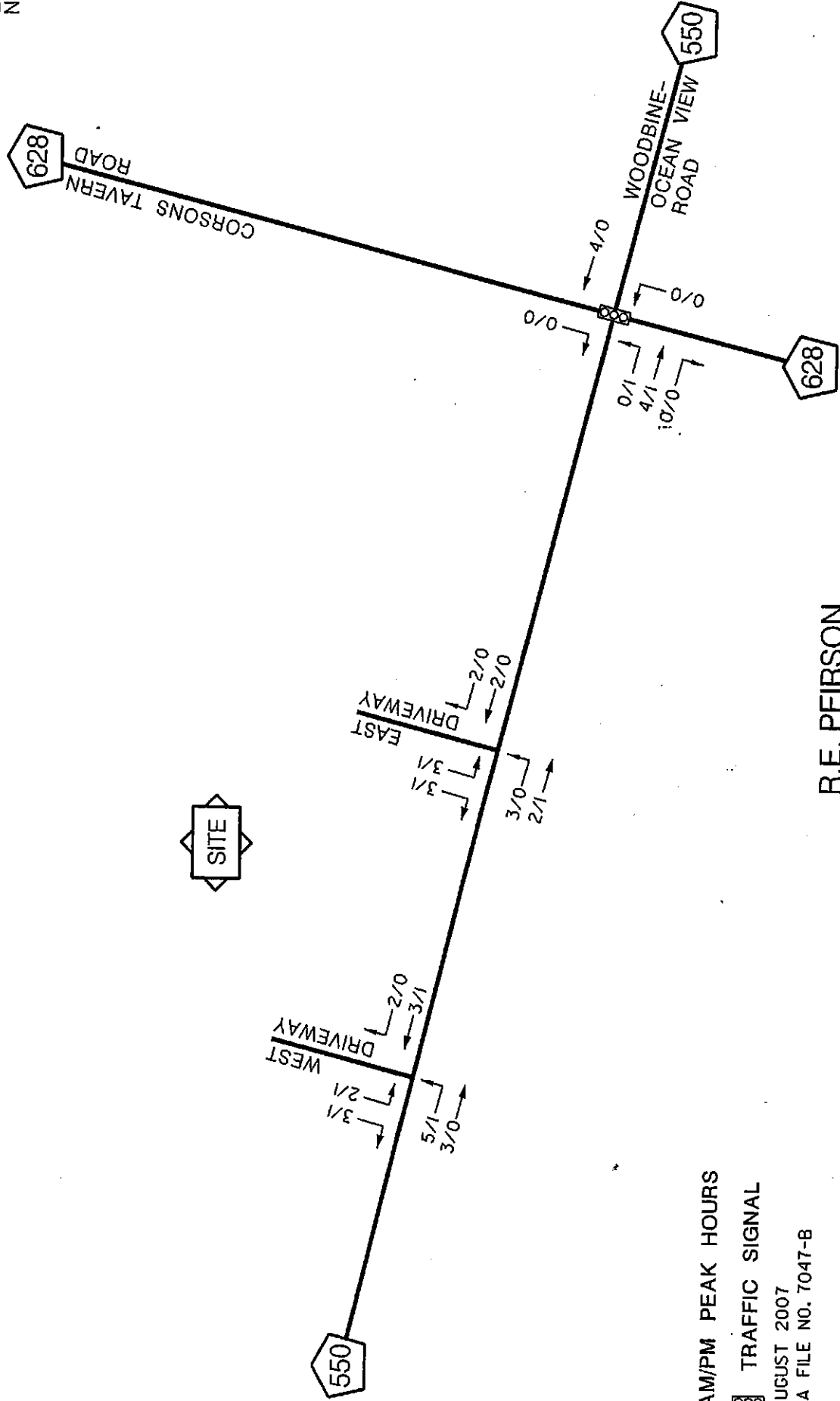
FIGURE 4  
 TRIP DISTRIBUTION



AM/PM PEAK HOURS  
 [Signal Symbol] TRAFFIC SIGNAL  
 AUGUST 2007  
 SA FILE NO. 7047-B

R.E. PEIRSON  
 DENNIS TOWNSHIP, CAPE MAY COUNTY, NJ

FIGURE 5  
 SITE TRAFFIC



AM/PM PEAK HOURS

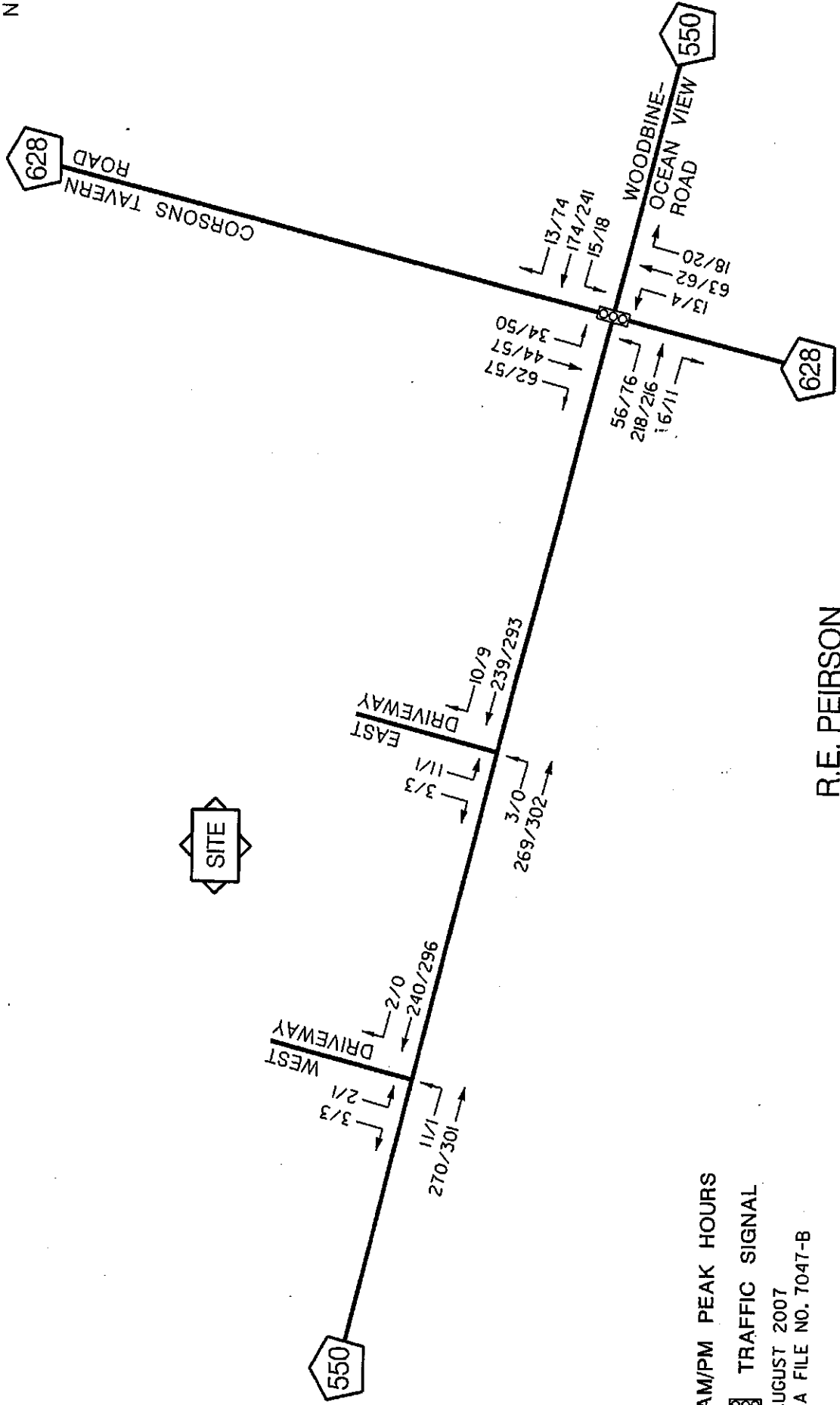
TRAFFIC SIGNAL

AUGUST 2007

SA FILE NO. 7047-B

R.E. PEIRSON

DENNIS TOWNSHIP, CAPE MAY COUNTY, NJ



AM/PM PEAK HOURS

TRAFFIC SIGNAL

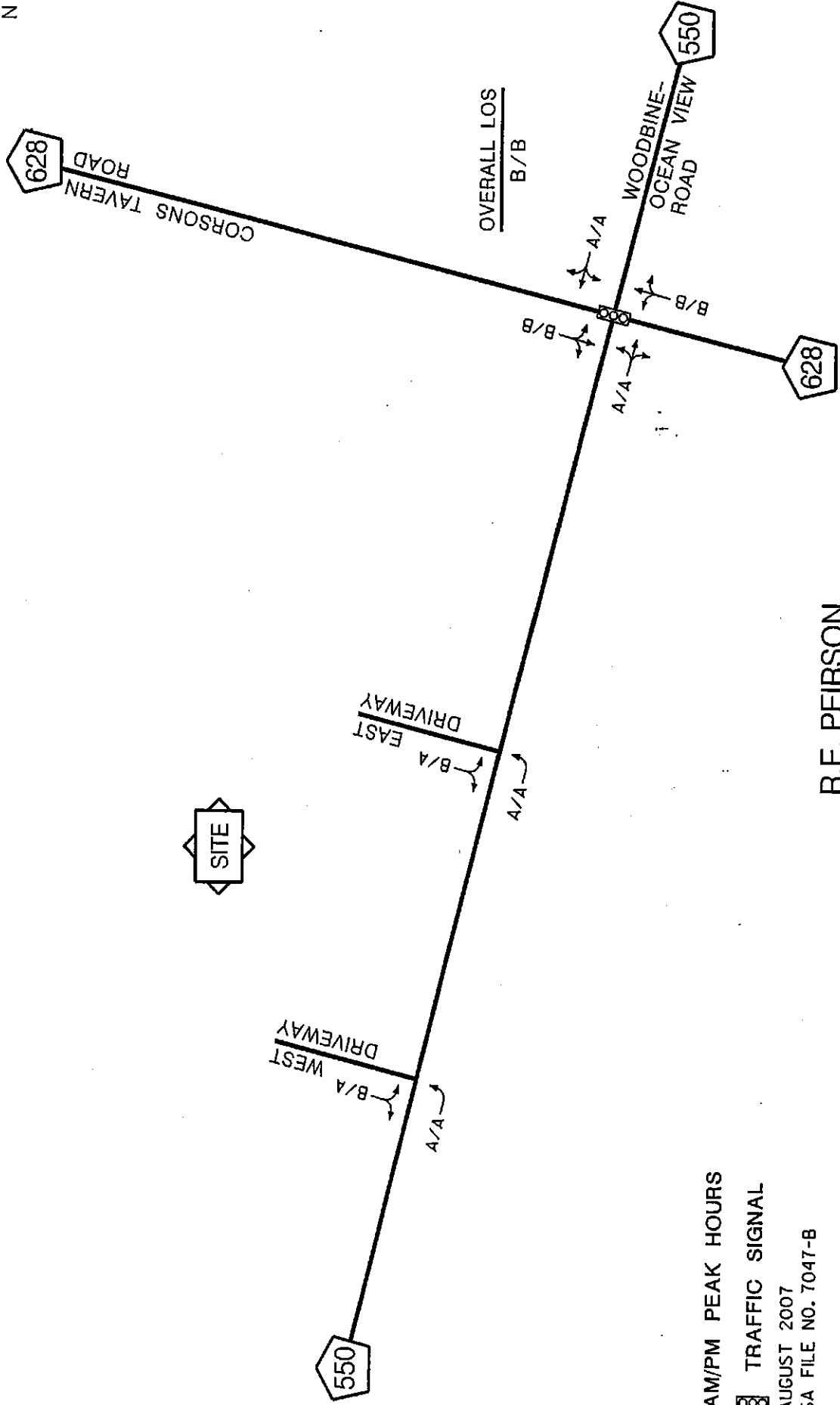
AUGUST 2007

SA FILE NO. 7047-B

R.E. PEIRSON

DENNIS TOWNSHIP, CAPE MAY COUNTY, NJ

**FIGURE 7**  
**EXISTING LEVELS OF SERVICE**

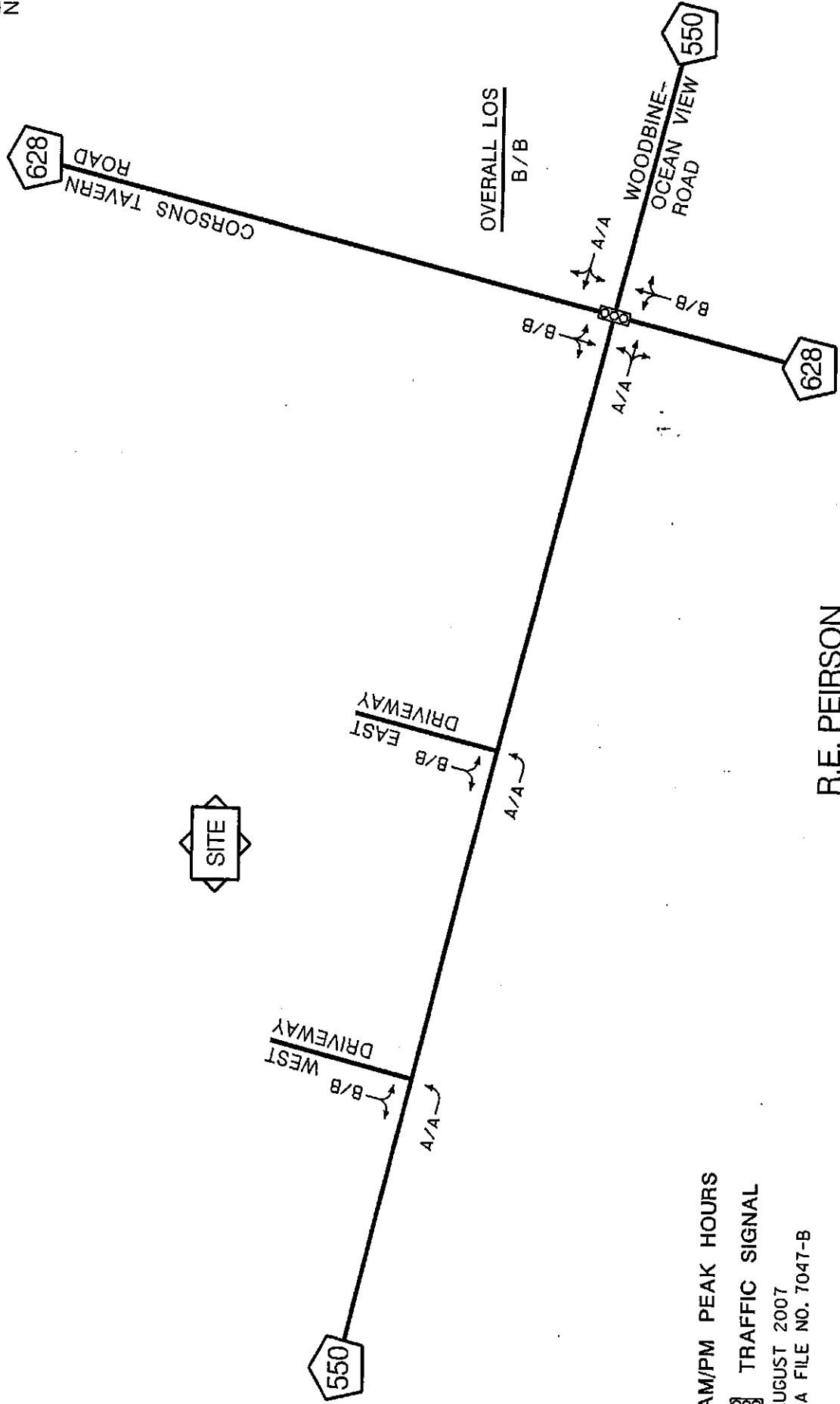


**R.E. PEIRSON**

DENNIS TOWNSHIP, CAPE MAY COUNTY, NJ

AM/PM PEAK HOURS  
 TRAFFIC SIGNAL  
 AUGUST 2007  
 SA FILE NO. 7047-B

FIGURE 8  
 NO-BUILD LEVELS OF SERVICE



AM/PM PEAK HOURS

TRAFFIC SIGNAL

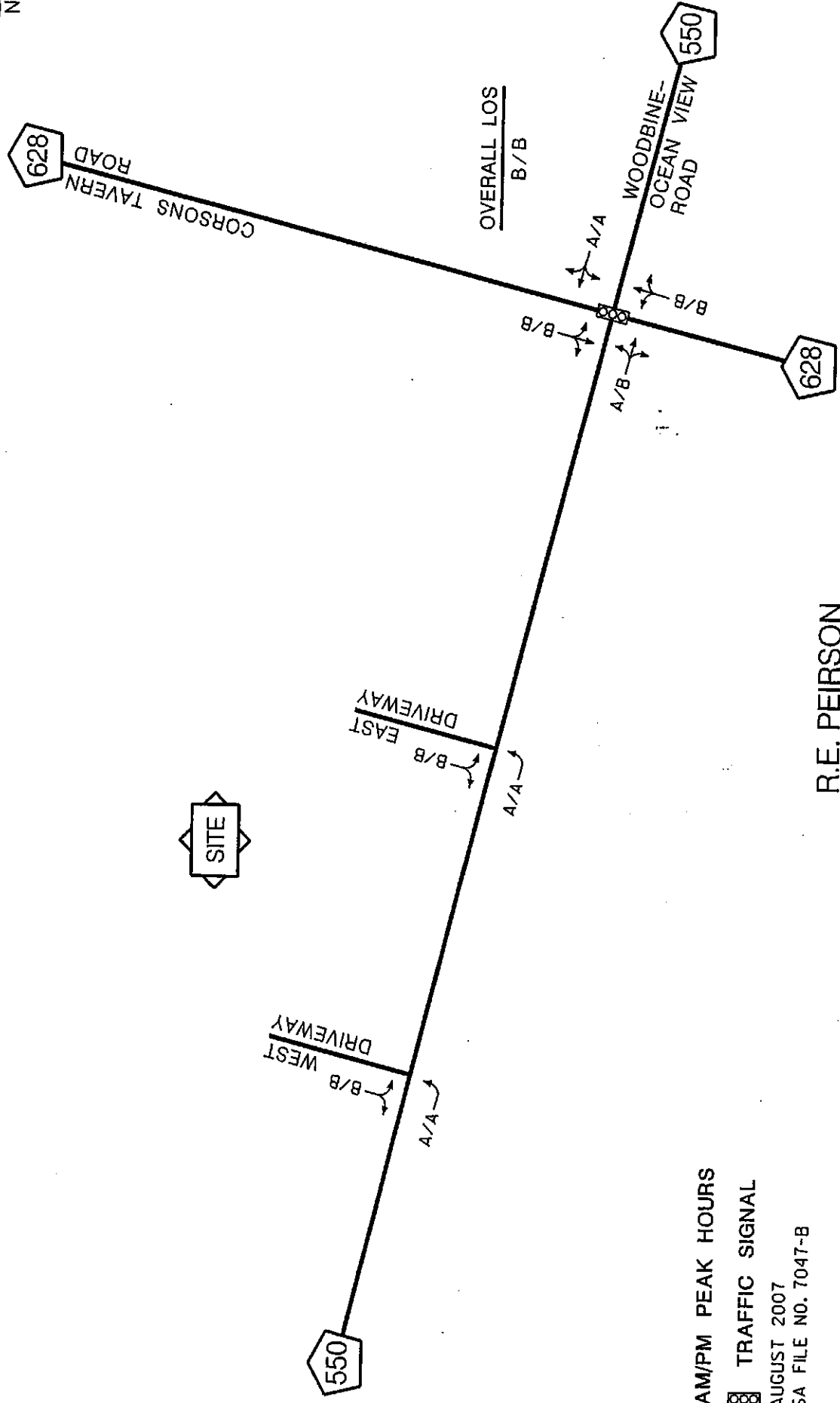
AUGUST 2007

SA FILE NO. 7047-B

R.E. PEIRSON

DENNIS TOWNSHIP, CAPE MAY COUNTY, NJ

FIGURE 9  
 BUILD LEVELS OF SERVICE



R.E. PEIRSON

DENNIS TOWNSHIP, CAPE MAY COUNTY, NJ

AM/PM PEAK HOURS

TRAFFIC SIGNAL

AUGUST 2007

SA FILE NO. 7047-B

# Shropshire Associates LLC

662 South Main Street  
Lumberton, New Jersey 08048

N/S Route: Corson Tavern Road  
E/W Route: Woodbine-Ocean View Rd.  
Dennis Twp./Cape May Co.NJ  
Clear/Tues./JA/2584

File Name : 70470002  
Site Code : 70470002  
Start Date : 4/3/2007  
Page No : 1

## Groups Printed- Unshifted - Heavy Vehicles

Start Time	Corson Tavern Road Southbound			Woodbine-Ocean View Road Westbound			Corson Tavern Road Northbound			Woodbine-Ocean View Road Eastbound			Int. Total
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
06:00 AM	0	1	1	0	4	0	0	2	0	0	5	0	13
06:15 AM	3	0	1	1	7	1	0	4	1	0	15	2	35
06:30 AM	4	3	2	0	17	0	0	10	0	0	23	4	63
06:45 AM	10	4	5	3	20	1	2	7	1	0	24	3	80
Total	17	8	9	4	48	2	2	23	2	0	67	9	191
07:00 AM	3	7	6	2	20	0	1	3	2	1	18	7	70
07:15 AM	11	2	3	3	24	2	0	2	3	4	31	4	89
07:30 AM	11	10	8	2	30	3	2	4	1	2	39	10	122
07:45 AM	18	10	5	4	36	2	2	16	6	1	39	12	151
Total	43	29	22	11	110	7	5	25	12	8	127	33	432
08:00 AM	5	4	6	0	22	2	1	5	0	1	29	6	81
08:15 AM	5	4	2	2	20	2	6	15	1	0	29	7	93
08:30 AM	6	9	10	5	28	2	3	9	1	0	39	6	118
08:45 AM	10	5	1	5	30	2	5	9	0	0	21	4	92
Total	26	22	19	12	100	8	15	38	2	1	118	23	384
01:00 PM	14	6	3	5	34	1	1	9	0	2	28	8	111
01:15 PM	15	10	4	10	30	3	1	7	1	3	24	6	114
01:30 PM	9	9	3	6	31	2	4	11	1	1	36	8	121
01:45 PM	8	10	6	4	38	0	1	7	1	1	27	6	109
Total	46	35	16	25	133	6	7	34	3	7	115	28	455
02:00 PM	8	6	0	3	34	3	2	8	0	1	29	7	101
02:15 PM	8	14	4	8	33	1	2	7	1	0	29	12	119
02:30 PM	10	8	5	6	24	4	3	16	3	0	27	7	113
02:45 PM	10	12	3	8	28	1	3	9	0	4	23	8	109
Total	36	40	12	25	119	9	10	40	4	5	108	34	442
03:00 PM	8	11	5	5	36	2	6	7	0	2	26	14	122
03:15 PM	14	9	3	6	36	1	1	12	3	2	27	12	126
03:30 PM	11	10	6	5	46	2	3	11	0	2	37	14	147
03:45 PM	6	8	7	9	39	4	1	19	2	1	27	7	130
Total	39	38	21	25	157	9	11	49	5	7	117	47	525
Grand Total	207	172	99	102	667	41	50	209	28	28	652	174	2429
Apprch %	43.3	36	20.7	12.6	82.3	5.1	17.4	72.8	9.8	3.3	76.3	20.4	
Total %	8.5	7.1	4.1	4.2	27.5	1.7	2.1	8.6	1.2	1.2	26.8	7.2	
Unshifted	191	171	93	97	539	41	48	205	28	24	542	161	2140
% Unshifted	92.3	99.4	93.9	95.1	80.8	100	96	98.1	100	85.7	83.1	92.5	88.1
Heavy Vehicles	16	1	6	5	128	0	2	4	0	4	110	13	289
% Heavy Vehicles	7.7	0.6	6.1	4.9	19.2	0	4	1.9	0	14.3	16.9	7.5	11.9

# Shropshire Associates LLC

662 South Main Street  
Lumberton, New Jersey 08048

N/S Route: Corson Tavern Road  
E/W Route: Woodbine-Ocean View Rd.  
Dennis Twp./Cape May Co.NJ  
Clear/Tues./JA/2584

File Name : 70470002  
Site Code : 70470002  
Start Date : 4/3/2007  
Page No : 2

	Corson Tavern Road Southbound				Woodbine-Ocean View Road Westbound				Corson Tavern Road Northbound				Woodbine-Ocean View Road Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	11	10	8	29	2	30	3	35	2	4	1	7	2	39	10	51	122
07:45 AM	18	10	5	33	4	36	2	42	2	16	6	24	1	39	12	52	151
08:00 AM	5	4	6	15	0	22	2	24	1	5	0	6	1	29	6	36	81
08:15 AM	5	4	2	11	2	20	2	24	6	15	1	22	0	29	7	36	93
Total Volume	39	28	21	88	8	108	9	125	11	40	8	59	4	136	35	175	447
% App. Total	44.3	31.8	23.9		6.4	86.4	7.2		18.6	67.8	13.6		2.3	77.7	20		
PHF	.542	.700	.656	.667	.500	.750	.750	.744	.458	.625	.333	.615	.500	.872	.729	.841	.740
Peak Hour Analysis From 01:00 PM to 03:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:00 PM																	
03:00 PM	8	11	5	24	5	36	2	43	6	7	0	13	2	26	14	42	122
03:15 PM	14	9	3	26	6	36	1	43	1	12	3	16	2	27	12	41	126
03:30 PM	11	10	6	27	5	46	2	53	3	11	0	14	2	37	14	53	147
03:45 PM	6	8	7	21	9	39	4	52	1	19	2	22	1	27	7	35	130
Total Volume	39	38	21	98	25	157	9	191	11	49	5	65	7	117	47	171	525
% App. Total	39.8	38.8	21.4		13.1	82.2	4.7		16.9	75.4	7.7		4.1	68.4	27.5		
PHF	.696	.864	.750	.907	.694	.853	.563	.901	.458	.645	.417	.739	.875	.791	.839	.807	.893

# Shropshire Associates LLC

662 South Main Street  
Lumberton, New Jersey 08048

N/S Route: R/E. Pierson East Access  
E/W Route: Woodbine-Ocean View Rd.  
Dennis Twp./Cape May Co. NJ  
Clear/Tues./BEB/2538

File Name : 70470003  
Site Code : 70470003  
Start Date : 4/3/2007  
Page No : 1

## Groups Printed- Unshifted - East Access Heavy Vehicles

Start Time	R.E Pierson East Access Southbound		Woodbine-Ocean View Road Westbound		Woodbine-Ocean View Road Eastbound		Int. Total
	Right	Left	Right	Thru	Thru	Left	
06:00 AM	0	1	0	7	12	0	20
06:15 AM	4	8	0	11	8	0	31
06:30 AM	0	0	0	22	27	0	49
06:45 AM	0	1	0	22	29	0	52
Total	4	10	0	62	76	0	152
07:00 AM	0	1	1	22	22	0	46
07:15 AM	0	1	1	36	43	0	81
07:30 AM	0	2	2	41	48	0	93
07:45 AM	0	4	4	51	41	0	100
Total	0	8	8	150	154	0	320
08:00 AM	0	1	1	33	51	0	86
08:15 AM	0	2	1	24	32	0	59
08:30 AM	0	0	0	38	38	0	76
08:45 AM	0	1	2	36	28	0	67
Total	0	4	4	131	149	0	288
01:00 PM	0	1	3	44	30	0	78
01:15 PM	0	4	5	39	27	0	75
01:30 PM	0	4	2	37	37	1	81
01:45 PM	0	1	0	41	31	0	73
Total	0	10	10	161	125	1	307
02:00 PM	0	2	2	37	30	0	71
02:15 PM	0	0	5	35	34	0	74
02:30 PM	2	1	1	35	33	0	72
02:45 PM	0	0	5	32	32	1	70
Total	2	3	13	139	129	1	287
03:00 PM	1	0	2	39	41	0	83
03:15 PM	1	0	1	52	33	0	87
03:30 PM	0	0	4	49	52	0	105
03:45 PM	0	0	2	45	37	0	84
Total	2	0	9	185	163	0	359
Grand Total	8	35	44	828	796	2	1713
Apprch %	18.6	81.4	5	95	99.7	0.3	
Total %	0.5	2	2.6	48.3	46.5	0.1	
Unshifted	0	1	0	740	707	1	1449
% Unshifted	0	2.9	0	89.4	88.8	50	84.6
East Access Heavy Vehicles	8	34	44	88	89	1	264
East Access Heavy Vehicles	100	97.1	100	10.6	11.2	50	15.4

Start Time	R.E Pierson East Access Southbound			Woodbine-Ocean View Road Westbound			Woodbine-Ocean View Road Eastbound			Int. Total
	Right	Left	App. Total	Right	Thru	App. Total	Thru	Left	App. Total	
1 Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1										
1 Hour for Entire Intersection Begins at 07:15 AM										
07:15 AM	0	1	1	1	36	37	43	0	43	81
07:30 AM	0	2	2	2	41	43	48	0	48	93
07:45 AM	0	4	4	4	51	55	41	0	41	100
08:00 AM	0	1	1	1	33	34	51	0	51	86
Total Volume	0	8	8	8	161	169	183	0	183	360
% App. Total	0	100		4.7	95.3		100	0		
PHF	.000	.500	.500	.500	.780	.780	.780	.000	.780	

Peak Hour Analysis From 01:00 PM to 03:45 PM - Peak 1 of 1  
Peak Hour for Entire Intersection Begins at 03:00 PM

03:00 PM	1	0	1	2	39	41	41	0	41	83
03:15 PM	1	0	1	1	52	53	33	0	33	87
03:30 PM	0	0	0	4	49	53	52	0	52	87
03:45 PM	0	0	0	2	45	47	37	0	37	105
Total Volume	2	0	2	9	185	194	163	0	163	84
% App. Total	100	0		4.6	95.4		100	0		359
PHF	.500	.000	.500	.563	.889	.915	.784	.000	.784	.855

662 South Main Street  
Lumberton, New Jersey 08048

File Name : 70470003  
Site Code : 70470003  
Start Date : 4/3/2007  
Page No : 1

[illegible]

# Shropshire Associates LLC

662 South Main Street  
Lumberton, New Jersey 08048

N/S Route: Oak Grove Road (CR 671)  
E/W Route: R.E. Pierson Access  
Logan Twp./Gloucester Co. NJ  
Clear/Tues./CA/2585

File Name : 70470001  
Site Code : 70470001  
Start Date : 4/3/2007  
Page No : 1

## Groups Printed- Unshifted

Start Time	Oak Grove Road Southbound		Oak Grove Road Northbound		R.E. Pierson Access Eastbound		Int. Total
	Right	Thru	Thru	Left	Right	Left	
06:00 AM	0	3	2	0	0	0	5
06:15 AM	1	3	2	0	0	0	6
06:30 AM	2	2	2	3	1	0	10
06:45 AM	1	3	7	1	0	0	12
Total	4	11	13	4	1	0	33
07:00 AM	1	4	9	2	1	1	18
07:15 AM	3	5	7	2	0	0	17
07:30 AM	1	1	5	2	0	0	9
07:45 AM	2	2	5	0	1	1	11
Total	7	12	26	6	2	2	55
08:00 AM	1	3	2	0	1	1	8
08:15 AM	0	3	3	0	0	0	6
08:30 AM	1	2	3	1	0	1	8
08:45 AM	0	3	0	0	0	1	4
Total	2	11	8	1	1	3	26
01:00 PM	1	4	4	0	0	0	9
01:15 PM	0	5	2	0	0	1	8
01:30 PM	3	4	4	3	0	0	14
01:45 PM	1	5	5	0	1	1	13
Total	5	18	15	3	1	2	44
02:00 PM	1	5	4	0	3	3	16
02:15 PM	0	4	5	0	1	0	10
02:30 PM	1	0	5	0	0	0	6
02:45 PM	0	4	3	1	1	2	11
Total	2	13	17	1	5	5	43
03:00 PM	2	1	4	0	0	2	9
03:15 PM	0	9	4	0	0	0	13
03:30 PM	0	9	5	1	1	0	16
03:45 PM	0	8	8	0	0	0	16
Total	2	27	21	1	1	2	54
Grand Total	22	92	100	16	11	14	255
Apprch %	19.3	80.7	86.2	13.8	4.3	5.5	
Total %	8.6	36.1	39.2	6.3			

Start Time	Oak Grove Road Southbound			Oak Grove Road Northbound			R.E. Pierson Access Eastbound			Int. Total
	Right	Thru	App. Total	Thru	Left	App. Total	Right	Left	App. Total	
Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 06:30 AM										
06:30 AM	2	2	4	2	3	5	1	0	1	10
06:45 AM	1	3	4	7	1	8	0	0	0	12
07:00 AM	1	4	5	9	2	11	1	1	2	18
07:15 AM	3	6	8	7	2	9	0	0	0	17
Total Volume	7	14	21	25	8	33	2	1	3	57
% App. Total	33.3	66.7		75.8	24.2		66.7	33.3		
PHF	.583	.700	.656	.694	.667	.750	.500	.250	.375	.792

# Shropshire Associates LLC

662 South Main Street  
Lumberton, New Jersey 08048

N/S Route: Oak Grove Road (CR 671)  
E/W Route: R.E. Pierson Access  
Logan Twp./Gloucester Co. NJ  
Clear/Tues./CA/2585

File Name : 70470001  
Site Code : 70470001  
Start Date : 4/3/2007  
Page No : 2

	Oak Grove Road Southbound			Oak Grove Road Northbound			R.E. Pierson Access Eastbound			
Start Time	Right	Thru	App. Total	Thru	Left	App. Total	Right	Left	App. Total	Int. Total
Peak Hour Analysis From 01:00 PM to 03:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 03:00 PM										
03:00 PM	2	1	3	4	0	4	0	2	2	9
03:15 PM	0	9	9	4	0	4	0	0	0	13
03:30 PM	0	9	9	5	1	6	1	0	1	16
03:45 PM	0	8	8	8	0	8	0	0	0	16
Total Volume	2	27	29	21	1	22	1	2	3	54
% App. Total	6.9	93.1		95.5	4.5		33.3	66.7		
PHF	.250	.750	.806	.656	.250	.688	.250	.250	.375	.844

# Shropshire Associates LLC

662 South Main Street  
Lumberton, New Jersey 08048

N/S Route: Oak Grove Road (CR 671)  
E/W Route: R.E. Pierson Access  
Logan Twp./Gloucester Co. NJ  
Clear/Tues./CA/2585

File Name : 70470001  
Site Code : 70470001  
Start Date : 4/3/2007  
Page No : 1

Groups Printed- Heavy Vehicles								
Start Time	Oak Grove Road Southbound		Oak Grove Road Northbound		R.E. Pierson Access Eastbound		Int. Total	
	Right	Thru	Thru	Left	Right	Left		
06:30 AM	1	0	0	2	0	0		
06:45 AM	4	0	1	2	1	1		3
Total	5	0	1	4	1	1		9
07:00 AM	1	0	0	0	1	5		12
07:15 AM	2	1	1	0	0	1		7
07:30 AM	0	0	0	0	2	0		5
07:45 AM	2	0	0	1	0	0		2
Total	5	1	1	1	3	6		3
08:00 AM	1	0	0	0	1	2		17
08:15 AM	2	0	0	2	1	1		4
08:30 AM	3	0	0	2	2	1		6
08:45 AM	0	1	0	2	2	1		8
Total	6	1	0	6	7	7		9
								27
01:00 PM	5	0	0	2	2	3		12
01:15 PM	2	0	0	2	2	2		8
01:30 PM	3	0	0	1	4	2		10
01:45 PM	3	0	0	2	3	1		9
Total	13	0	0	7	11	8		39
02:00 PM	1	0	0	2	1	2		6
02:15 PM	0	0	0	0	0	2		2
02:30 PM	2	0	0	1	2	1		6
02:45 PM	0	0	0	0	2	1		3
Total	3	0	0	3	5	6		17
03:00 PM	0	0	0	2	0	0		2
03:15 PM	0	0	0	0	2	0		2
Total	0	0	0	2	2	0		4
Grand Total	32	2	2	23	29	28		116
Apprch %	94.1	5.9	8	92	50.9	49.1		
Total %	27.6	1.7	1.7	19.8	25	24.1		

Start Time	Oak Grove Road Southbound			Oak Grove Road Northbound			R.E. Pierson Access Eastbound			Int. Total
	Right	Thru	App. Total	Thru	Left	App. Total	Right	Left	App. Total	
Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 08:00 AM										
08:00 AM	1	0	1	0	0	0	1	2	3	4
08:15 AM	2	0	2	0	2	2	1	1	2	6
08:30 AM	3	0	3	0	2	2	2	1	3	8
08:45 AM	0	1	1	0	2	2	3	3	6	9
Total Volume	6	1	7	0	6	6	7	7	14	27
% App. Total	85.7	14.3		0	100		50	50		
PHF	.500	.250	.583	.000	.750	.750	.583	.583	.583	.750

# Shropshire Associates LLC

662 South Main Street  
Lumberton, New Jersey 08048

N/S Route: Oak Grove Road (CR 671)

E/W Route: R.E. Pierson Access

Logan Twp./Gloucester Co. NJ

Clear/Tues./CA/2585

File Name : 70470001

Site Code : 70470001

Start Date : 4/3/2007

Page No : 2

	Oak Grove Road Southbound			Oak Grove Road Northbound			R.E. Pierson Access Eastbound			
Start Time	Right	Thru	App. Total	Thru	Left	App. Total	Right	Left	App. Total	Int. Total
Peak Hour Analysis From 01:00 PM to 03:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 01:00 PM										
01:00 PM	5	0	5	0	2	2	2	3	5	12
01:15 PM	2	0	2	0	2	2	2	2	4	8
01:30 PM	3	0	3	0	1	1	4	2	6	10
01:45 PM	3	0	3	0	2	2	3	1	4	9
Total Volume	13	0	13	0	7	7	11	8	19	39
% App. Total	100	0		0	100		57.9	42.1		
PHF	.650	.000	.650	.000	.875	.875	.688	.667	.792	.813

# Shropshire Associates LLC

662 South Main Street  
Lumberton, New Jersey 08048

N/S Route: Corsons-Tavern Road (CR 628)  
E/W Rt: Woodbine-Oceanview Road (CR 550)  
Dennis Twp./Cape May Co. NJ  
Clear/Thurs./BCG/4607

File Name : 70470004  
Site Code : 70470004  
Start Date : 7/12/2007  
Page No : 1

## Groups Printed- Unshifted - Large Trucks

Start Time	Corsons-Tavern Road Southbound				Woodbine-Oceanview Road Westbound				Corsons-Tavern Road Northbound				Woodbine-Oceanview Road Eastbound				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
03:00 PM	15	13	8	0	21	48	2	0	2	7	2	0	0	55	17	0	190
03:15 PM	15	14	12	0	18	61	2	0	5	14	1	0	1	51	9	0	203
03:30 PM	11	11	6	0	15	56	1	0	0	14	5	0	1	61	11	0	192
03:45 PM	18	10	11	0	24	53	3	0	4	16	1	0	2	38	19	0	199
Total	59	48	37	0	78	218	8	0	11	51	9	0	4	205	56	0	784
04:00 PM	20	13	11	0	13	55	7	0	5	15	1	0	3	50	10	0	203
04:15 PM	14	16	11	0	29	60	0	0	3	12	1	0	0	51	24	0	221
04:30 PM	8	14	11	0	11	54	4	0	4	13	2	0	5	57	25	0	208
04:45 PM	12	11	15	0	17	60	6	0	7	19	0	0	2	47	12	0	208
Total	54	54	48	0	70	229	17	0	19	59	4	0	10	205	71	0	840
05:00 PM	14	18	8	0	22	43	6	0	4	9	1	0	4	44	14	0	187
05:15 PM	15	21	12	0	16	47	2	0	4	22	0	0	0	39	8	0	186
05:30 PM	13	19	9	0	15	42	6	0	1	19	1	0	2	41	11	0	179
05:45 PM	17	14	15	0	15	49	5	0	3	17	0	0	0	42	11	0	188
Total	59	72	44	0	68	181	19	0	12	67	2	0	6	166	44	0	740
Grand Total	172	174	129	0	216	628	44	0	42	177	15	0	20	576	171	0	2364
Apprch %	36.2	36.6	27.2	0	24.3	70.7	5	0	17.9	75.6	6.4	0	2.8	75.1	22.3	0	
Total %	7.3	7.4	5.5	0	9.1	26.6	1.9	0	1.8	7.5	0.6	0	0.8	24.4	7.2	0	
Unshifted	165	174	129	0	215	594	44	0	42	177	14	0	19	563	167	0	2303
% Unshifted	95.9	100	100	0	99.5	94.6	100	0	100	100	93.3	0	95	97.7	97.7	0	97.4
Large Trucks	7	0	0	0	1	34	0	0	0	0	1	0	1	13	4	0	61
% Large Trucks	4.1	0	0	0	0.5	5.4	0	0	0	0	6.7	0	5	2.3	2.3	0	2.6

	Corsons-Tavern Road Southbound					Woodbine-Oceanview Road Westbound					Corsons-Tavern Road Northbound					Woodbine-Oceanview Road Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	20	13	11	0	44	13	55	7	0	75	5	15	1	0	21	3	50	10	0	63	203
04:15 PM	14	16	11	0	41	29	60	0	0	89	3	12	1	0	16	0	51	24	0	75	221
04:30 PM	8	14	11	0	33	11	54	4	0	69	4	13	2	0	19	5	57	25	0	87	208
04:45 PM	12	11	15	0	38	17	60	6	0	83	7	19	0	0	26	2	47	12	0	61	208
Total Volume	54	54	48	0	156	70	229	17	0	316	19	59	4	0	82	10	205	71	0	286	840
% App. Total	34.6	34.6	30.8	0		22.2	72.5	5.4	0		23.2	72	4.9	0		3.5	71.7	24.8	0		
PHF	.875	.844	.800	.000	.886	.603	.954	.607	.000	.888	.679	.776	.500	.000	.788	.500	.899	.710	.000	.822	.950

# Shropshire Associates LLC

662 South Main Street  
Lumberton, New Jersey 08048

N/S Route: Oak Grove Road (CR 671)

E/W Route: R.E. Pierson Access

Login Twp./Gloucester Co. NJ.

Clear/Thurs./JA,ECG,LLE/3730,2538,3146

File Name : 70470123

Site Code : 70470333

Start Date : 7/12/2007

Page No : 1

## Groups Printed- Unshifted - Large Trucks

Start Time	Oak Grove Road Southbound		Oak Grove Road Northbound		R.E Pierson Access Eastbound		Int. Total
	Right	Thru	Thru	Left	Right	Left	
06:00 AM	0	3	2	3	0	0	8
06:15 AM	11	2	4	3	0	1	21
06:30 AM	3	2	5	2	0	2	14
06:45 AM	13	3	6	4	0	14	40
Total	27	10	17	12	0	17	83
07:00 AM	4	2	2	0	3	9	20
07:15 AM	8	2	3	4	3	4	24
07:30 AM	9	3	7	1	6	5	31
07:45 AM	8	2	5	0	0	8	23
Total	29	9	17	5	12	26	98
08:00 AM	5	3	2	6	4	5	25
08:15 AM	7	4	2	5	3	6	27
08:30 AM	3	4	5	0	2	5	19
08:45 AM	8	2	1	2	3	4	20
Total	23	13	10	13	12	20	91
09:00 AM	7	3	2	0	4	5	21
09:15 AM	4	1	3	2	1	6	17
09:30 AM	8	2	1	0	1	7	19
09:45 AM	5	6	1	2	0	5	19
Total	24	12	7	4	6	23	76
10:00 AM	6	5	1	2	3	8	25
10:15 AM	3	1	3	4	5	5	21
10:30 AM	14	2	6	1	2	4	29
10:45 AM	17	2	2	2	2	12	37
Total	40	10	12	9	12	29	112
11:00 AM	16	1	1	2	3	18	41
11:15 AM	7	1	1	1	4	11	25
11:30 AM	8	6	6	1	3	4	28
11:45 AM	9	3	3	5	6	9	35
Total	40	11	11	9	16	42	129
12:00 PM	8	5	2	1	2	8	26
12:15 PM	3	6	4	2	5	6	26
12:30 PM	11	2	2	1	2	2	20
12:45 PM	8	6	2	0	6	5	27
Total	30	19	10	4	15	21	99
01:00 PM	19	5	3	0	0	12	39
01:15 PM	13	4	1	1	4	7	30
01:30 PM	6	3	2	0	5	8	24
01:45 PM	18	0	1	2	5	6	32
Total	56	12	7	3	14	33	125
02:00 PM	14	2	3	0	4	13	36
02:15 PM	14	5	4	0	3	10	36
02:30 PM	12	7	7	0	2	13	41
02:45 PM	4	2	3	1	3	7	20
Total	44	16	17	1	12	43	133
03:00 PM	2	4	3	0	5	4	18
03:15 PM	3	5	4	0	2	2	16
03:30 PM	2	5	5	2	1	2	17
03:45 PM	0	6	2	0	0	2	10
Total	7	20	14	2	8	10	61

# Shropshire Associates LLC

662 South Main Street  
Lumberton, New Jersey 08048

N/S Route: Oak Grove Road (CR 671)  
E/W Route: R.E. Pierson Access  
Login Twp./Gloucester Co. NJ  
Clear/Thurs./JA, ECG, LLE/3730, 2538, 3146

File Name : 70470123  
Site Code : 70470333  
Start Date : 7/12/2007  
Page No : 2

## Groups Printed - Unshifted - Large Trucks

Start Time	Oak Grove Road Southbound		Oak Grove Road Northbound		R.E Pierson Access Eastbound		Int. Total
	Right	Thru	Thru	Left	Right	Left	
04:00 PM	0	4	9	0	6	0	19
04:15 PM	2	4	3	0	2	1	12
04:30 PM	0	6	3	0	2	0	11
04:45 PM	0	4	3	0	2	0	9
Total	2	18	18	0	12	1	51
05:00 PM	0	5	3	0	1	2	11
05:15 PM	0	13	3	1	1	1	19
05:30 PM	0	2	1	0	0	0	3
05:45 PM	0	4	4	0	0	0	8
Total	0	24	11	1	2	3	41
Grand Total	322	174	151	63	121	268	1099
Apprch %	64.9	35.1	70.6	29.4	31.1	68.9	
Total %	29.3	15.8	13.7	5.7	11	24.4	
Unshifted	30	163	144	30	33	28	428
% Unshifted	9.3	93.7	95.4	47.6	27.3	10.4	38.9
Large Trucks	292	11	7	33	88	240	671
% Large Trucks	90.7	6.3	4.6	52.4	72.7	89.6	61.1

Start Time	Oak Grove Road Southbound			Oak Grove Road Northbound			R.E Pierson Access Eastbound			Int. Total
	Right	Thru	App. Total	Thru	Left	App. Total	Right	Left	App. Total	
Peak Hour Analysis From 06:00 AM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 01:45 PM										
01:45 PM	18	0	18	1	2	3	5	6	11	32
02:00 PM	14	2	16	3	0	3	4	13	17	36
02:15 PM	14	5	19	4	0	4	3	10	13	36
02:30 PM	12	7	19	7	0	7	2	13	15	41
Total Volume	58	14	72	15	2	17	14	42	56	145
% App. Total	80.6	19.4		88.2	11.8		25	75		
PHF	.806	.500	.947	.536	.250	.607	.700	.808	.824	.884

# Shropshire Associates LLC

662 South Main Street  
Lumberton, New Jersey 08048

N/S Route: Oak Grove Road (CR 671)

E/W Route: R.E. Pierson Access

Login Twp./Gloucester Co. NJ

Clear/Thurs./JA,ECG,LLE/3730,2538,3146

File Name : 70470123

Site Code : 70470333

Start Date : 7/12/2007

Page No : 1

## Groups Printed- Unshifted

Start Time	Oak Grove Road Southbound		Oak Grove Road Northbound		R.E Pierson Access Eastbound		Int. Total
	Right	Thru	Thru	Left	Right	Left	
06:00 AM	0	3	1	3	0	0	7
06:15 AM	1	2	4	2	0	0	9
06:30 AM	0	2	4	2	0	0	8
06:45 AM	3	3	4	2	0	1	13
Total	4	10	13	9	0	1	37
07:00 AM	0	2	2	0	0	0	4
07:15 AM	1	2	3	3	1	0	10
07:30 AM	0	3	7	1	0	1	12
07:45 AM	0	2	5	0	0	0	7
Total	1	9	17	4	1	1	33
08:00 AM	1	3	2	0	0	0	6
08:15 AM	0	3	1	2	2	0	8
08:30 AM	0	2	5	0	0	0	7
08:45 AM	1	2	1	0	0	1	5
Total	2	10	9	2	2	1	26
09:00 AM	1	2	2	0	0	0	5
09:15 AM	1	1	2	0	0	1	5
09:30 AM	1	2	1	0	0	1	5
09:45 AM	0	4	1	0	0	1	6
Total	3	9	6	0	0	3	21
10:00 AM	2	5	1	1	1	2	12
10:15 AM	0	1	3	2	2	0	8
10:30 AM	1	2	6	0	1	0	10
10:45 AM	0	2	2	1	1	0	6
Total	3	10	12	4	5	2	36
11:00 AM	4	1	1	0	0	1	7
11:15 AM	0	1	1	0	0	2	4
11:30 AM	0	5	6	0	2	0	13
11:45 AM	0	3	3	2	2	1	11
Total	4	10	11	2	4	4	35
12:00 PM	1	4	2	1	0	0	8
12:15 PM	1	6	4	1	2	2	16
12:30 PM	1	2	2	1	0	0	6
12:45 PM	0	6	2	0	0	1	9
Total	3	18	10	3	2	3	39
01:00 PM	0	5	3	0	0	0	8
01:15 PM	1	4	1	1	0	1	8
01:30 PM	0	3	2	0	0	0	5
01:45 PM	5	0	1	1	0	2	9
Total	6	12	7	2	0	3	30
02:00 PM	1	2	3	0	1	3	10
02:15 PM	0	5	4	0	0	1	10
02:30 PM	2	7	7	0	1	0	17
02:45 PM	0	2	2	1	0	1	6
Total	3	16	16	1	2	5	43
03:00 PM	0	3	3	0	2	0	8
03:15 PM	0	5	4	0	1	1	11
03:30 PM	0	4	5	2	0	1	12
03:45 PM	0	6	2	0	0	0	8
Total	0	18	14	2	3	2	39

# Shropshire Associates LLC

662 South Main Street  
Lumberton, New Jersey 08048

N/S Route: Oak Grove Road (CR 671)  
E/W Route: R.E. Pierson Access  
Login Twp./Gloucester Co. NJ  
Clear/Thurs./JA,ECG,LLE/3730,2538,3146

File Name : 70470123  
Site Code : 70470333  
Start Date : 7/12/2007  
Page No : 2

Groups Printed- Unshifted								
Start Time	Oak Grove Road Southbound		Oak Grove Road Northbound		R.E Pierson Access Eastbound		Int. Total	
	Right	Thru	Thru	Left	Right	Left		
04:00 PM	0	4	9	0	6	0		
04:15 PM	1	4	3	0	2	0		19
04:30 PM	0	5	3	0	2	0		10
04:45 PM	0	4	3	0	2	0		10
Total	1	17	18	0	12	0		9
05:00 PM	0	5	3	0	1	2		48
05:15 PM	0	13	3	1	1	1		11
05:30 PM	0	2	1	0	0	1		19
05:45 PM	0	4	4	0	0	0		3
Total	0	24	11	1	0	0		8
Grand Total	30	163	144	30	33	28		41
Apprch %	15.5	84.5	82.8	17.2	54.1	45.9		428
Total %	7	38.1	33.6	7	7.7	6.5		

	Oak Grove Road Southbound			Oak Grove Road Northbound			R.E Pierson Access Eastbound			
Start Time	Right	Thru	App. Total	Thru	Left	App. Total	Right	Left	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 03:15 PM										
03:15 PM	0	5	5	4	0	4	1	1	2	11
03:30 PM	0	4	4	5	2	7	0	1	1	12
03:45 PM	0	6	6	2	0	2	0	0	0	8
04:00 PM	0	4	4	9	0	9	6	0	6	19
Total Volume	0	19	19	20	2	22	7	2	9	50
% App. Total	0	100		90.9	9.1		77.8	22.2		
PHF	.000	.792	.792	.556	.250	.611	.292	.500	.375	.658

# Shropshire Associates LLC

662 South Main Street  
Lumberton, New Jersey 08048

N/S Route: Oak Grove Road (CR 671)

E/W Route: R.E. Pierson Access

Login Twp./Gloucester Co. NJ

Clear/Thurs./JA,ECG,LLE/3730,2538,3146

File Name : 70470123

Site Code : 70470333

Start Date : 7/12/2007

Page No : 1

## Groups Printed- Large Trucks

Start Time	Oak Grove Road Southbound		Oak Grove Road Northbound		R.E Pierson Access Eastbound		Int. Total
	Right	Thru	Thru	Left	Right	Left	
06:00 AM	0	0	1	0	0	0	1
06:15 AM	10	0	0	1	0	1	12
06:30 AM	3	0	1	0	0	2	6
06:45 AM	10	0	2	2	0	13	27
Total	23	0	4	3	0	16	46
07:00 AM	4	0	0	0	3	9	16
07:15 AM	7	0	0	1	2	4	14
07:30 AM	9	0	0	0	6	4	19
07:45 AM	8	0	0	0	0	8	16
Total	28	0	0	1	11	25	65
08:00 AM	4	0	0	6	4	5	19
08:15 AM	7	1	1	3	1	6	19
08:30 AM	3	2	0	0	2	5	12
08:45 AM	7	0	0	2	3	3	15
Total	21	3	1	11	10	19	65
09:00 AM	6	1	0	0	4	5	16
09:15 AM	3	0	1	2	1	5	12
09:30 AM	7	0	0	0	1	6	14
09:45 AM	5	2	0	0	0	4	13
Total	21	3	1	4	6	20	55
10:00 AM	4	0	0	1	2	6	13
10:15 AM	3	0	0	2	3	5	13
10:30 AM	13	0	0	1	1	4	19
10:45 AM	17	0	0	1	1	12	31
Total	37	0	0	5	7	27	76
11:00 AM	12	0	0	2	3	17	34
11:15 AM	7	0	0	1	4	9	21
11:30 AM	8	1	0	1	1	4	15
11:45 AM	9	0	0	3	4	8	24
Total	36	1	0	7	12	38	94
12:00 PM	7	1	0	0	2	8	18
12:15 PM	2	0	0	1	3	4	10
12:30 PM	10	0	0	0	2	2	14
12:45 PM	8	0	0	0	6	4	18
Total	27	1	0	1	13	18	60
01:00 PM	19	0	0	0	0	12	31
01:15 PM	12	0	0	0	4	6	22
01:30 PM	6	0	0	0	5	8	19
01:45 PM	13	0	0	1	5	4	23
Total	50	0	0	1	14	30	95
02:00 PM	13	0	0	0	3	10	26
02:15 PM	14	0	0	0	3	9	26
02:30 PM	10	0	0	0	1	13	24
02:45 PM	4	0	1	0	3	6	14
Total	41	0	1	0	10	38	90
03:00 PM	2	1	0	0	3	4	10
03:15 PM	3	0	0	0	1	1	5
03:30 PM	2	1	0	0	1	1	5
03:45 PM	0	0	0	0	0	2	2
Total	7	2	0	0	5	8	22

# Shropshire Associates LLC

662 South Main Street  
Lumberton, New Jersey 08048

N/S Route: Oak Grove Road (CR 671)

E/W Route: R.E. Pierson Access

Login Twp./Gloucester Co. NJ

Clear/Thurs./JA,ECG,LLE/3730,2538,3146

File Name : 70470123

Site Code : 70470333

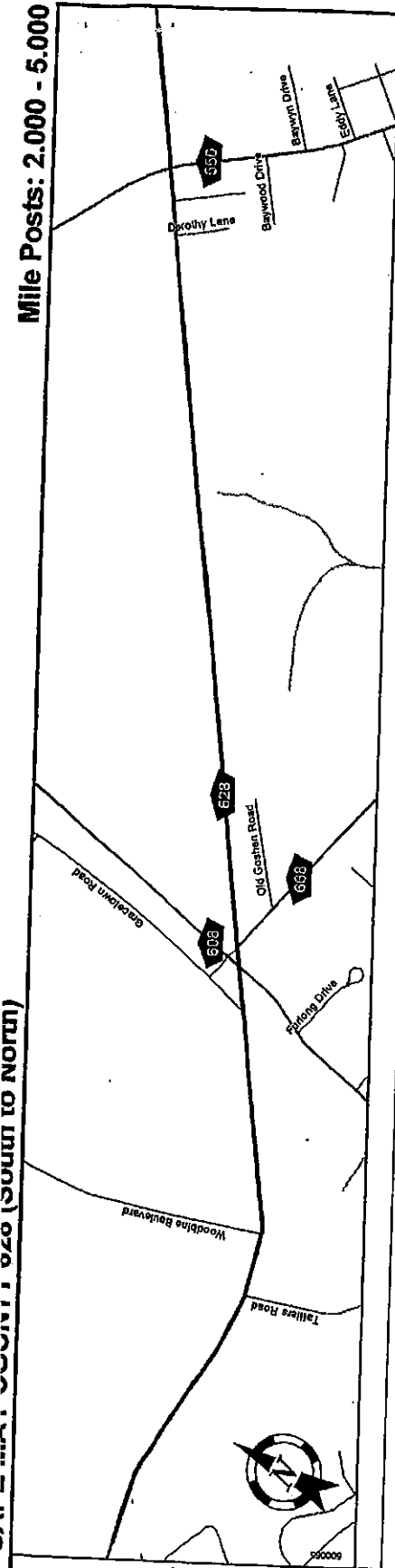
Start Date : 7/12/2007

Page No : 2

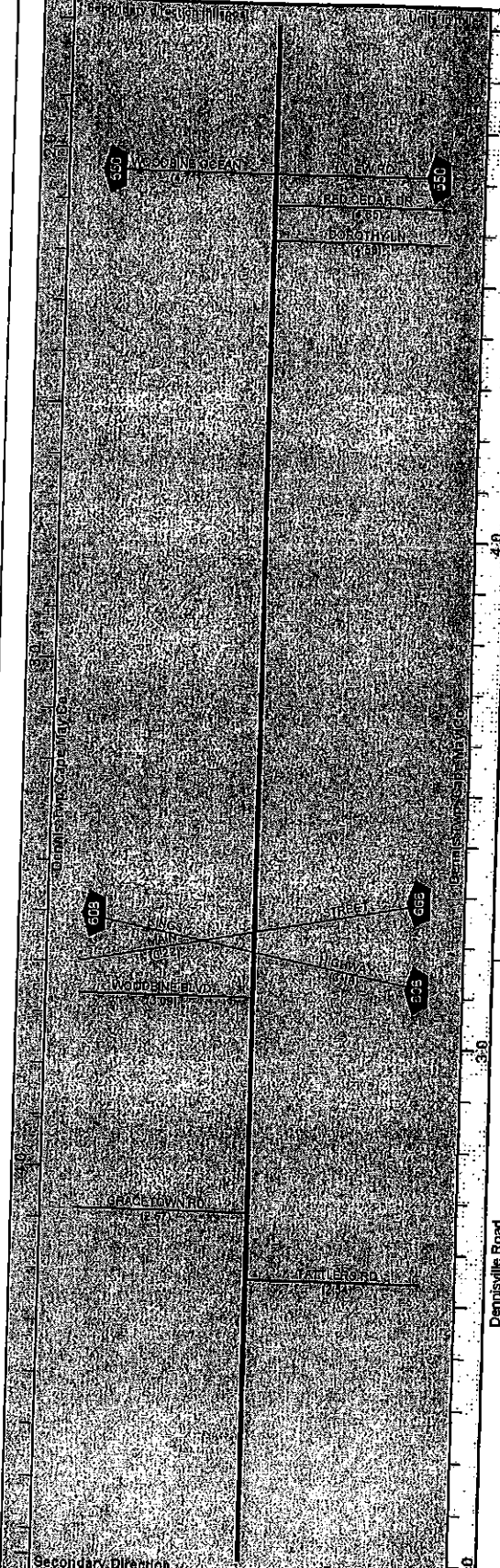
## Groups Printed- Large Trucks

Start Time	Oak Grove Road Southbound		Oak Grove Road Northbound		R.E Pierson Access Eastbound		Int. Total
	Right	Thru	Thru	Left	Right	Left	
04:15 PM	1	0	0	0	0	1	2
04:30 PM	0	1	0	0	0	0	1
Total	1	1	0	0	0	1	3
Grand Total	292	11	7	33	88	240	671
Apprch %	96.4	3.6	17.5	82.5	26.8	73.2	
Total %	43.5	1.6	1	4.9	13.1	35.8	

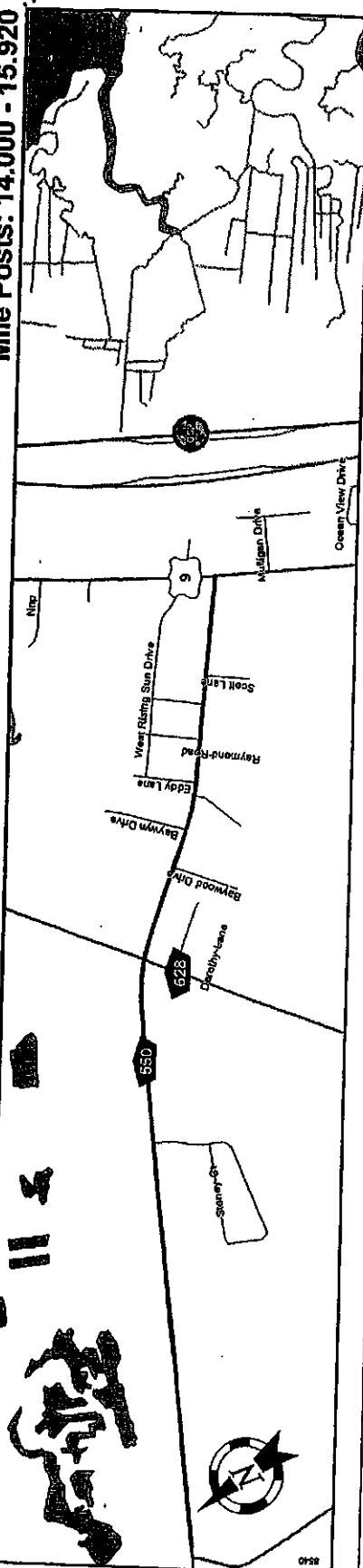
Start Time	Oak Grove Road Southbound			Oak Grove Road Northbound			R.E Pierson Access Eastbound			Int. Total
	Right	Thru	App. Total	Thru	Left	App. Total	Right	Left	App. Total	
Peak Hour Analysis From 06:00 AM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 10:30 AM										
10:30 AM	13	0	13	0	1	1	1	4	5	19
10:45 AM	17	0	17	0	1	1	1	12	13	31
11:00 AM	12	0	12	0	2	2	3	17	20	34
11:15 AM	7	0	7	0	1	1	4	9	13	21
Total Volume	49	0	49	0	5	5	9	42	51	105
% App. Total	100	0		0	100		17.6	82.4		
PHF	.721	.000	.721	.000	.625	.625	.563	.618	.638	.772



Secondary Direction	
Primary Direction	
Pavement	
Shoulder	
Number of Lanes	
Speed Limit	
Street Name	
Interstate Route	287
US Route	22
NJ Route	21
County Road	668
Interchange Number	2
Grade	
Separated Interchange	
Traffic Signal	
Toll Plaza	
Traffic Monitoring Sites	
Road	
Underpass	
Road Overpass	
Street Name	Dennisville Road
Jurisdiction	County
Functional Class	Urban Collector
Federal Aid Sys	STP
Speed Limit	50
Number of Lanes	40
Med. Type	35
Med. Width	2
Pavement	None
Shoulder	0
Traffic Volume	21
Traffic Sta. ID	4
Structure No.	2
Enlarged Views	7
	23
	8



**Mile Posts: 14.000 - 15.920**



Pavement		
Shoulder		
Number of Lanes		
Speed Limit		
Street Name		
Interstate Route	287	
US Route	22	
NJ Route	21	
County Road	68	
Interchange Number	2	
Grade		
Separated Interchange		
Traffic Signal		
Toll Plaza		
Traffic Monitoring Sites		
Road Underpass		
Road Overpass		
Street Name	Woodbine-Ocean View Road	
Jurisdiction	County	
Functional Class	Rural Major Collector	
Federal Aid Sys	STP	
Speed Limit	50	
Number of Lanes	2	
Med. Type	None	
Med. Width	0	
Pavement	24	
Shoulder	7	
Traffic Volume	4,682 (2005)	
Traffic Sta. ID	3-4-214	
Structure No.		
Enlarged Views		

SRI = 00000550

Date last inventoried: February 2004

**SRI = 00000550**

Date last inventoried: February 2004

FEBRUARY 7, 2003

WOODBINE-OCEANVIEW ROAD (CR 550) AND  
CORSONS TAVERN ROAD (CR 628)  
Township of Dennis, Cape May County, NJ  
TRAFFIC SIGNAL TIMINGS

VARIABLE CYCLE LENGTH -- 41 TO 64 SECONDS

PHASE	<u>1,2,3,4,5</u>	<u>6,7,8,9</u>	TIME (SEC.)
1. Woodbine-Oceanview Road (CR 550) ROW	G	R	15-30
Change	Y	R	5
Clearance	R	R	2
2. Corsons Tavern Road (CR 628) ROW	R	G	12-20
Change	R	Y	5
Clearance	R	R	2
Emergency Flash	Y	R	50-60 per min.

MANUAL CONTROL TO BE DISCONNECTED. MEMORY CIRCUITS TO BE 'OFF'.

VEHICLE INTERVAL TO BE SET AT 3 SECONDS.

IF NO ACTUATION OCCURS, SIGNAL SHALL REST IN ALL-RED INTERVAL.

IF ACTUATION OF A PHASE OCCURS DURING THE CHANGE (YELLOW) OR  
CLEARANCE (ALL-RED) INTERVALS OF THE SAME PHASE, THE CHANGE  
AND CLEARANCE INTERVALS SHALL TIME OUT FULLY BEFORE REVERTING  
TO THE ROW (GREEN) PHASE.

7047-B - R.E. Pierson (Permitted Uses)  
Summary of Trip Generation Calculation  
For 50 Th.Gr.Sq.Ft. of General Office Building  
July 20, 2007

	Average Rate	Standard Deviation	Adjustment Factor	Driveway Volume
Avg. Weekday 2-Way Volume	15.65	0.00	1.00	782
7-9 AM Peak Hour Enter	1.90	0.00	1.00	95
7-9 AM Peak Hour Exit	0.26	0.00	1.00	13
7-9 AM Peak Hour Total	2.15	0.00	1.00	108
4-6 PM Peak Hour Enter	0.46	0.00	1.00	23
4-6 PM Peak Hour Exit	2.24	0.00	1.00	112
4-6 PM Peak Hour Total	2.70	0.00	1.00	135
Saturday 2-Way Volume	2.51	0.00	1.00	125
Saturday Peak Hour Enter	0.23	0.00	1.00	11
Saturday Peak Hour Exit	0.19	0.00	1.00	10
Saturday Peak Hour Total	0.42	0.00	1.00	21

Note: A zero indicates no data available.

The above rates were calculated from these equations:

24-Hr. 2-Way Volume:	$LN(T) = .77LN(X) + 3.65, R^2 = 0.8$
7-9 AM Peak Hr. Total:	$LN(T) = .8LN(X) + 1.55$
	$R^2 = 0.83, 0.88 \text{ Enter}, 0.12 \text{ Exit}$
4-6 PM Peak Hr. Total:	$T = 1.12(X) + 78.81$
	$R^2 = 0.82, 0.17 \text{ Enter}, 0.83 \text{ Exit}$
AM Gen Pk Hr. Total:	$LN(T) = .8LN(X) + 1.55$
	$R^2 = 0.83, 0.88 \text{ Enter}, 0.12 \text{ Exit}$
PM Gen Pk Hr. Total:	$T = 1.12(X) + 78.81$
	$R^2 = 0.82, 0.17 \text{ Enter}, 0.83 \text{ Exit}$
Sat. 2-Way Volume:	$T = 2.14(X) + 18.47, R^2 = 0.66$
Sat. Pk Hr. Total:	$LN(T) = .81LN(X) + -.12$
	$R^2 = 0.59, 0.54 \text{ Enter}, 0.46 \text{ Exit}$
Sun. 2-Way Volume:	$LN(T) = .86LN(X) + .31, R^2 = 0.5$
Sun. Pk Hr. Total:	$LN(T) = .61LN(X) + -.23$
	$R^2 = 0.56, 0.58 \text{ Enter}, 0.42 \text{ Exit}$

Source: Institute of Transportation Engineers  
Trip Generation, 7th Edition, 2003.

TRIP GENERATION BY MICROTRANS

7047-B - R.E. Pierson (Permitted Uses)  
 Summary of Trip Generation Calculation  
 For 100 Th.Gr.Sq.Ft. of Warehousing  
 July 20, 2007

	Average Rate	Standard Deviation	Adjustment Factor	Driveway Volume
Avg. Weekday 2-Way Volume	7.18	0.00	1.00	718
7-9 AM Peak Hour Enter	0.68	0.00	1.00	68
7-9 AM Peak Hour Exit	0.15	0.00	1.00	15
7-9 AM Peak Hour Total	0.83	0.00	1.00	83
4-6 PM Peak Hour Enter	0.16	0.00	1.00	16
4-6 PM Peak Hour Exit	0.49	0.00	1.00	49
4-6 PM Peak Hour Total	0.65	0.00	1.00	65
Saturday 2-Way Volume	0.00	0.00	1.00	0
Saturday Peak Hour Enter	0.00	0.00	1.00	0
Saturday Peak Hour Exit	0.00	0.00	1.00	0
Saturday Peak Hour Total	0.00	0.00	1.00	0

Note: A zero indicates no data available.

The above rates were calculated from these equations:

24-Hr. 2-Way Volume:	$T = 3.68(X) + 350.27, R^2 = 0.82$
7-9 AM Peak Hr. Total:	$LN(T) = .71LN(X) + 1.15$ $R^2 = 0.79, 0.82$ Enter, 0.18 Exit
4-6 PM Peak Hr. Total:	$LN(T) = .79LN(X) + .54$ $R^2 = 0.75, 0.25$ Enter, 0.75 Exit
AM Gen Pk Hr. Total:	$T = .39(X) + 63.12$ $R^2 = 0.86, 0.59$ Enter, 0.41 Exit
PM Gen Pk Hr. Total:	$T = .46(X) + 53.12$ $R^2 = 0.88, 0.08$ Enter, 0.92 Exit
Sat. 2-Way Volume:	0, $R^2 = 0$
Sat. Pk Hr. Total:	0 $R^2 = 0, 0$ Enter, 0 Exit
Sun. 2-Way Volume:	0, $R^2 = 0$
Sun. Pk Hr. Total:	0 $R^2 = 0, 0$ Enter, 0 Exit

Source: Institute of Transportation Engineers  
 Trip Generation, 7th Edition, 2003.

TRIP GENERATION BY MICROTRANS

7047-B - R.E. Pierson (Permitted Uses)  
 Summary of Trip Generation Calculation  
 For 16 Vehicle Fueling Positions of Gasoline Service Station  
 July 20, 2007

	Average Rate	Standard Deviation	Adjustment Factor	Driveway Volume
Avg. Weekday 2-Way Volume	168.56	71.19	1.00	2697
7-9 AM Peak Hour Enter	6.04	0.00	1.00	97
7-9 AM Peak Hour Exit	6.04	0.00	1.00	97
7-9 AM Peak Hour Total	12.07	4.29	1.00	193
4-6 PM Peak Hour Enter	6.93	0.00	1.00	111
4-6 PM Peak Hour Exit	6.93	0.00	1.00	111
4-6 PM Peak Hour Total	13.86	6.69	1.00	222
Saturday 2-Way Volume	0.00	0.00	1.00	0
Saturday Peak Hour Enter	0.00	0.00	1.00	0
Saturday Peak Hour Exit	0.00	0.00	1.00	0
Saturday Peak Hour Total	0.00	0.00	1.00	0

Note: A zero indicates no data available.  
 Source: Institute of Transportation Engineers  
 Trip Generation, 7th Edition, 2003.

TRIP GENERATION BY MICROTRANS

# SHORT REPORT

General Information				Site Information	
Analyst	nbm ea1			Intersection	Woodbine-Ocean/Corsons
Agency or Co.	Shropshire Associates LLC			Tavern	
Date Performed	4/13/2007			Area Type	All other areas
Time Period	Existing AM Peak Hour			Jurisdiction	Cape May County
				Analysis Year	2007

Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Lane Group		LTR			LTR			LTR			LTR	
Volume (vph)	53	204	6	14	162	12	12	60	17	32	42	59
% Heavy Vehicles	2	2	2	2	2	2	2	2	2	2	2	2
PHF	0.84	0.84	0.84	0.74	0.74	0.74	0.62	0.62	0.62	0.67	0.67	0.67
Pretimed/Actuated (P/A)	A	A	A	A	A	A	A	A	A	A	A	A
Startup Lost Time		2.0			2.0			2.0			2.0	
Extension of Effective Green		5.0			5.0			5.0			5.0	
Arrival Type		3			3			3			3	
Unit Extension		2.0			2.0			2.0			2.0	
Ped/Bike/RTOR Volume	0	0	1	0	0	1	0	0	2	0	0	6
Lane Width		12.0			12.0			12.0			12.0	
Parking/Grade/Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking/Hour												
Bus Stops/Hour		0			0			0			0	
Minimum Pedestrian Time												
Phasing	EW Perm	02	03	04	NS Perm	06	07	08				
Timing	G = 30.0	G =	G =	G =	G = 20.0	G =	G =	G =				
	Y = 7	Y =	Y =	Y =	Y = 7	Y =	Y =	Y =				
Duration of Analysis (hrs) = 0.25				Cycle Length C = 64.0								

Lane Group Capacity, Control Delay, and LOS Determination												
	EB			WB			NB			SB		
Adjusted Flow Rate		312			253			140			190	
Lane Group Capacity		857			920			620			568	
v/c Ratio		0.36			0.28			0.23			0.33	
Green Ratio		0.52			0.52			0.36			0.36	
Uniform Delay $d_1$		9.2			8.7			14.3			14.9	
Delay Factor k		0.04			0.04			0.04			0.04	
Incremental Delay $d_2$		0.1			0.1			0.1			0.1	
PF Factor		1.000			1.000			1.000			1.000	
Control Delay		9.3			8.8			14.4			15.1	
Lane Group LOS		A			A			B			B	
Approach Delay	9.3			8.8			14.4			15.1		
Approach LOS	A			A			B			B		
Intersection Delay	11.2			Intersection LOS						B		

# SHORT REPORT

General Information				Site Information			
Analyst	nbm ep1			Intersection	Woodbine-Ocean/Corsons Tavern		
Agency or Co.	Shropshire Associates LLC			Area Type	All other areas		
Date Performed	4/13/2007			Jurisdiction	Cape May County		
Time Period	Existing PM Peak Hour			Analysis Year	2007		

Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Lane Group		LTR			LTR			LTR			LTR	
Volume (vph)	71	205	10	17	229	70	4	59	19	48	54	54
% Heavy Vehicles	2	2	2	2	2	2	2	2	2	2	2	2
PHF	0.82	0.82	0.82	0.88	0.88	0.88	0.79	0.79	0.79	0.93	0.93	0.93
Pretimed/Actuated (P/A)	A	A	A	A	A	A	A	A	A	A	A	A
Startup Lost Time		2.0			2.0			2.0			2.0	
Extension of Effective Green		5.0			5.0			5.0			5.0	
Arrival Type		3			3			3			3	
Unit Extension		2.0			2.0			2.0			2.0	
Ped/Bike/RTOR Volume	0	0	1	0	0	7	0	0	2	0	0	5
Lane Width		12.0			12.0			12.0			12.0	
Parking/Grade/Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking/Hour												
Bus Stops/Hour		0			0			0			0	
Minimum Pedestrian Time												
Phasing	EW Perm	02	03	04	NS Perm	06	07	08				
Timing	G = 30.0	G =	G =	G =	G = 20.0	G =	G =	G =				
	Y = 7	Y =	Y =	Y =	Y = 7	Y =	Y =	Y =				
Duration of Analysis (hrs) = 0.25						Cycle Length C = 64.0						

Lane Group Capacity, Control Delay, and LOS Determination												
	EB			WB			NB			SB		
Adjusted Flow Rate		348			351			102			163	
Lane Group Capacity		800			909			641			566	
v/c Ratio		0.44			0.39			0.16			0.29	
Green Ratio		0.52			0.52			0.36			0.36	
Uniform Delay $d_1$		9.7			9.4			13.9			14.6	
Delay Factor k		0.04			0.04			0.04			0.04	
Incremental Delay $d_2$		0.1			0.1			0.0			0.1	
PF Factor		1.000			1.000			1.000			1.000	
Control Delay		9.8			9.5			14.0			14.8	
Lane Group LOS		A			A			B			B	
Approach Delay	9.8			9.5			14.0			14.8		
Approach LOS	A			A			B			B		
Intersection Delay	11.0			Intersection LOS						B		

# TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	<i>nbm ea2</i>	Intersection	<i>Woodbine-Ocean View/East Acces</i>
Agency/Co.	<i>Shropshire Associates LLC</i>	Jurisdiction	<i>Cape May County</i>
Date Performed	<i>4/13/2007</i>	Analysis Year	<i>2007</i>
Analysis Time Period	<i>Existing AM Peak Hour</i>		

Project Description 7047 - R.E. Pierson

East/West Street: Woodbine-Ocean View (CR 550)

North/South Street: East Site Access

Intersection Orientation: East-West

Study Period (hrs): 0.25

## Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	0	255			225	8
Peak-Hour Factor, PHF	0.90	0.90	1.00	1.00	0.77	0.77
Hourly Flow Rate, HFR (veh/h)	0	283	0	0	292	10
Percent Heavy Vehicles	2	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LT					TR
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				8		0
Peak-Hour Factor, PHF	1.00	1.00	1.00	0.50	1.00	0.50
Hourly Flow Rate, HFR (veh/h)	0	0	0	16	0	0
Percent Heavy Vehicles	0	0	0	2	0	2
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration					LR	

## Delay, Queue Length and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LT						LR	
v (veh/h)	0						16	
C (m) (veh/h)	1259						477	
v/c	0.00						0.03	
95% queue length	0.00						0.10	
Control Delay (s/veh)	7.9						12.8	
LOS	A						B	
Approach Delay (s/veh)	--	--				12.8		
Approach LOS	--	--				B		

# TWO-WAY STOP CONTROL SUMMARY

General Information			Site Information	
Analyst	nbm ep2		Intersection	Woodbine-Ocean View/East Access
Agency/Co.	Shropshire Associates LLC		Jurisdiction	Cape May County
Date Performed	4/13/2007		Analysis Year	2007
Analysis Time Period	Existing PM Peak Hour			

Project Description 7047 - R.E. Pierson

East/West Street: Woodbine-Ocean View (CR 550)

North/South Street: East Site Access

Intersection Orientation: East-West

Study Period (hrs): 0.25

## Vehicle Volume and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	0	278			278	9
Peak-Hour Factor, PHF	0.78	0.78	1.00	1.00	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	0	356	0	0	302	9
Percent Heavy Vehicles	2	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LT					TR
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				0		2
Peak-Hour Factor, PHF	1.00	1.00	1.00	0.50	1.00	0.50
Hourly Flow Rate, HFR (veh/h)	0	0	0	0	0	4
Percent Heavy Vehicles	0	0	0	2	0	2
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration					LR	

## Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LT						LR	
v (veh/h)	0						4	
C (m) (veh/h)	1249						734	
v/c	0.00						0.01	
95% queue length	0.00						0.02	
Control Delay (s/veh)	7.9						9.9	
LOS	A						A	
Approach Delay (s/veh)	--	--					9.9	
Approach LOS	--	--					A	

# TWO-WAY STOP CONTROL SUMMARY

## General Information

Analyst *nbm ea3*  
 Agency/Co. *Shropshire Associates LLC*  
 Date Performed *4/13/2007*  
 Analysis Time Period *Existing AM Peak Hour*

## Site Information

Intersection *Woodbine-Ocean View/West Acces*  
 Jurisdiction *Cape May County*  
 Analysis Year *2007*

Project Description *7047 - R.E. Pierson*

East/West Street: *Woodbine-Ocean View (CR 550)*

North/South Street: *West Site Access*

Intersection Orientation: *East-West*

Study Period (hrs): *0.25*

## Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	6	255			225	0
Peak-Hour Factor, PHF	0.90	0.90	1.00	1.00	0.77	0.77
Hourly Flow Rate, HFR (veh/h)	6	283	0	0	292	0
Percent Heavy Vehicles	2	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LT					TR
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				1		0
Peak-Hour Factor, PHF	1.00	1.00	1.00	0.25	1.00	0.25
Hourly Flow Rate, HFR (veh/h)	0	0	0	4	0	0
Percent Heavy Vehicles	0	0	0	2	0	2
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration					LR	

## Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LT						LR	
v (veh/h)	6						4	
C (m) (veh/h)	1270						470	
v/c	0.00						0.01	
95% queue length	0.01						0.03	
Control Delay (s/veh)	7.8						12.7	
LOS	A						B	
Approach Delay (s/veh)	--	--				12.7		
Approach LOS	--	--				B		

# TWO-WAY STOP CONTROL SUMMARY

General Information			Site Information	
Analyst	nbm ep3		Intersection	Woodbine-Ocean View/West Access
Agency/Co.	Shropshire Associates LLC		Jurisdiction	Cape May County
Date Performed	4/13/2007		Analysis Year	2007
Analysis Time Period	Existing PM Peak Hour			

Project Description 7047 - R.E. Pierson

East/West Street: Woodbine-Ocean View (CR 550)

North/South Street: West Site Access

Intersection Orientation: East-West

Study Period (hrs): 0.25

## Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	0	278			280	0
Peak-Hour Factor, PHF	0.78	0.78	1.00	1.00	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	0	356	0	0	304	0
Percent Heavy Vehicles	2	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LT					TR
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				0		2
Peak-Hour Factor, PHF	1.00	1.00	1.00	0.50	1.00	0.50
Hourly Flow Rate, HFR (veh/h)	0	0	0	0	0	4
Percent Heavy Vehicles	0	0	0	2	0	2
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration					LR	

## Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LT						LR	
v (veh/h)	0						4	
C (m) (veh/h)	1257						736	
v/c	0.00						0.01	
95% queue length	0.00						0.02	
Control Delay (s/veh)	7.9						9.9	
LOS	A						A	
Approach Delay (s/veh)	--	--					9.9	
Approach LOS	--	--					A	

# SHORT REPORT

General Information				Site Information	
Analyst	nbm na1			Intersection	Woodbine-Ocean/Corsons
Agency or Co.	Shropshire Associates LLC			Tavern	
Date Performed	4/13/2007			Area Type	All other areas
Time Period	No-Build AM Peak Hour			Jurisdiction	Cape May County
				Analysis Year	2009

Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Lane Group		LTR			LTR			LTR			LTR	
Volume (vph)	56	214	6	15	170	13	13	65	18	34	44	62
% Heavy Vehicles	2	2	2	2	2	2	2	2	2	2	2	2
PHF	0.84	0.84	0.84	0.74	0.74	0.74	0.62	0.62	0.62	0.67	0.67	0.67
Pretimed/Actuated (P/A)	A	A	A	A	A	A	A	A	A	A	A	A
Startup Lost Time		2.0			2.0			2.0			2.0	
Extension of Effective Green		5.0			5.0			5.0			5.0	
Arrival Type		3			3			3			3	
Unit Extension		2.0			2.0			2.0			2.0	
Ped/Bike/RTOR Volume	0	0	1	0	0	1	0	0	2	0	0	6
Lane Width		12.0			12.0			12.0			12.0	
Parking/Grade/Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking/Hour												
Bus Stops/Hour		0			0			0			0	
Minimum Pedestrian Time												
Phasing	EW Perm	02	03	04	NS Perm	06	07	08				
Timing	G = 30.0	G =	G =	G =	G = 20.0	G =	G =	G =				
	Y = 7	Y =	Y =	Y =	Y = 7	Y =	Y =	Y =				
Duration of Analysis (hrs) = 0.25				Cycle Length C = 64.0								

Lane Group Capacity, Control Delay, and LOS Determination												
	EB			WB			NB			SB		
Adjusted Flow Rate		328			266			152			201	
Lane Group Capacity		852			919			618			565	
v/c Ratio		0.38			0.29			0.25			0.36	
Green Ratio		0.52			0.52			0.36			0.36	
Uniform Delay d <sub>1</sub>		9.4			8.8			14.4			15.1	
Delay Factor k		0.04			0.04			0.04			0.04	
Incremental Delay d <sub>2</sub>		0.1			0.1			0.1			0.1	
PF Factor		1.000			1.000			1.000			1.000	
Control Delay		9.5			8.9			14.5			15.2	
Lane Group LOS		A			A			B			B	
Approach Delay		9.5			8.9			14.5			15.2	
Approach LOS		A			A			B			B	
Intersection Delay		11.3										
							Intersection LOS				B	

# SHORT REPORT

General Information				Site Information			
Analyst	nbm np1			Intersection	Woodbine-Ocean/Corsons		
Agency or Co.	Shropshire Associates LLC			Tavern			
Date Performed	4/13/2007			Area Type	All other areas		
Time Period	No-Build PM Peak Hour			Jurisdiction	Cape May County		
				Analysis Year	2009		

## Volume and Control Input

		EB			WB			NB			SB				
		LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
Number of Lanes		0	1	0	0	1	0	0	1	0	0	1	0		
Lane Group			LTR			LTR			LTR			LTR			
Volume (vph)		75	215	11	18	241	74	4	62	20	50	57	57		
% Heavy Vehicles		2	2	2	2	2	2	2	2	2	2	2	2		
PHF		0.82	0.82	0.82	0.88	0.88	0.88	0.79	0.79	0.79	0.93	0.93	0.93		
Pretimed/Actuated (P/A)		A	A	A	A	A	A	A	A	A	A	A	A		
Startup Lost Time			2.0			2.0			2.0			2.0			
Extension of Effective Green			5.0			5.0			5.0			5.0			
Arrival Type			3			3			3			3			
Unit Extension			2.0			2.0			2.0			2.0			
Ped/Bike/RTOR Volume		0	0	1	0	0	7	0	0	2	0	0	6		
Lane Width			12.0			12.0			12.0			12.0			
Parking/Grade/Parking		N	0	N	N	0	N	N	0	N	N	0	N		
Parking/Hour															
Bus Stops/Hour			0			0			0			0			
Minimum Pedestrian Time															
Phasing	EW Perm	02		03		04		NS Perm		06		07		08	
Timing	G = 30.0	G =		G =		G =		G = 20.0		G =		G =		G =	
	Y = 7	Y =		Y =		Y =		Y = 7		Y =		Y =		Y =	
Duration of Analysis (hrs) = 0.25								Cycle Length C = 64.0							

## Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate		365			370			106			170	
Lane Group Capacity		796			908			641			565	
v/c Ratio		0.46			0.41			0.17			0.30	
Green Ratio		0.52			0.52			0.36			0.36	
Uniform Delay d <sub>1</sub>		9.8			9.5			14.0			14.7	
Delay Factor k		0.04			0.04			0.04			0.04	
Incremental Delay d <sub>2</sub>		0.2			0.1			0.0			0.1	
PF Factor		1.000			1.000			1.000			1.000	
Control Delay		10.0			9.6			14.0			14.8	
Lane Group LOS		A			A			B			B	
Approach Delay		10.0			9.6			14.0			14.8	
Approach LOS		A			A			B			B	
Intersection Delay		11.1			Intersection LOS						B	

# TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	nbm na2	Intersection	Woodbine-Ocean View/East Acces
Agency/Co.	Shropshire Associates LLC	Jurisdiction	Cape May County
Date Performed	4/13/2007	Analysis Year	2009
Analysis Time Period	No-Build AM Peak Hour		

Project Description 7047 - R.E. Pierson

East/West Street: Woodbine-Ocean View (CR 550)

North/South Street: East Site Access

Intersection Orientation: East-West

Study Period (hrs): 0.25

## Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	0	268			237	8
Peak-Hour Factor, PHF	0.90	0.90	1.00	1.00	0.77	0.77
Hourly Flow Rate, HFR (veh/h)	0	297	0	0	307	10
Percent Heavy Vehicles	2	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LT					TR
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				8		0
Peak-Hour Factor, PHF	1.00	1.00	1.00	0.50	1.00	0.50
Hourly Flow Rate, HFR (veh/h)	0	0	0	16	0	0
Percent Heavy Vehicles	0	0	0	2	0	2
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration					LR	

## Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LT						LR	
v (veh/h)	0						16	
C (m) (veh/h)	1243						458	
v/c	0.00						0.03	
95% queue length	0.00						0.11	
Control Delay (s/veh)	7.9						13.1	
LOS	A						B	
Approach Delay (s/veh)	--	--				13.1		
Approach LOS	--	--				B		

# TWO-WAY STOP CONTROL SUMMARY

General Information			Site Information	
Analyst	nbm np2		Intersection	Woodbine-Ocean View/East Acces
Agency/Co.	Shropshire Associates LLC		Jurisdiction	Cape May County
Date Performed	4/13/2007		Analysis Year	2009
Analysis Time Period	No-Build PM Peak Hour			

Project Description 7047 - R.E. Pierson

East/West Street: Woodbine-Ocean View (CR 550)

North/South Street: East Site Access

Intersection Orientation: East-West

Study Period (hrs): 0.25

## Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	0	293			293	9
Peak-Hour Factor, PHF	0.78	0.78	1.00	1.00	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	0	375	0	0	318	9
Percent Heavy Vehicles	2	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LT					TR
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				0		2
Peak-Hour Factor, PHF	1.00	1.00	1.00	0.50	1.00	0.50
Hourly Flow Rate, HFR (veh/h)	0	0	0	0	0	4
Percent Heavy Vehicles	0	0	0	2	0	2
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration					LR	

## Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LT						LR	
v (veh/h)	0						4	
C (m) (veh/h)	1233						719	
v/c	0.00						0.01	
95% queue length	0.00						0.02	
Control Delay (s/veh)	7.9						10.0	
LOS	A						B	
Approach Delay (s/veh)	--	--				10.0		
Approach LOS	--	--				B		

# TWO-WAY STOP CONTROL SUMMARY

## General Information

Analyst *nbm na3*  
 Agency/Co. *Shropshire Associates LLC*  
 Date Performed *4/13/2007*  
 Analysis Time Period *No-Build AM Peak Hour*

## Site Information

Intersection *Woodbine-Ocean View/West Access*  
 Jurisdiction *Cape May County*  
 Analysis Year *2009*

Project Description *7047 - R.E. Pierson*

East/West Street: *Woodbine-Ocean View (CR 550)*

North/South Street: *West Site Access*

Intersection Orientation: *East-West*

Study Period (hrs): *0.25*

## Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	6	268			237	0
Peak-Hour Factor, PHF	0.90	0.90	1.00	1.00	0.77	0.77
Hourly Flow Rate, HFR (veh/h)	6	297	0	0	307	0
Percent Heavy Vehicles	2	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LT					TR
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				1		0
Peak-Hour Factor, PHF	1.00	1.00	1.00	0.25	1.00	0.25
Hourly Flow Rate, HFR (veh/h)	0	0	0	4	0	0
Percent Heavy Vehicles	0	0	0	2	0	2
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration					LR	

## Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LT						LR	
v (veh/h)	6						4	
C (m) (veh/h)	1254						452	
v/c	0.00						0.01	
95% queue length	0.01						0.03	
Control Delay (s/veh)	7.9						13.0	
LOS	A						B	
Approach Delay (s/veh)	--	--				13.0		
Approach LOS	--	--				B		

# TWO-WAY STOP CONTROL SUMMARY

General Information			Site Information	
Analyst	nbm np3		Intersection	Woodbine-Ocean View/West Acces
Agency/Co.	Shropshire Associates LLC		Jurisdiction	Cape May County
Date Performed	4/13/2007		Analysis Year	2009
Analysis Time Period	No-Build PM Peak Hour			

Project Description 7047 - R.E. Pierson

East/West Street: Woodbine-Ocean View (CR 550)

North/South Street: West Site Access

Intersection Orientation: East-West

Study Period (hrs): 0.25

## Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	0	293			295	0
Peak-Hour Factor, PHF	0.78	0.78	1.00	1.00	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	0	375	0	0	320	0
Percent Heavy Vehicles	2	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LT					TR
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				0		2
Peak-Hour Factor, PHF	1.00	1.00	1.00	0.50	1.00	0.50
Hourly Flow Rate, HFR (veh/h)	0	0	0	0	0	4
Percent Heavy Vehicles	0	0	0	2	0	2
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration					LR	

## Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LT						LR	
v (veh/h)	0						4	
C (m) (veh/h)	1240						721	
v/c	0.00						0.01	
95% queue length	0.00						0.02	
Control Delay (s/veh)	7.9						10.0	
LOS	A						B	
Approach Delay (s/veh)	--	--				10.0		
Approach LOS	--	--				B		

# SHORT REPORT

General Information				Site Information			
Analyst	nbm ba1			Intersection	Woodbine-Ocean/Corsons Tavern		
Agency or Co.	Shropshire Associates LLC			Area Type	All other areas		
Date Performed	4/13/2007			Jurisdiction	Cape May County		
Time Period	Build AM Peak Hour			Analysis Year	2009		

## Volume and Timing

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Lane Group	LTR			LTR			LTR			LTR		
Volume (vph)	56	218	6	15	174	13	13	63	18	34	44	62
% Heavy Vehicles	2	2	2	2	2	2	2	2	2	2	2	2
PHF	0.84	0.84	0.84	0.74	0.74	0.74	0.62	0.62	0.62	0.67	0.67	0.67
Pretimed/Actuated (P/A)	A	A	A	A	A	A	A	A	A	A	A	A
Startup Lost Time		2.0			2.0			2.0			2.0	
Extension of Effective Green		5.0			5.0			5.0			5.0	
Arrival Type		3			3			3			3	
Unit Extension		2.0			2.0			2.0			2.0	
Ped/Bike/RTOR Volume	0	0	1	0	0	1	0	0	2	0	0	7
Lane Width		12.0			12.0			12.0			12.0	
Parking/Grade/Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking/Hour												
Bus Stops/Hour		0			0			0			0	
Minimum Pedestrian Time												

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 30.0	G =	G =	G =	G = 20.0	G =	G =	G =
	Y = 7	Y =	Y =	Y =	Y = 7	Y =	Y =	Y =
Duration of Analysis (hrs) = 0.25					Cycle Length C = 64.0			

## Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate		333			271			149			199	
Lane Group Capacity		852			919			617			565	
v/c Ratio		0.39			0.29			0.24			0.35	
Green Ratio		0.52			0.52			0.36			0.36	
Uniform Delay d <sub>1</sub>		9.4			8.9			14.4			15.0	
Delay Factor k		0.04			0.04			0.04			0.04	
Incremental Delay d <sub>2</sub>		0.1			0.1			0.1			0.1	
PF Factor		1.000			1.000			1.000			1.000	
Control Delay		9.5			8.9			14.5			15.2	
Lane Group LOS		A			A			B			B	
Approach Delay		9.5			8.9			14.5			15.2	
Approach LOS		A			A			B			B	
Intersection Delay		11.3			Intersection LOS						B	

# SHORT REPORT

General Information				Site Information	
Analyst	nbm bp1			Intersection	Woodbine-Ocean/Corsons
Agency or Co.	Shropshire Associates LLC			Tavern	
Date Performed	4/13/2007			Area Type	All other areas
Time Period	Build PM Peak Hour			Jurisdiction	Cape May County
				Analysis Year	2009

Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Lane Group		LTR			LTR			LTR			LTR	
Volume (vph)	76	216	11	18	241	74	4	62	20	50	57	57
% Heavy Vehicles	2	2	2	2	2	2	2	2	2	2	2	2
PHF	0.82	0.82	0.82	0.88	0.88	0.88	0.79	0.79	0.79	0.93	0.93	0.93
Pretimed/Actuated (P/A)	A	A	A	A	A	A	A	A	A	A	A	A
Startup Lost Time		2.0			2.0			2.0			2.0	
Extension of Effective Green		5.0			5.0			5.0			5.0	
Arrival Type		3			3			3			3	
Unit Extension		2.0			2.0			2.0			2.0	
Ped/Bike/RTOR Volume	0	0	1	0	0	7	0	0	2	0	0	6
Lane Width		12.0			12.0			12.0			12.0	
Parking/Grade/Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking/Hour												
Bus Stops/Hour		0			0			0			0	
Minimum Pedestrian Time												
Phasing	EW Perm	02	03	04	NS Perm	06	07	08				
Timing	G = 30.0	G =	G =	G =	G = 20.0	G =	G =	G =				
	Y = 7	Y =	Y =	Y =	Y = 7	Y =	Y =	Y =				
Duration of Analysis (hrs) = 0.25				Cycle Length C = 64.0								

Lane Group Capacity, Control Delay, and LOS Determination												
	EB			WB			NB			SB		
Adjusted Flow Rate		368			370			106			170	
Lane Group Capacity		794			908			641			565	
v/c Ratio		0.46			0.41			0.17			0.30	
Green Ratio		0.52			0.52			0.36			0.36	
Uniform Delay d <sub>1</sub>		9.9			9.5			14.0			14.7	
Delay Factor k		0.04			0.04			0.04			0.04	
Incremental Delay d <sub>2</sub>		0.2			0.1			0.0			0.1	
PF Factor		1.000			1.000			1.000			1.000	
Control Delay		10.0			9.6			14.0			14.8	
Lane Group LOS		B			A			B			B	
Approach Delay		10.0			9.6			14.0			14.8	
Approach LOS		B			A			B			B	
Intersection Delay		11.1										
Intersection LOS										B		

# TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	nbm ba2	Intersection	Woodbine-Ocean View/East Acces
Agency/Co.	Shropshire Associates LLC	Jurisdiction	Cape May County
Date Performed	4/13/2007	Analysis Year	2009
Analysis Time Period	Build AM Peak Hour		

Project Description 7047 - R.E. Pierson

East/West Street: Woodbine-Ocean View (CR 550)

North/South Street: East Site Access

Intersection Orientation: East-West

Study Period (hrs): 0.25

## Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	3	269			239	10
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.74	0.74
Hourly Flow Rate, HFR (veh/h)	3	298	0	0	322	13
Percent Heavy Vehicles	75	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LT					TR
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				11		3
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR (veh/h)	0	0	0	12	0	3
Percent Heavy Vehicles	0	0	0	75	0	75
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration					LR	

## Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LT						LR	
v (veh/h)	3						15	
C (m) (veh/h)	909						376	
v/c	0.00						0.04	
95% queue length	0.01						0.12	
Control Delay (s/veh)	9.0						15.0	
LOS	A						B	
Approach Delay (s/veh)	--	--				15.0		
Approach LOS	--	--				B		

# TWO-WAY STOP CONTROL SUMMARY

General Information			Site Information	
Analyst	nbm bp2		Intersection	Woodbine-Ocean View/East Acces
Agency/Co.	Shropshire Associates LLC		Jurisdiction	Cape May County
Date Performed	4/13/2007		Analysis Year	2009
Analysis Time Period	Build PM Peak Hour			

Project Description 7047 - R.E. Pierson		
East/West Street: Woodbine-Ocean View (CR 550)	North/South Street: East Site Access	
Intersection Orientation: East-West	Study Period (hrs): 0.25	

## Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	0	302			293	9
Peak-Hour Factor, PHF	0.78	0.78	1.00	1.00	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	0	387	0	0	318	9
Percent Heavy Vehicles	75	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LT					TR
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				1		3
Peak-Hour Factor, PHF	1.00	1.00	1.00	0.90	1.00	0.90
Hourly Flow Rate, HFR (veh/h)	0	0	0	1	0	3
Percent Heavy Vehicles	0	0	0	75	0	75
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration					LR	

## Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LT						LR	
v (veh/h)	0						4	
C (m) (veh/h)	916						475	
v/c	0.00						0.01	
95% queue length	0.00						0.03	
Control Delay (s/veh)	8.9						12.6	
LOS	A						B	
Approach Delay (s/veh)	--	--				12.6		
Approach LOS	--	--				B		

# TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	nbm ba3	Intersection	Woodbine-Ocean View/West Acces
Agency/Co.	Shropshire Associates LLC	Jurisdiction	Cape May County
Date Performed	4/13/2007	Analysis Year	2009
Analysis Time Period	Build AM Peak Hour		

Project Description 7047 - R.E. Pierson

East/West Street: Woodbine-Ocean View (CR 550)

North/South Street: West Site Access

Intersection Orientation: East-West

Study Period (hrs): 0.25

## Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	11	270			240	2
Peak-Hour Factor, PHF	0.90	0.90	1.00	1.00	0.77	0.77
Hourly Flow Rate, HFR (veh/h)	12	300	0	0	311	2
Percent Heavy Vehicles	75	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LT					TR
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				2		3
Peak-Hour Factor, PHF	1.00	1.00	1.00	0.90	1.00	0.90
Hourly Flow Rate, HFR (veh/h)	0	0	0	2	0	3
Percent Heavy Vehicles	0	0	0	75	0	75
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration			0	0	0	0
				LR		

## Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LT						LR	
v (veh/h)	12						5	
C (m) (veh/h)	928						455	
v/c	0.01						0.01	
95% queue length	0.04						0.03	
Control Delay (s/veh)	8.9						13.0	
LOS	A						B	
Approach Delay (s/veh)	--	--					13.0	
Approach LOS	--	--					B	

# TWO-WAY STOP CONTROL SUMMARY

## General Information

Analyst *nbm bp3*  
 Agency/Co. *Shropshire Associates LLC*  
 Date Performed *4/13/2007*  
 Analysis Time Period *Build PM Peak Hour*

## Site Information

Intersection *Woodbine-Ocean View/West Access*  
 Jurisdiction *Cape May County*  
 Analysis Year *2009*

Project Description *7047 - R.E. Pierson*

East/West Street: *Woodbine-Ocean View (CR 550)*

North/South Street: *West Site Access*

Intersection Orientation: *East-West*

Study Period (hrs): *0.25*

## Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	1	301			296	0
Peak-Hour Factor, PHF	0.78	0.78	1.00	1.00	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	1	385	0	0	321	0
Percent Heavy Vehicles	75	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LT					TR
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				1		3
Peak-Hour Factor, PHF	1.00	1.00	1.00	0.90	1.00	0.90
Hourly Flow Rate, HFR (veh/h)	0	0	0	1	0	3
Percent Heavy Vehicles	0	0	0	75	0	75
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration			0	0	0	0
					LR	

## Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LT						LR	
v (veh/h)	1						4	
C (m) (veh/h)	921						476	
v/c	0.00						0.01	
95% queue length	0.00						0.03	
Control Delay (s/veh)	8.9						12.6	
LOS	A						B	
Approach Delay (s/veh)	--	--					12.6	
Approach LOS	--	--					B	