Expanded Environmental Assessment

For:

Millbrook Apartments

Village of Great Neck
Nassau County, New York

May 2018

Cameron Engineering & Associates, LLP

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1. Executive Summary

1.1. Project Description

1.1.1. Background

The applicant proposes to modify an existing 119-unit apartment complex to remove 34 units[1] and add 101 units for a total of 186 residential units upon completion. 314 parking spaces would be provided, providing 100% of required parking for the new units and increasing the overall on-site parking ratio from 1.13 spaces per unit (existing conditions) to 1.69 spaces per unit (after completion). The property is located on Middle Neck Road between Old Mill Road and the southern boundary of the Village of Great Neck (Section 2, Block 354, Lot 138). The property is located in the Residence E or Apartment zoning district and will utilize incentives available within the Middle Neck Road Multifamily Incentive Overlay District (MNR-MIO). § 575-285 (B) of the Village of Great Neck Code describes the MNR-MIO district boundaries as follows: "The boundaries of said district, as shown on the Building Zone Map of the Village of Great Neck, shall be coterminous with the boundaries of the Residence E District."

This Expanded Environmental Assessment examines the existing conditions, potentially significant adverse impacts that might result from the proposed project and mitigation of the construction and operation of the proposed apartment building. A Full Environmental Assessment Form is provided in Appendix A.

1.1.2. Purpose, Public Benefits, and Operation

The site is currently developed with a 119-unit apartment complex (Millbrook Apartments). The purpose of the proposed project is to remove 34 of the existing units[1] and add an additional 101 units for a total of 186 residential units. The subject property is currently under rent-stabilization controls and will continue to provide rent-stabilized housing in accordance with all New York State Division of Housing and Community Renewal (DHCR) requirements. Out of the 85 existing units to remain, it is anticipated that approximately 80 (±) units will continue to be subject to DHCR rent-stabilization guidelines.

[1] A 3BR unit is created by combining two existing 1BR units and is included in post-demo parking calculation.

1.1.3. Location and Access

The project site is located on Middle Neck Road between Old Mill Road and the southern boundary of the Village of Great Neck in the Village of Great Neck, New York (Section 2, Block 354, Lot 138). The project site is 4.35 acres. Middle Neck Road is a major arterial, which serves as the primary access road to and from the Great Neck Peninsula. In addition, the project site is approximately 0.75 miles north of the Great Neck LIRR station. The N58 bus, a Nassau Inter County Express (NICE) bus serves the project site and provides quick access to the Great Neck LIRR station and downtown commercial area.

1.2. Potential Impacts and Proposed Mitigation

1.2.1. Impact on Land

Soils and Topography

Potential Impacts – The site is relatively flat. Stormwater runoff during and following construction could lead to site erosion and off-site sedimentation if not properly controlled.

Proposed Mitigation – See construction mitigation below.

Construction Impacts

Potential Impacts of Proposed Project – Like any construction project, the construction of Millbrook Apartments would have short-term environmental impacts. They could include soil erosion, noise, traffic disruption, and dust.

A. Pappajohn Company is the general contractor for this project and has prepared a Site Logistics Plan (Figure 2-2) detailing the two major phases of construction. The Site Logistics Plan has been designed to minimize potential impacts while the building is under construction. An overall construction schedule is also provided, which details the sequencing and duration of each phase of construction (Figure 2-3).

Proposed Mitigation – Throughout the construction process, all construction vehicles and materials will be stored on-site within the limits denoted by the temporary construction fencing. To accommodate the potential demand for off-site resident and contractor vehicle parking during construction, the applicant has initiated discussions with nearby religious institutions (Temple Beth-El and Shaare Zion) to provide off-site parking for resident and construction worker vehicles if on-site space becomes limited during construction.

A detailed Soil Erosion Control Plan has also been prepared (Figure 2-8). Erosion would be curtailed by the use of construction fencing with silt barriers, storm drain inlet filters and filter protection for new drywells on-site. The construction entrances would be stabilized with crushed stone to prevent soil and loose debris from being carried onto local roads. All construction-related erosion control measures would be removed during final landscaping

Based on Village of Great Neck construction activity regulations, weekday construction activities would be confined to the hours of 8 AM to 7 PM. Weekend construction activities would be restricted to the hours of 9 AM to 7 PM on Saturdays and holidays.

1.2.2. Impact on Water

Groundwater

Potential Impacts – Depth to groundwater ranges from approximately 50 feet below grade at the southern end of the site to approximately 30 feet at the northern end. Impacts to groundwater include increased withdrawals by the water authority and impacts from stormwater runoff (addressed in the following section). Water consumption by the proposed project is estimated at 47,400 gallons per day (see section on Utilities), which is approximately 35,900 gallons per day over existing use on the site. The proposed project may have a minor impact on ground water and would be mitigated by the measures detailed below.

Proposed Mitigation – Water conserving fixtures would be installed in the apartments and would reduce consumption of public water. Use of compost would conserve moisture in planters. Roof collection systems would return rainwater to the ground through the use of dry wells. Sanitary wastewater discharged from the apartments and would be connected to the public sewer system to protect on-site groundwater.

Stormwater

Potential Impacts – Site development would result in approximately 3.04 acres of impervious surfaces and 1.31 acres of pervious surfaces (an increase in impervious surface area of approximately percent (11%) compared to existing conditions).

Proposed Mitigation – The drainage system will be designed to handle an eight-inch rainfall event, providing approximately 1,020 linear feet/102,000 cubic feet of storage (1000.9 linear feet/100,090 cubic feet required).

1.2.3. Impact on Air

Potential Impacts of Proposed Project – Potential impacts to air quality are anticipated to be minimal.

Proposed Mitigation – No mitigation is proposed as no significant adverse impacts are anticipated.

1.2.4. Impact on Plants and Animals

Potential Impacts of Proposed Project – The proposed redevelopment would occur within an existing developed area.

Proposed Mitigation – No mitigation is proposed as no significant adverse impacts are anticipated.

1.2.5. Impact on Agricultural Land Resources

There are no agricultural land resources on the project site.

1.2.6. Impact on Aesthetic Resources

Potential Impacts of Proposed Project – The visual character of the site would change slightly as a result of development. The existing 119-unit apartment complex would be renovated to include 186 residential units. Additional landscaping will be installed, particularly along the property boundaries to enhance the aesthetics of the area. The proposed project would complement the other multi-family buildings in the surrounding community.

Proposed Mitigation – No mitigation is proposed as no significant adverse impacts are anticipated.

1.2.7. Impact on Critical Environmental Areas

There are no critical environmental areas on the project site.

1.2.8. Impact on Transportation

Potential Impacts of Proposed Project – The highway capacity analysis of the study intersections shows that the development of the subject property will have no perceptible impact to the level of service on the surrounding roadway network, with the exception of the North Site Access.

Proposed Mitigation – As part of the redevelopment of this project the North Site Access will become the main exit for the complex and the South Site Access will become the main entrance for the complex. The southbound stop line on Middle Neck Road, at the intersection with Wooleys Lane, is located approximately 65 feet south of the driveway. Approximately six vehicles can queue at the signal (within the two southbound lanes) before blocking the site driveway. It is recommended that "Do Not Block The Box" pavement markings and signage be installed at this location.

1.2.9. Impact on Energy

Potential Impacts of Proposed Project – A slight increase in energy consumption would occur as a result of the development.

Proposed Mitigation – Modern energy efficient building materials and energy conservation would be incorporated into the new building.

1.2.10. Noise and Odor Impacts

Potential Impacts of Proposed Project – Any noise or odors generated by the proposed apartment complex would be similar to that generated by existing apartment complexes in the area.

Proposed Mitigation – No mitigation is proposed as no significant adverse impacts are anticipated.

1.2.11. Impact on Public Health

There would be no impact on public health from the proposed apartment building.

1.2.12. Impact on Growth and Character of Community or Neighborhood

Potential Impacts – The redevelopment of an existing apartment complex would have minimal impacts on area properties as it would be similar to other multifamily properties in the immediate area. Adjacent properties comprise multi-family residential buildings to the north and east, institutional buildings to the south and east, and single-family housing to the west.

The subject property is zoned Residence E or Apartment District and will utilize incentives available within the Middle Neck Road Multifamily Incentive Overlay District (MNR-MIO). Many of the buildings on Middle Neck Road and within the

vicinity of the project site are multi-family and institutional buildings that have been developed within the Residence E or Apartment zoning district.

Proposed Mitigation – No mitigation is proposed as no significant adverse impacts are anticipated.

1.2.13. Need for Additional Community Services

Emergency Services

Potential Impacts of Proposed Project – A minor increase might be expected in the demand for emergency medical services, fire and police protection due to the net increase of 67 residential units.

Proposed Mitigation – No mitigation is proposed as no significant adverse impacts are anticipated.

Schools

Potential Impacts of Proposed Project – Based on published rates, Millbrook Apartments could become the home of approximately 29 school-aged children attending public schools (an estimated net increase of 19 students).

Proposed Mitigation – None required. A net increase of 19 new students would represent an increase of less than three-tenths of one percent in enrollment (district enrollment for the 2015-2016 school year was 6,394 in grades K-12). With a very small number of students projected, new costs would be minimal as there should not be a need for additional classrooms or teachers.

Utilities

Potential Impacts of Proposed Project – Public supply water usage for the proposed redevelopment project is estimated to be 47,400 gallons per day, which is a net increase of approximately 35,900 gallons per day. Wastewater flow is similarly estimated at 47,400 gallons per day, a net increase of approximately 35,900 gallons per day. Letters requesting water and sewer availability were sent to the Water Authority of Great Neck North and the Great Neck Water Pollution Control District (Appendix B). It is anticipated that both the Water Authority of Great Neck North and the Great Neck Water Pollution Control District have sufficient resources to provide water and sewer service to the proposed project.

For the proposed project, solid waste production is estimated at four (4) pounds/bedroom per day.[2] For the proposed project, this would total approximately 1,152 pounds per day, a net increase of 512 pounds per day over existing conditions. Each building will have a garbage chute leading to a compactor. Solid waste would then be collected by a private carter and disposed of at a permitted solid waste management facility.

Proposed Mitigation – No mitigation is proposed as no significant adverse impacts are anticipated.

1.3. Conclusions

Redevelopment of the subject property as a residential apartment building would have no significant adverse environmental impacts on the site and surrounding area. The proposed apartment complex would be in keeping with the numerous other multi-family buildings in the area. The proposed apartments would introduce new or transplanted residents to the community that would patronize area businesses and contribute to the tax base. In addition, the subject property will continue to provide rent-stabilized housing, helping to maintain affordable multifamily housing within the Great Neck community.

[2] *Technical Bulletin #85-6, Basic Data: Solid Waste Amounts, Composition and Management Systems,* National Solid Waste Management Association, October 1985.

2. Project Description

2.1. Introduction

The applicant proposes to redevelop an existing 119-unit apartment complex by removing 34 units[3] and adding 101 units for a total of 186 residential units. The project site is a 4.35-acre property located on Middle Neck Road in the Village of Great Neck, New York. The site address is 240-250 Middle Neck Road (Section 2, Block 354, Lot 138). The proposed project is located within the Residence E or Apartment zoning district and will utilize incentives available within the Middle Neck Road Multifamily Incentive Overlay District (MNR-MIO).

A Location/Aerial Map is provided in Figure 2-1. The proposed project would be consistent with surrounding land uses. The environmental impacts associated with the proposed project are not expected to be significant and are described below.

2.2. Location

The project site is located on Middle Neck Road between Old Mill Road and the southern boundary of the Village of Great Neck. The site address is 240-250 Middle Neck Road and comprises one tax lot (Section 2, Block 354, Lot 138) totaling approximately 4.35 acres (see Figure 2-1).

2.3. Site Layout

The proposed project will result in a total of 186 residential units – a net increase of 67 units. Overall lot size is 4.35 acres (189,481.6 square feet) with the proposed buildings totaling 1.66 acres (72,157.7 square feet) – a lot coverage of 38.1% (up to 60% permitted as per VGN Code §575-111). Building footprints for the existing site and proposed project are displayed in the tables below. Table 2-1 provides of summary of the existing site layout and Table 2-2 provides the site layout for the proposed project.

[3] A 3BR unit is created by combining two existing 1BR units and is included in post-demo parking calculation

Table 2-1: Summary of Existing Site Layout

Building	Lot Coverage (SF)	Studio	1 BR	2 BR
Ex. Building A	10,486	4	16	8
Ex. Building B	5,583	-	10	5
Ex. Building C	15,250	8	20	12
Ex. Building D	6,442	-	8	8
Ex. Building E	7,621	4	8	8
Existing Buildings Total	**45,382**	**16**	**62**	**41**

Table 2-2: Summary of Overall Proposed Site Layout

Building	Proposed Project Lot Coverage (SF)	1 BR/Studio	2 BR	3 BR	Total Units
Prop. Building North	23,550.6	32	11	16	59
Prop. Building South	7,977.0	11	16	-	27
Prop. Building West	7,492.0	2	13	-	15
Prop. West Garage Stair Bulkhead	400.0	-	-	-	-
Proposed New Buildings Total	**39,419.6**	**45**	**40**	**16**	**101**
Existing Buildings Total	**32,733.1**	**56**	**28**	**1***	**85**
OVERALL PROJECT TOTAL	**72,152.7**	**101**	**68**	**17**	**186**

*Note: 1 3 BR unit will be created from units within Existing Building A; however for parking/zoning calculation purposes, the 3 BR unit will be counted as a new unit.

The existing buildings to remain on site (Existing Buildings A,C,D and E) are all two-story brick structures approximately 23 feet in height from average grade to the roof. The proposed new buildings comprise three and four-story buildings with a maximum height of 42 feet.

There will be a 22-foot, 7-inch front yard setback (increase of more than four (4) feet over existing conditions), 25-foot, 7-inch side yard setbacks, and 29-foot rear yard setback (same as existing conditions). The proposed setbacks are in compliance with VGN Code §575-112/113/114.

Overall density for the proposed project is approximately 42.8 dwelling units (du) per acre (186 units/4.35 acre site), which falls below the 43 du/acre maximum permitted in VGN Code §575-(110).

Upon completion, there will be 101 one-bedroom units, 68 two-bedroom units and 17 three-bedroom units. The applicant intends to retain existing site staff, including a site superintendent.

The applicant is providing 314 off-street parking spaces, with 293 spaces located within on-site parking garages and 21 on-grade parking spaces. The existing apartment complex provides approximately 1.13 parking spaces for each apartment unit (134 parking spaces/119 units). Upon completion of the project the site will provide 1.69 parking spaces per unit (314 parking spaces/186 units) – providing 100% of the required parking for the 101 new units. The redevelopment of the site is anticipated to decrease on street parking demand in proximity to the site.

Plans for the proposed project are provided in Figure 2-2 - Figure 2-15. Aerial photographs and renderings of the proposed project are provided in Figure 2-16.

2.4. Approval Process

2.4.1. Village of Great Neck

The following approvals would be required:

1. Board of Trustees (incentive zoning, tandem parking, parking waiver and site plan review)
2. SEQRA compliance
3. Building Permit
4. Plumbing
5. Sewer Connection
6. Construction Dumpsters
7. Signs
8. Street Openings
9. Curb Cuts
10. Sidewalk Openings
12. Tree Removals

2.4.2. Great Neck Water Pollution Control District

A sewer connection would be required from the Great Neck Water Pollution Control District. Letters requesting water availability were sent on March 24, 2015 and July 25, 2017. Copies are included in Appendix B. It is anticipated that the Great Neck Water Pollution Control District has sufficient capacity to accept flow from the proposed project.

2.4.3. Water Authority of Great Neck North

A letter of water availability is required from the Water Authority of Great Neck North. Letters requesting water availability were sent on March 24, 2015, June 29, 2016 and July 25, 2017. Copies included in Appendix B. It is anticipated that the Water Authority has sufficient resources to provide water service to the proposed project. The applicant will pay for the design and construction of the connection to the Water Authority. Water use would be moderated through the use of the water conservation methods described below in Section 3.2.

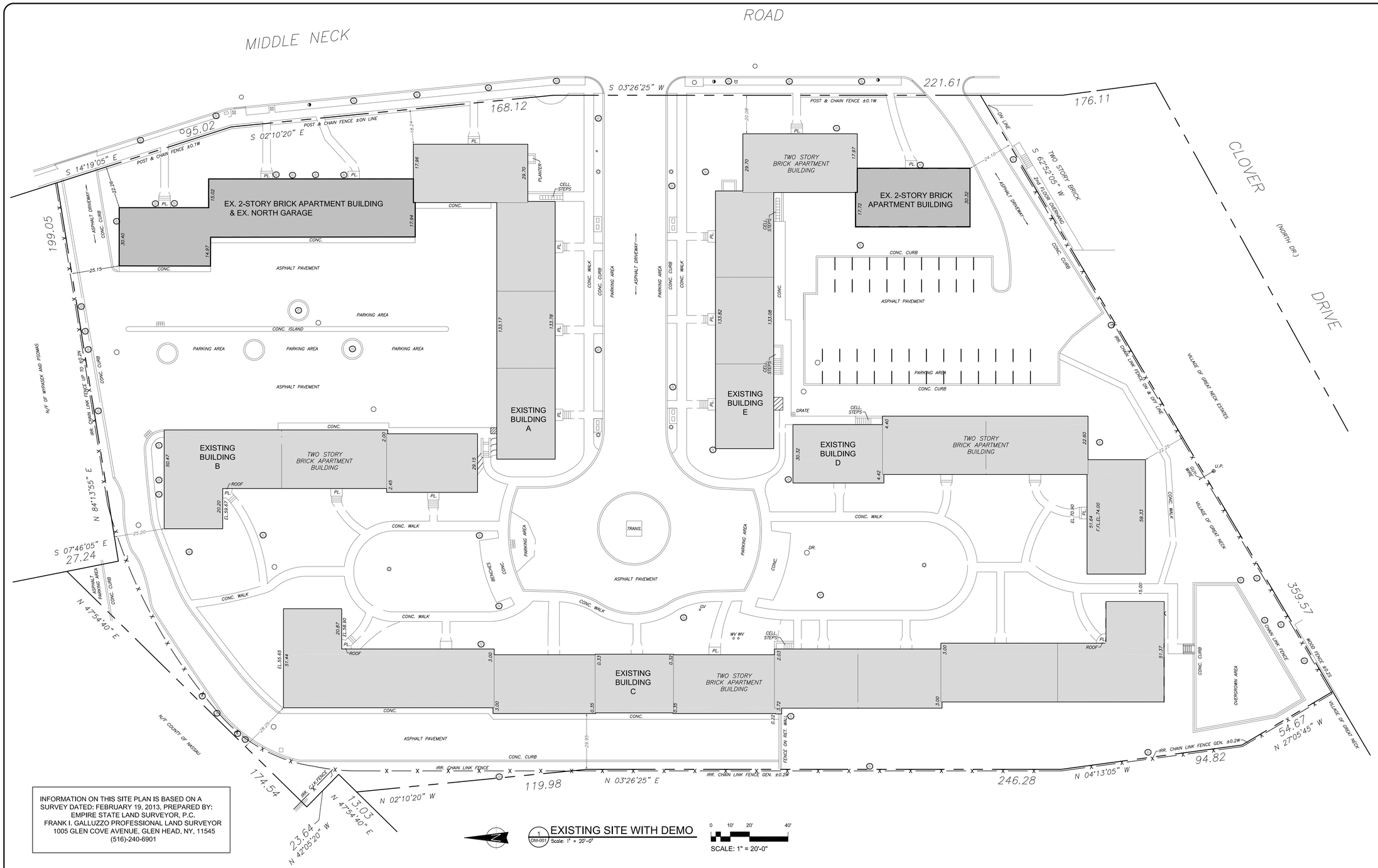
2.4.4. Nassau County

The proposed project plans would be subject to review by the Nassau County Department of Public Works Pursuant to Section 239-F of the General Municipal Law. The proposed project would be subject to review by the Nassau County Planning Commission. New York State General Municipal Law Section 239-M requires that municipalities refer projects that are located within 500 feet of a County right-of-way (Middle Neck Road) to the Nassau County Planning Commission for its recommendation. In addition, the Nassau County Department of Health must approve the proposed water and sewer connections.

2.5. Construction Schedule

Construction is estimated to extend approximately 27 months, or two years, subject to weather-related delays and other unforeseen events. Based on Village of Great Neck construction activity regulations, weekday construction activities would be confined to the hours of 8 AM to 7 PM. Weekend construction activities would be restricted to the hours of 9 AM to 7 PM on Saturdays and Holidays.


Patsy Pl
Nirvana Ave
Berkshire Rd
Florence St
Piccadilly Rd
Old Mill Rd
Sands Ct
Wooleys Ln
Hadley Ct
Millbrook Ct
Project Site
Middle Neck Rd
Day Ct
Clover Dr
Allenwood Rd
N
Feet
0
100
200
Aerial Source: New York Statewide Digital Orthoimagery Program (NYSDOP); Aerial Photo Date: March 2016/ Digital 4Band/Half-foot Resolution



INFORMATION ON THIS SITE PLAN IS BASED ON A SURVEY DATED: FEBRUARY 19, 2013, PREPARED BY:
EMPIRE STATE LAND SURVEYOR, P.C.
FRANK I. GALLUZZO PROFESSIONAL LAND SURVEYOR
1005 GLEN COVE AVENUE, GLEN HEAD, NY, 11545
(516)-240-6901

1 DM-001 EXISTING SITE WITH DEMO
Scale: 1" = 20'-0"

0 10' 20' 40'
SCALE: 1" = 20'-0"

REV.	DATE	DESCRIPTION
REVISIONS:		

A. PAPPAJOHN COMPANY

PROJECT:
MILLBROOK APARTMENTS
GREAT NECK, NY

TITLE:
EXISTING CONDITIONS

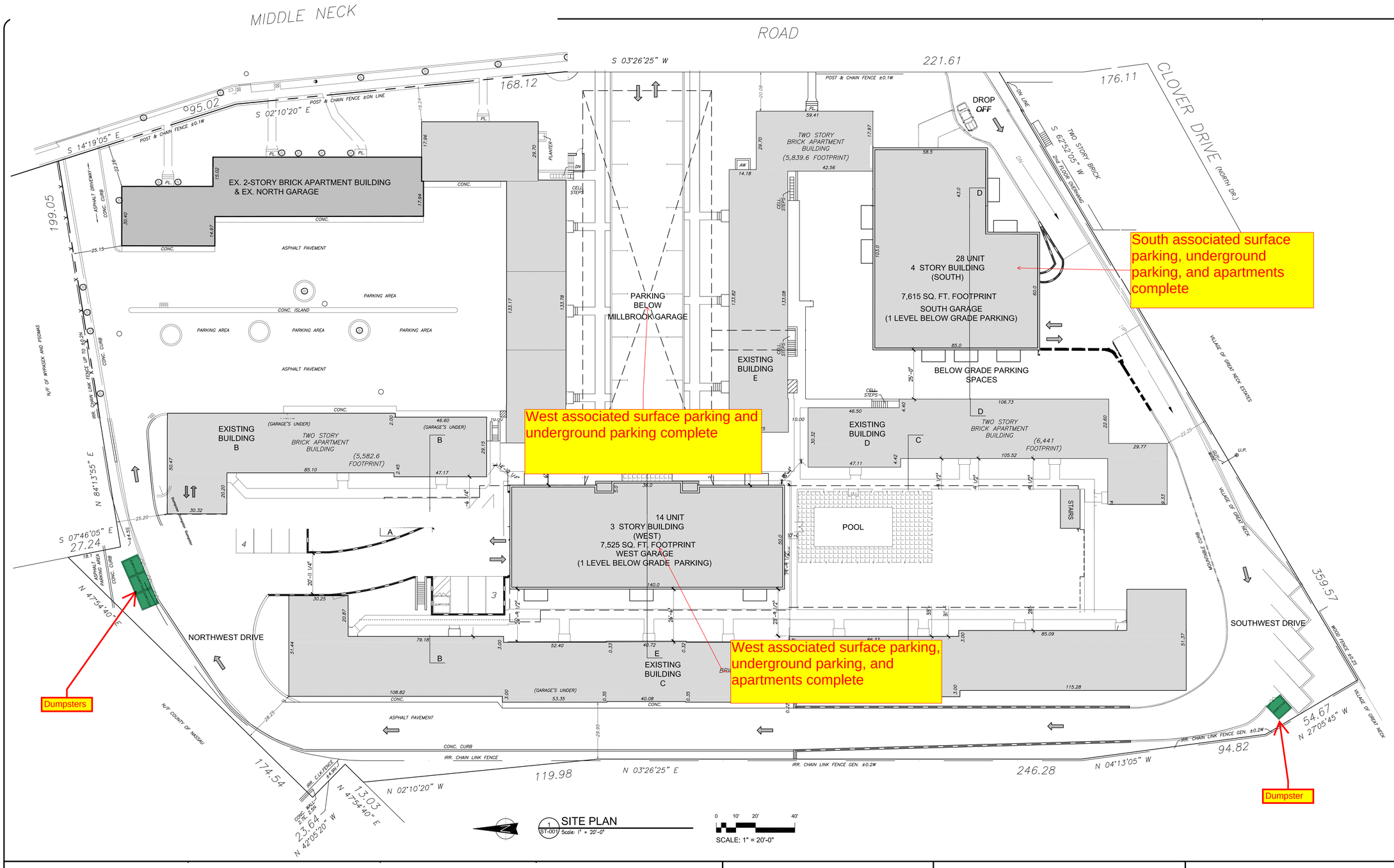
STAMP:

DATE:
JOB #: **14-43**
DRAWN BY:
SCALE: **AS NOTED**

DRAWING NO:
Ex. Conditions

FILE No. :
SHEET:

Phase Duration:
53 Weeks



REV.	DATE	DESCRIPTION
REVISIONS:		

A. PAPPAJOHN COMPANY

PROJECT:
MILLBROOK APARTMENTS
GREAT NECK, NY

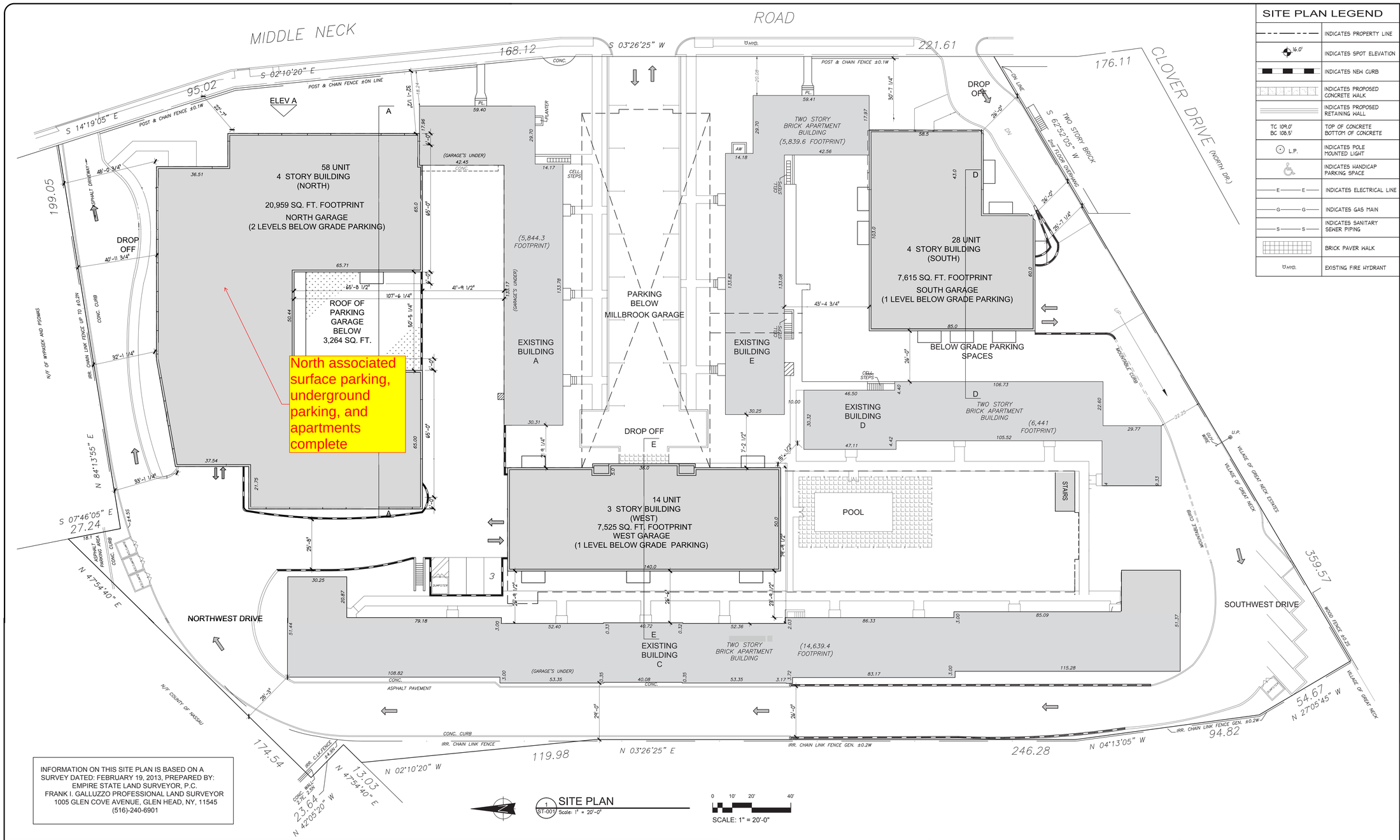
TITLE:
Phase 1

STAMP:

DATE:
JOB #: **14-43**
DRAWN BY:
SCALE: **AS NOTED**

DRAWING NO:
Phase 1

FILE No. :
SHEET:



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1 ST-001 SITE PLAN
Scale: 1" = 20'-0"

0 10' 20' 40'
SCALE: 1" = 20'-0"

SITE PLAN LEGEND

	INDICATES PROPERTY LINE
16.0'	INDICATES SPOT ELEVATION
	INDICATES NEW CURB
	INDICATES PROPOSED CONCRETE WALK
	INDICATES PROPOSED RETAINING WALL
TC 109.0' BC 108.5'	TOP OF CONCRETE BOTTOM OF CONCRETE
L.P.	INDICATES POLE MOUNTED LIGHT
	INDICATES HANDICAP PARKING SPACE
E E	INDICATES ELECTRICAL LINE
G G	INDICATES GAS MAIN
S S	INDICATES SANITARY SEWER PIPING
	BRICK PAVER WALK
HYD.	EXISTING FIRE HYDRANT

Phase Duration:
52 Weeks

REV.	DATE	DESCRIPTION
	03-01-17	REVISED
	12-22-16	REVISED
	08-03-16	REVISED
	12-02-15	REVISED
	11-19-15	REVISED
	11-13-15	REVISED
	11-09-15	REVISED
	10-26-15	REVISED
	9-04-15	REVISED
	8-19-15	REVISED

REVISIONS:

A. PAPPAJOHN COMPANY

PROJECT:
MILLBROOK APARTMENTS
GREAT NECK, NY

TITLE:
Phase 2

STAMP:

DATE:	08/14/15
JOB #:	14-43
DRAWN BY:	JK
SCALE:	AS NOTED

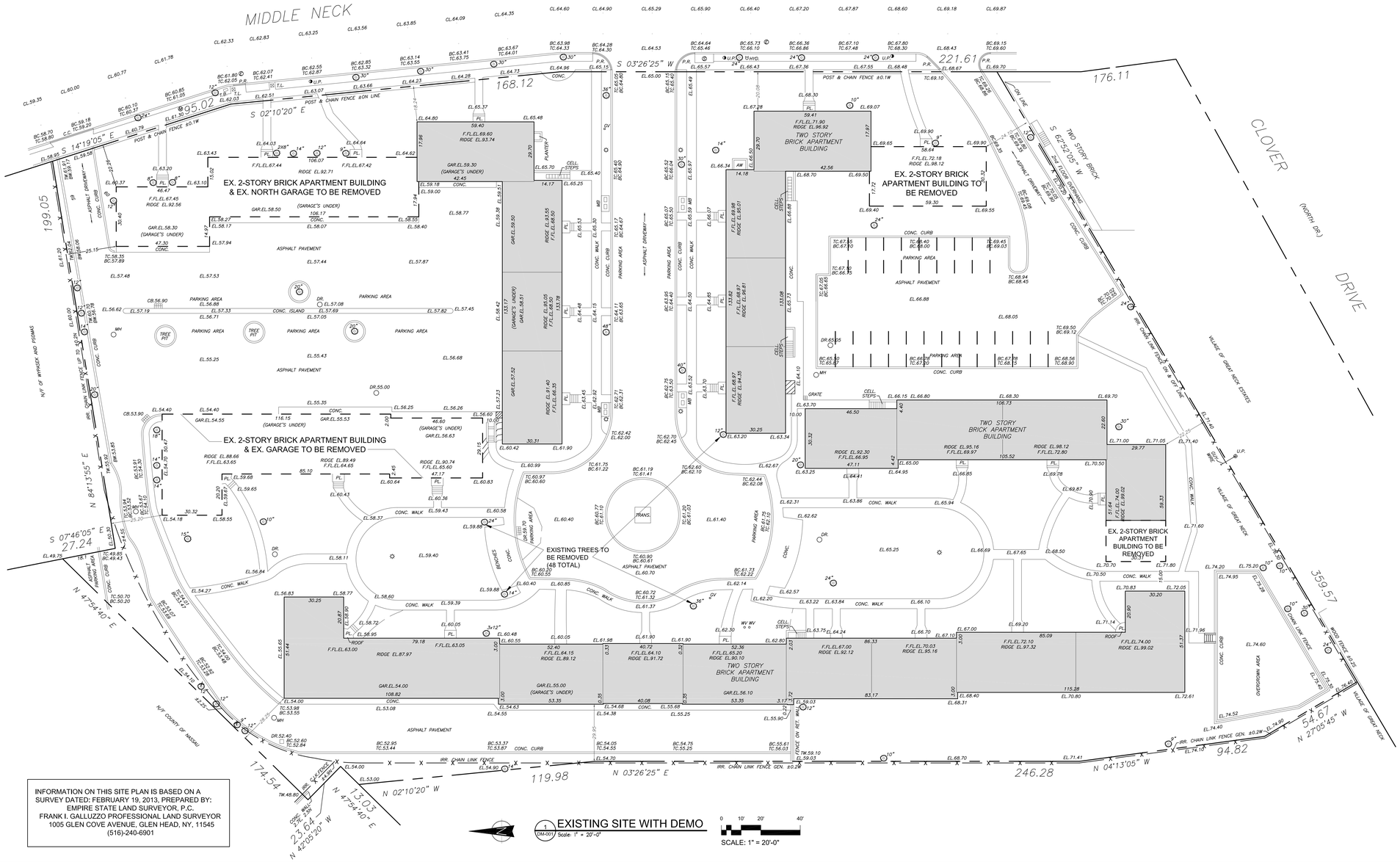
DRAWING NO:
Phase 2

FILE No. :
SHEET:

Millbrook Apartments Proposed Construction Schedule

Overall Construction Period: Approximately 27 months

	PHASE 1															PHASE 2												
	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13	Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24	Month 25	Month 26	Month 27
Pre-construction/site prepartion																											
Install safety fencing/temporary sidewalks/bridges/lighting etc.																											
Construct construction entrances and complete loop drive around property. Demolish 6 units on south side of property (Ex. Buildings D & E)																											
Site restoration/development and excavation for South building/garage																											
Site restoration/development and excavation for West building/garage																											
Construction of South and West buildings and plazas/drive decks																											
Completion of South and West bulidings/garages																											
Demolish 13 units on north side of property (Ex. Building A)																											
Demolish 15 units (Ex. Building B). Site restoration/development and excavation for North building/garage																											
Construction of North building/garage and plazas/drive decks. Site work including sidewalks, drives and curbs																											



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REV.	DATE	DESCRIPTION
	05-23-16	ISSUED TO VGN and NASSAU COUNTY PLANNING COMMISSION
	03-5-18	REVISED
	12-18-17	REVISED
	07-20-17	REVISED
	08-03-16	REVISED
	12-02-15	REVISED
	11-19-15	REVISED
	11-13-15	REVISED
	11-09-15	REVISED
	10-26-15	REVISED
	9-29-15	REVISED
	9-04-15	REVISED

REVISIONS:

NEWMAN DESIGN
ARCHITECTURE • URBAN PLANNING
NEWMAN DESIGN ARCHITECTS PLLC
210 West Rogues Path • Cold Spring Hills, NY 11743
TEL: 212.673.3110 • TEL: 631.673.3111 • FAX: 631.673.2031
www.ndarchitects.com

PROJECT:

MILLBROOK APARTMENTS
240-250 MIDDLE NECK ROAD
GREAT NECK, NY 11023

TITLE:

EXISTING SITE WITH DEMO BUILDING DEMO

STAMP:

DATE:	9/04/15
JOB #:	14-43
DRAWN BY:	AG
SCALE:	AS NOTED

DRAWING NO:

AD-001

FILE No.: SHEET:

SITE PLAN LEGEND

	INDICATES PROPERTY LINE
16.0'	INDICATES SPOT ELEVATION
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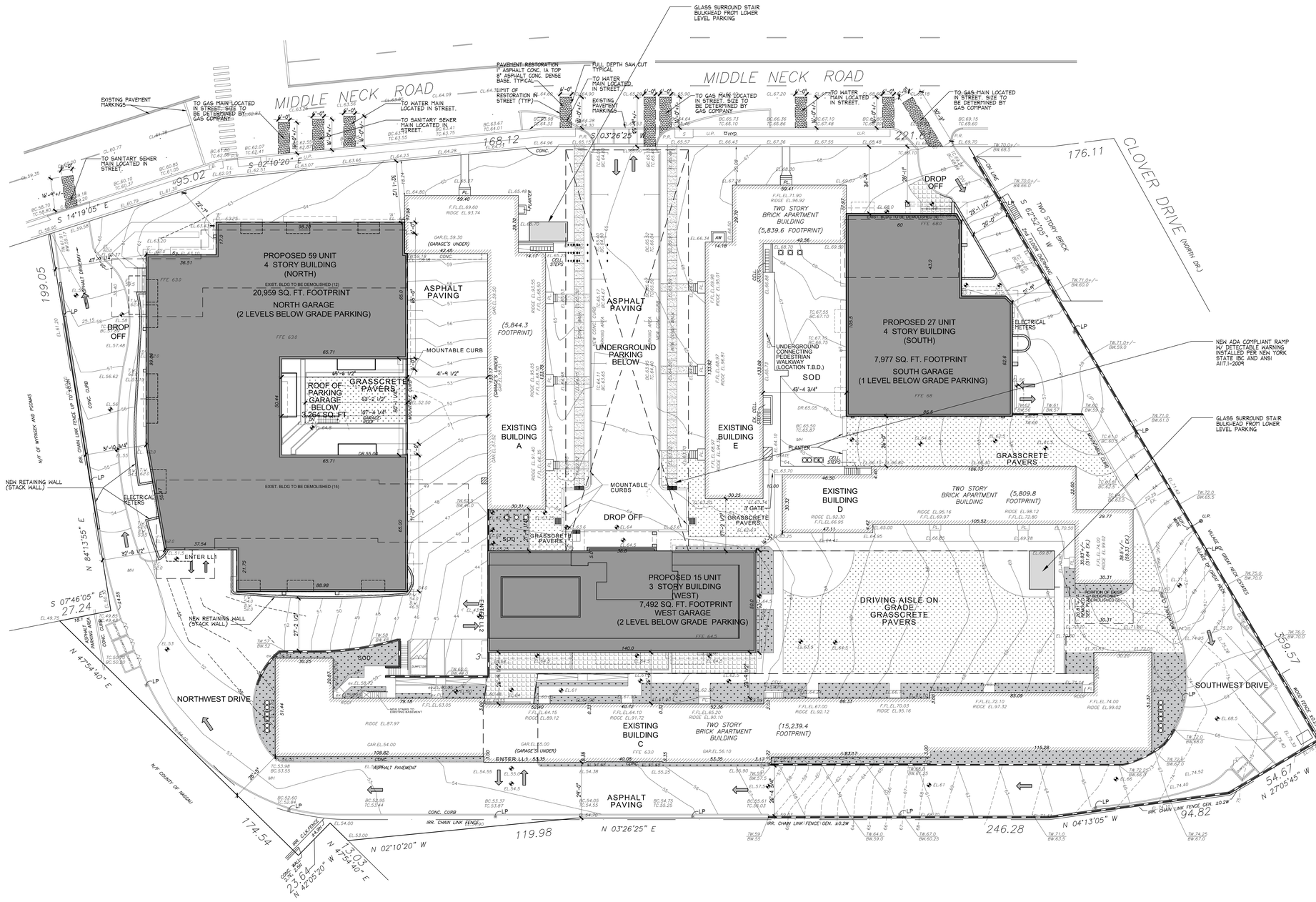
	BRICK PAVER WALK
HYD.	EXISTING FIRE HYDRANT



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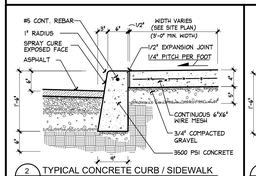

2 ST-001 TYPICAL CONCRETE CURB / SIDEWALK
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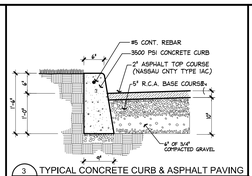

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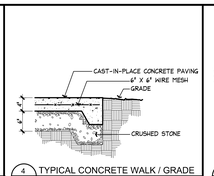
FOR ON SITE PARKING & DRIVEWAYS



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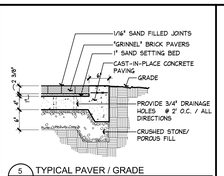
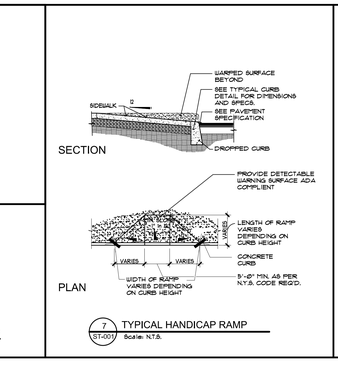
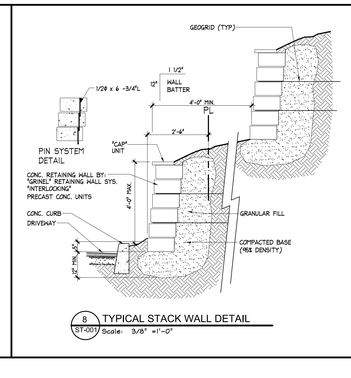


5 ST-001 TYPICAL PAVER / GRADE
Scale: 3/4" = 1'-0"

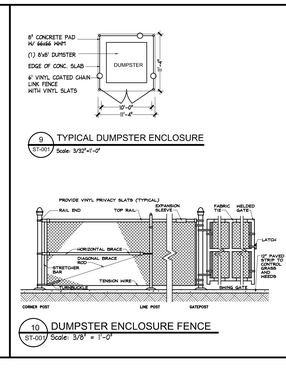
6 ST-001 TYPICAL HANDICAP PARKING & RAMP
Scale: 3/32" = 1'-0"



7 ST-001 TYPICAL HANDICAP RAMP
Scale: N.T.S.



8 ST-001 TYPICAL STACK WALL DETAIL
Scale: 3/8" = 1'-0"



9 ST-001 TYPICAL DUMPSTER ENCLOSURE
Scale: 3/32"=1'-0"

10 ST-001 DUMPSTER ENCLOSURE FENCE
Scale: 3/8" = 1'-0"

REV.	DATE	DESCRIPTION
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PROJECT:

MILLBROOK APARTMENTS

240-250 MIDDLE NECK ROAD

GREAT NECK, NY 11023

TITLE:

SITE PLAN

STAMP:

DATE:	08/14/15
JOB #:	14-43
DRAWN BY:	AG
SCALE:	AS NOTED

DRAWING NO:

ST-001

FILE No. :

SHEET:

LOT COVERAGE

EXISTING BUILDINGS

EX. BLDG. A	= 5,844.3 SQ. FT.
EX. BLDG. C	= 15,239.4 SQ. FT.
EX. BLDG. D	= 5,809.8 SQ. FT.
EX. BLDG. E	= 5,839.6 SQ. FT.
TOTAL	= 32,733.1 SQ. FT.

PROPOSED BUILDINGS (LOT COVERAGE)

NORTH	= 23,550.6 SQ. FT.
SOUTH	= 7,977.0 SQ. FT.
WEST	= 7,492.0 SQ. FT.
WEST GARAGE STAIR BULKHEAD	= 400.0 SQ. FT.
TOTAL	= 39,419.6 SQ. FT.

TOTAL = 72,152.7 SQ. FT. / 189,481.6 LOT AREA (4.349 ACRES)
38.1% PROPOSED < 60% MAXIMUM

1

UNIT MIX TABLES

EXISTING BUILDINGS UNITS

TOTAL EXISTING UNITS					
	S	1B	2B	3B	TOTAL
	16	62	41	0	119

UNITS TO BE REMOVED					
BLDG.	S	1B	2B	3B	TOTAL
E	0	0	4		4
A	2	7	4		13
B	0	10	5		15
D	0	2	0		2
SUB TOTAL	2	19	13		34

2

UNITS CONVERTED					
		1			

TOTAL EXISTING UNITS TO REMAIN					
	S	1B	2B	3B	TOTAL
	14	42	28	1*	85

* A 3 BEDROOM IS CREATED BY COMBINING TWO EXISTING 1 BR UNITS AND IS INCLUDED IN THE POST-DEMO PARKING CALCULATION.

PROPOSED BUILDINGS UNITS

UNIT MIX - NORTH BLDG.					
FLOOR	S	1B	2B	3B	TOTAL
1		8	2	4	14
2		8	3	4	15
3		8	3	4	15
4		8	3	4	15
SUB-TOTAL		32	11	16	59

UNIT MIX - SOUTH BLDG.					
FLOOR	S	1B	2B	3B	TOTAL
1		2	4	-	6
2		3	4	-	7
3		3	4	-	7
4		3	4	-	7
SUB-TOTAL		11	16	-	27

UNIT MIX - WEST BLDG.					
FLOOR	S	1B	2B	3B	TOTAL
1		-	3	-	3
2		1	5	-	6
3		1	5	-	6
SUB-TOTAL		2	13	-	15

	S	1B	2B	3B	TOTAL
TOTAL		45	40	16	101

TOTAL EXISTING & PROPOSED UNITS

	S	1B	2B	3B	
TOTAL EX. TO REMAIN	14	42	28	1	85
TOTAL PROPOSED	0	45	40	16	101
GRAND TOTAL	14	87	68	17	186

BEDROOM MIX

EXISTING BUILDING (AFTER DEMOLITION)

S - 14
1B - 42
2B - 56 (28 x 2)
3B - 3 (1 x 3)
TOTAL = 115 BEDROOMS — 115 BEDROOMS

PROPOSED BUILDINGS

NORTH
1B - 32
2B - 22 (11 x 2)
3B - 48 (16 x 3)
102 BEDROOMS

SOUTH
1B - 11
2B - 32 (16 x 2)
43 BEDROOMS

WEST
1B - 2
2B - 26 (13 x 2)
28 BEDROOMS

NORTH + SOUTH + WEST — 173 BEDROOMS

TOTAL = 288 BEDROOMS

PARKING CALCULATIONS

REQUIRED PARKING PER UNIT MIX

EXISTING BUILDINGS

	14 - STUDIO = x 2 SPACES =	28 SPACES
	42 - 1 BEDROOM = x 2 SPACES =	84 SPACES
	28 - 2 BEDROOM = x 2 SPACES =	56 SPACES
	1 - 3 BEDROOM = x 3 SPACES =	3 SPACES
	85 UNITS	171 SPACES

PROPOSED BUILDINGS

NORTH BUILDING	32 - 1 BEDROOM = x 2 SPACES =	64 SPACES
	11 - 2 BEDROOM = x 2 SPACES =	22 SPACES
	16 - 3 BEDROOM = x 3 SPACES =	48 SPACES
	59 UNITS	134 SPACES
SOUTH BUILDING	11 - 1 BEDROOM = x 2 SPACES =	22 SPACES
	16 - 2 BEDROOM = x 2 SPACES =	32 SPACES
	27 UNITS	54 SPACES
WEST BUILDING	2 - 1 BEDROOM = x 2 SPACES =	4 SPACES
	13 - 2 BEDROOM = x 2 SPACES =	26 SPACES
	15 UNITS	30 SPACES
	101 NEW UNITS	218 NEW SPACES REQUIRED

TOTAL EXISTING & PROPOSED PARKING REQUIRED

EXISTING BUILDINGS	171 SPACES
PROPOSED BUILDINGS	218 SPACES
TOTAL REQUIRED	389 SPCAES > 314 PROVIDED (75 SPACES DEFICIENT)

1

PARKING PROVIDED BY BUILDING:

NORTH GARAGE	= 116 SPACES
SOUTH GARAGE	= 8 SPACES
WEST GARAGE	= 150 SPACES
MILLBROOK COURT	= 10 SPACES
NORTHWEST DRIVE	= 6 SPACES
SOUTHWEST DRIVE	= 5 SPACES
EX. BLDG. A	= 2 SPACES
EX. BLDG. C	= 19 SPACES
TOTAL	= 314 SPACES PROVIDED

2

REQUIRED H.C. PARKING PER UNIT MIX (INCLUDED IN REQ'D PARKING COUNT)

IBC CODE REQUIREMENT = 2% OF TOTAL UNITS IN A BUILDING

NORTH BUILDING 59 UNITS X 2% = 1.18 = 2 H.C. SPACES REQ'D - 2 H.C. SPACES PROVIDED

SOUTH BUILDING 27 UNITS X 2% = .54 = 1 H.C. SPACE REQ'D - 2 H.C. SPACES PROVIDED

WEST BUILDING 15 UNITS X 2% = .3 = 1 H.C. SPACE REQ'D - 2 H.C. SPACES PROVIDED

4 H.C. SPACES REQ'D	6 H.C. SPACES PROVIDED

REQUIRED PARKING - RATIO CALCULATION

EXISTING CONDITIONS:
119 UNITS
134 SPACES: [(40 NORTH GARAGE SPACES + 22 WEST GARAGE SPACES) = 62 GARAGE SPACES + 72 ON GRADE SPACES]

EXISTING RATIO: 134 SPACES / 119 UNITS = 1.126
119 UNITS - 34 DEMO UNITS = 85 EXISTING UNITS TO REMAIN

REQUIRED PARKING:
85 EXISTING UNITS TO REMAIN x 1.126 = 96 SPACES REQUIRED
101 NEW UNITS 218 SPACES REQUIRED
314 SPACES REQUIRED

ZONING ANALYSIS

VILLAGE OF GREAT NECK

TAX SECT.: 2 TAX BLOCK: 354 TAX LOT(S): 138

RESIDENCE 'E'

SECTION	DESCRIPTION	COMPLIES/(MIDDLE NECK ROAD MULTI-FAMILY INCENTIVE OVERLAY DISTRICT) (MNR-MIO)
575-106	HEIGHT • MULTI-FAMILY 31 FEET	4 STORIES/42' - MNR-MIO - COMPLIES
575-107	LOT SIZE • MINIMUM 20,000 SQ. FT.	+/-189, 481 SQ. FT. - COMPLIES
575-109	FLOOR AREA FOR MULTI-FAMILY • MINIMUM UNIT SIZE 600 SQ. FT.	1 BEDROOM MIN. 750 SF - COMPLIES
575-110	DENSITY • MAX 43 D.U./ACRE (MULTI-FAMILY) 43 x 4.349 = 187 D.U.	186/4.349 = 42.8/ACRE - COMPLIES
575-111	BUILDING AREA (FOOTPRINT) 60% LOT AREA	72,261.8 SQ. FT./189,481.6 = 38.1% - COMPLIES
575-112	FRONT YARDS • 15' FROM PROPERTY LINE & 21' FROM CURB	18' EXISTING, 22'-7" PROPOSED - COMPLIES
575-113	SIDE YARDS • 10' MINIMUM SIDE YARD	25'-7" PROPOSED - COMPLIES
575-114	REAR YARDS • 25' MINIMUM REAR YARD	29' EXIST - (NO CHANGE) - COMPLIES
575-115	DISTANCE BETWEEN BUILDINGS • 10' MINIMUM SEPARATION • 2' ENCROACHMENTS WITHIN 10' DISTANCE ALLOWED (NOT LESS THAN 8' FT.)	0' NEW TO EXISTING (SAME AS EXISTING CONDITIONS)
575-115.2	LANDSCAPING BUFFER - PROVIDE	- COMPLIES

PARKING

575-155	PARKING WITH RESIDENCE DISTRICTS	314 SPACES REQ'D
	MULTI-FAMILY: 2 SPACES/1 BEDROOM & 2 BEDROOM UNITS 3 SPACES/3 BEDROOM OR MORE UNITS	314 PROVIDED - COMPLIES NOTE: 24 TANDEM SPACES PROVIDED
	TANDEM - ACCEPTABLE WITH BOARD OF TRUSTEE APPROVAL	
	PARKING SPACE SIZE: 9 X 19 MINIMUM 22' DRIVING AISLE	

2

WE HEREBY CERTIFY THAT THE PROPOSED DEVELOPMENT COMPLIES WITH THE ZONING REQUIREMENTS IN THE RESIDENCE "E" DISTRICT, EXCEPT WHERE INDICATED IN THE ZONING ANALYSIS.

MITCHELL D. NEWMAN, A.I.A.

NOTE:
APPLICANT TO FILE A STORM WATER POLLUTION PLAN AND NOTICE OF INTENT WITH N.Y.S. DEPARTMENT OF ENVIRONMENTAL CONSERVATION.

REV.	DATE	DESCRIPTION
	05-23-18	REVISED- ISSUED TO VGN and NASSAU COUNTY PLANNING COMMISSION
2	5/17/18	REV.
1	5/16/18	REVISED- RE-ISSUED TO V.G.N.
	03-5-18	REVISED
	05-19-17	REVISED
	08-03-16	REVISED
	12-02-15	REVISED
	11-19-15	REVISED
	11-13-15	REVISED
	11-06-15	REVISED
	10-26-15	REVISED
	9-04-15	REVISED
	8-19-15	REVISED

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PROJECT:

MILLBROOK APARTMENTS
240-250 MIDDLE NECK ROAD
GREAT NECK, NY 11023

TITLE:

ZONING ANALYSIS

STAMP:

DATE: **08/14/15**
JOB #: **14-43**
DRAWN BY: **AG**
SCALE: **AS NOTED**
DRAWING NO: **Z-001.00**
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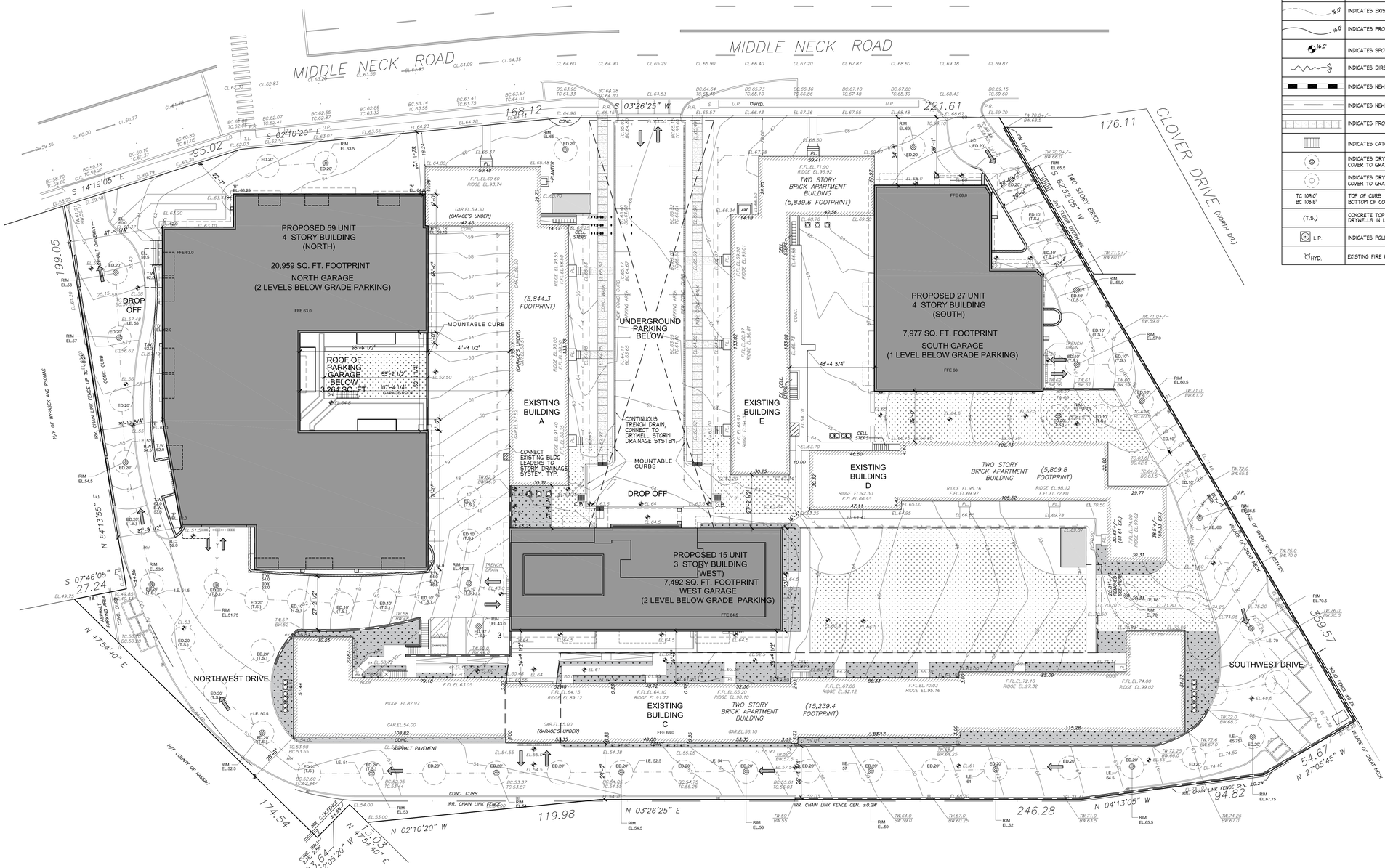


SITE PLAN LEGEND

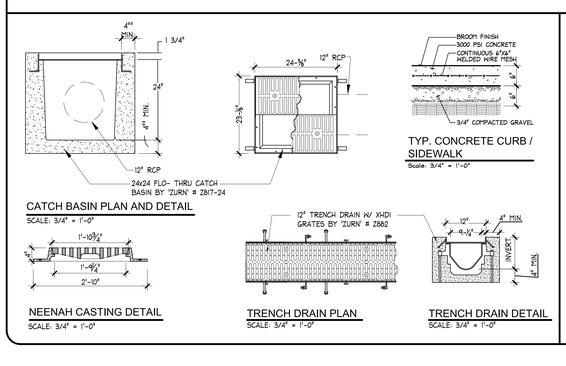
	INDICATES PROPERTY LINE
46.0'	INDICATES EXISTING GRADE CONTOUR
46.0'	INDICATES PROPOSED GRADE CONTOUR
46.0'	INDICATES SPOT ELEVATION
	INDICATES DIRECTION OF SURFACE DRAINAGE
	INDICATES NEW CURB
	INDICATES NEW RETAINING WALL
	INDICATES PROPOSED CONCRETE WALK
	INDICATES CATCH BASIN
	INDICATES DRYWELL w/ GRATED CAST IRON COVER TO GRADE
	INDICATES DRYWELL w/ SOLID CAST IRON COVER TO GRADE
TC 109.0' BC 108.5'	TOP OF CURB BOTTOM OF CONCRETE
(T.S.)	CONCRETE TOP SLAB / TRAFFIC TOP FOR DRYWELLS IN LIEU OF DOME
L.P.	INDICATES POLE MOUNTED LIGHT
HYD.	EXISTING FIRE HYDRANT

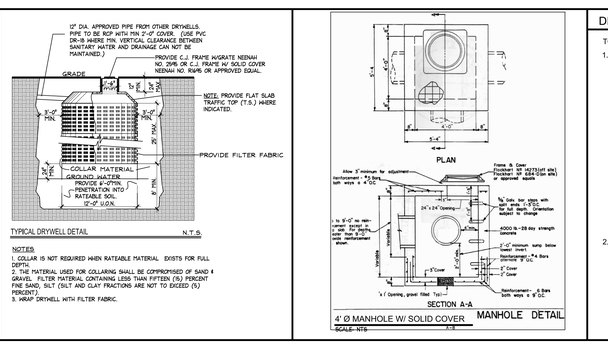
SITE GRADING AND DRAINAGE PLAN

1 / ST-002 — Scale: 1" = 20'-0"

0 10' 20' 40'

SCALE: 1" = 20'-0"





DRAINAGE CALCULATIONS

TOTAL SITE AREA: 4.349 ACRES (189,481.6 SF) (BASED ON 8" RAINFALL)

1. ROOF AREAS
- PROPOSED NORTH BLDG: 23,550.6 SF
- PROPOSED SOUTH BLDG: 7,977.0 SF
- PROPOSED WEST BLDG: 7,492.0 SF
- PROPOSED STAIR: + 400.0 SF
  39,419.6 SF
- EXIST. BLDG 'A' : 5,844.3 SF
- EXIST. BLDG 'C' : 15,239.4 SF
- EXIST. BLDG 'D' : 5,809.8 SF
- EXIST. BLDG 'E' : + 5,839.6 SF
  32,733.1 SF

TOTAL ROOF AREA: 72,152.7 SF

72,152.7 SF x .67 x 1.0
100 CU.FT./L.F. (12' Ø DRYWELL)

48,342.31 SF = 483.42 L.F. REQ'D.
100

2. PAVED AREAS
- MILLBROOK COURT: 7,770.6 SF
- ADDITIONAL DRIVES & SURFACE PARKING : 40,659.1 SF
- WALKS : + 11,707.4 SF
  60,137.1 SF

60,137.1 SF x .67 x 1.0
100 CU.FT./L.F. (12' Ø DRYWELL)

40,291.86 SF = 402.92 L.F. REQ'D.
100

3. GRASS AREA = 57,191.8 SF

57,191.8 SF x .67 x .3
100 CU.FT./L.F. (12' Ø DRYWELL)

11,495.55 SF = 114.96 L.F. REQ'D.
100

TOTAL L.F. REQUIRED = 483.4 L.F.
402.9 L.F.
+ 114.6 L.F.
1,000.9 L.F. (12' Ø DRYWELLS)

PROVIDED = 51 x 20'-0" E.D. (12' Ø DRYWELL)
1,020.0 L.F. (PROVIDED)

NOTE:
- MIN. CLEARANCES: DRYWELL TO DRYWELL 20' MIN.
  DRYWELL TO PROPERTY LINE 10' MIN.
  DRYWELL TO FOUNDATIONS 10' MIN.
- PIPES CONNECTING DRYWELLS: 12" RCP (U.O.N.)
- PIPES CONNECTING BUILDING ROOF LEADERS TO STORM WATER MANAGEMENT SYSTEM: 8" PVC (U.O.N.)

ALL INSTALLATION TO BE IN ACCORDANCE WITH V.G.N. & N.C.D.P.W.

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PROJECT:

MILLBROOK APARTMENTS

240-250 MIDDLE NECK ROAD

GREAT NECK, NY 11023

TITLE:

SITE GRADING AND DRAINAGE PLAN AND DETAILS

STAMP:

DATE:	08/14/15
JOB #:	14-43
DRAWN BY:	AG
SCALE:	AS NOTED

DRAWING NO:

ST-002

FILE No. :

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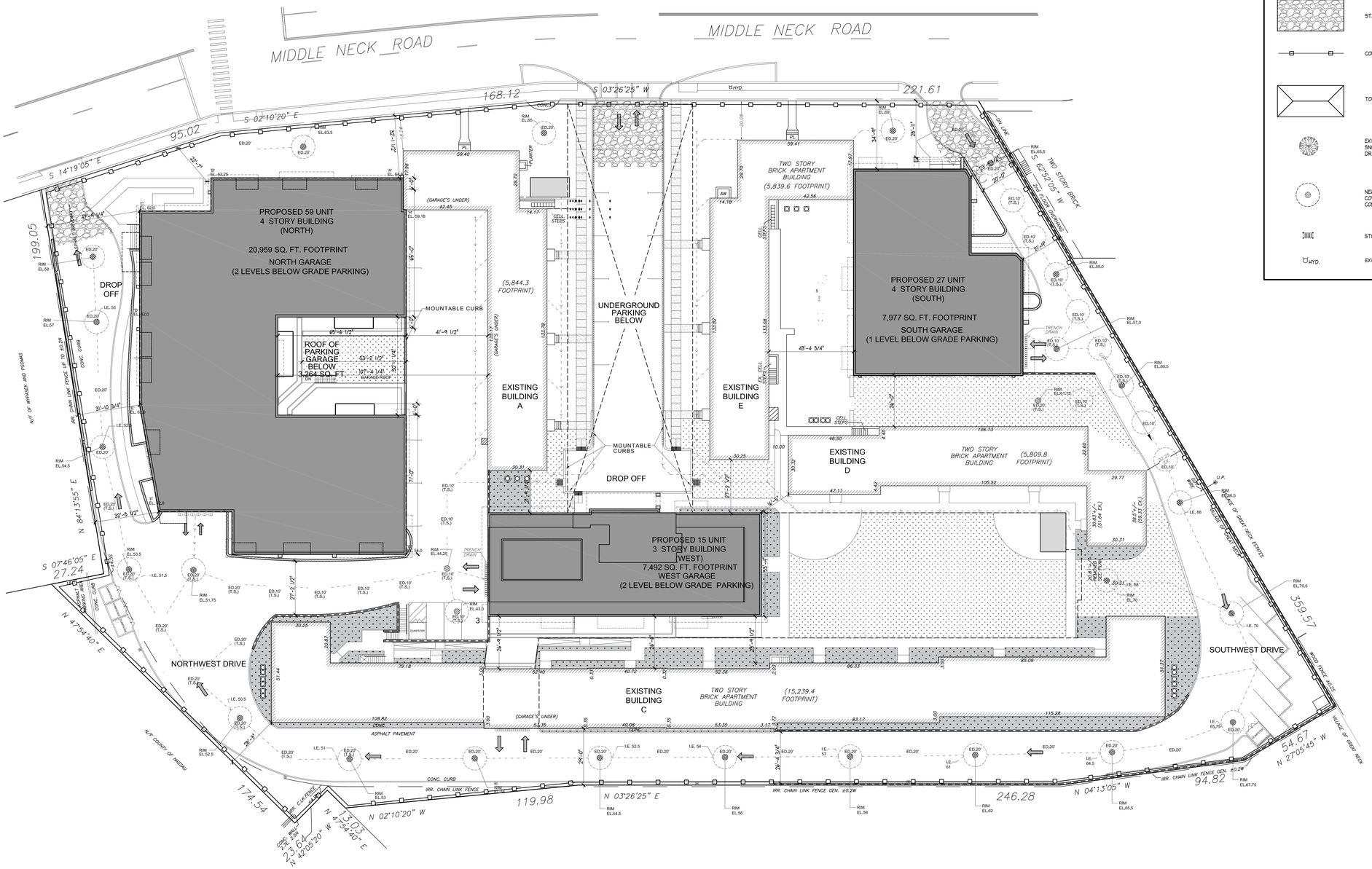
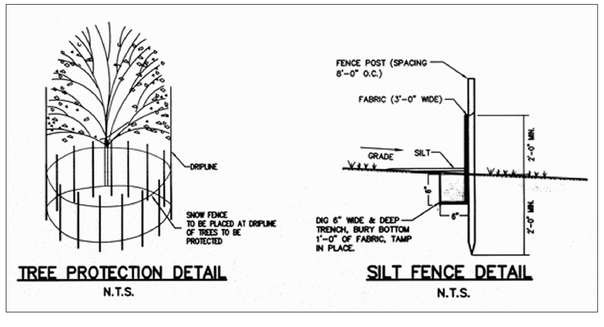


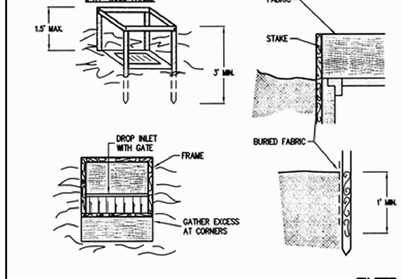
LEGEND:

- STABILIZED CONSTRUCTION ENTRANCE
- CONSTRUCTION FENCE WITH SILT BARRIER
- TOPSOIL/MATERIAL STOCKPILE
- EXISTING TREE TO REMAIN PROVIDE SNOW FENCE TO BE PLACED AT DRIPLINE OF TREE
- NEW DRYWELL WITH OPEN GRATE COVER TO BE USED FOR WATER CONTROL, PROVIDE FILTER FABRIC
- STORM DRAIN INLET FILTER
- HYD. EXISTING FIRE HYDRANT



TREE PROTECTION DETAIL
N.T.S.

SILT FENCE DETAIL
N.T.S.



FILTER FABRIC DROP INLET PROTECTION
N.T.S.

CONSTRUCTION SPECIFICATIONS

1. FILTER FABRIC SHALL HAVE AN EOS OF 40-85. BURLAP MAY BE USED FOR SHORT TERM APPLICATIONS.
2. CUT FABRIC FROM A CONTINUOUS ROLL TO ELIMINATE JOINTS. IF JOINTS ARE NEEDED THEY WILL BE OVERLAPPED TO THE NEXT STAKE.
3. STAKE MATERIALS WILL BE STANDARD 2" x 4" WOOD OR EQUIVALENT. METAL WITH A MINIMUM LENGTH OF 3 FEET.
4. SPACE STAKES EVENLY AROUND INLET 3 FEET APART AND DRIVE A MINIMUM 18 INCHES DEEP. SPANS GREATER THAN 3 FEET MAY BE BRIDGED WITH THE USE OF WIRE MESH BEHIND THE FILTER FABRIC FOR SUPPORT.
5. FABRIC SHALL BE EMBEDDED 1 FOOT MINIMUM BELOW GROUND AND BACKFILLED. IT SHALL BE SECURELY FASTENED TO THE STAKES AND FRAME.
6. A 2" x 4" WOOD FRAME SHALL BE COMPLETED AROUND THE CREST OF THE FABRIC FOR OVER FLOW STABILITY.
7. MAXIMUM DRAINAGE AREA 1 ACRE

GENERAL NOTES:

AN EROSION CONTROL SYSTEM WILL BE UTIUIZED BY THE DEVELOPER TO MINIMIZE THE PRODUCTION OF SEDIMENT FROM THE SITE. METHODS TO BE UTIUIZED WILL BE THOSE FOUND MOST EFFECTIVE FOR THE SITE AND SHALL INCLUDE ONE OR MORE OF THE FOLLOWING AS APPLICABLE:

1. TEMPORARY SEDIMENTATION ENTRAPMENT AREAS SHALL BE PROVIDED AT KEY LOCATIONS TO INTERCEPT AND CLARIFY SILT LADEN RUNOFF FROM THE SITE. THESE MAY BE EXCAVAIED OR MAY BE CREATED UTILIZING EARTHEN BERMS. RIP-RAP OR CRUSHED STONE DAMS, HAY BALES,OR OTHER SUITABLE MATERIALS. DIVERSION SWALES. BERMS. OR CHANNELIZATION SHALL BE CONSTRUCTED TO INSURE THAT ALL SILT LADEN MATERS ARE DIRECTED INTO THE ENTRAPMENT AREAS. WHICH SHALL NOT BE PERMITTED TO FILL IN, BUT SHALL BE CLEANED PERIODICALLY DURING THE COURSE OF CONSTRUCTION. THE COLLECTED SILT SHALL BE DEPOSITED IN AREAS SAFE FROM FURTHER EROSION.
2. ALL DISTURBED AREAS. EXCEPT ROADWAYS, WHICH WILL REMAIN UNFINISHED FOR MORE THAT 30 DAYS SHALL BE TEMPORARILY SEEDED WITH ½ LB. OF RYE GRASS OR MULCHED WITH 100 LBS. OF STRAW OR HAY PER 1,000 SQUARE FEET. ROADWAYS SHALL BE STABILIZED AS RAPIDLY AS PRACTICABLE BY THE INSTALLATION OF THE BASE COURSE
3. SILT THAT LEAVES THE SITE IN SPITE OF THE REQUIRED PRECAUIIONS SHALL BE COLLECTED AND REMOVED AS DIRECTED BY APPROPRIATE MUNICIPAL AUTHORITIES.
4. AT THE COMPLEION OF THE PROJECT, ALL TEMPORARY SILTATION DEVICES SHALL BE REMOVED AND THE AFFECTED AREAS REGRADED, PLANTED, OR TREATED IN ACCORDANCE WITH THE APPROVED SITE

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PROJECT:

MILLBROOK APARTMENTS
240-250 MIDDLE NECK ROAD
GREAT NECK, NY 11023

TITLE:

SOIL EROSION CONTROL PLAN

STAMP:

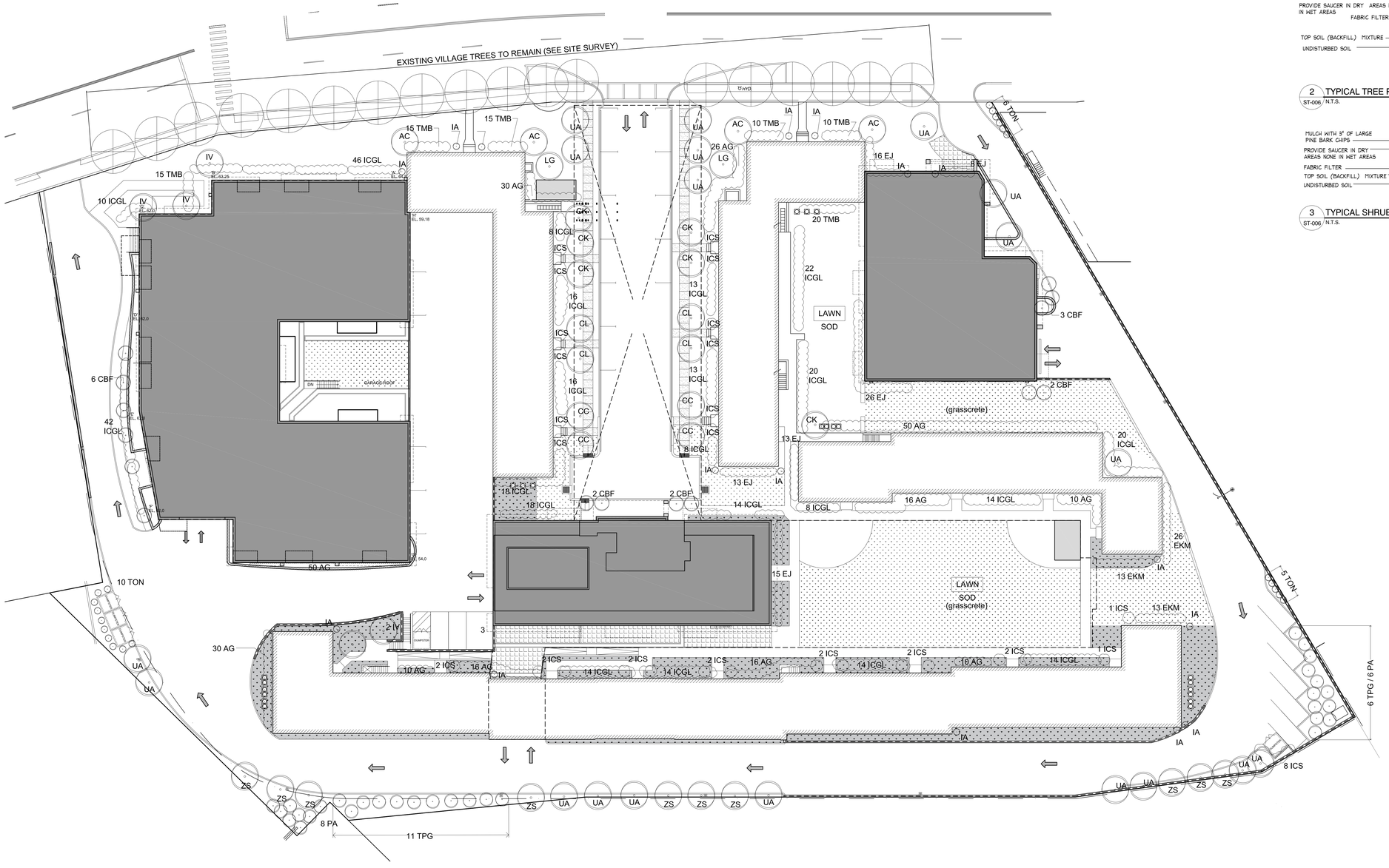
DATE:	08/14/15
JOB #:	14-43
DRAWN BY:	JK
SCALE:	AS NOTED

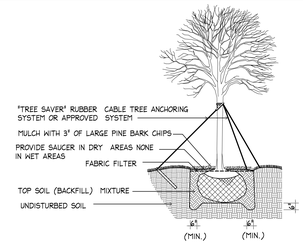
DRAWING NO:

ST-005

FILE No. :

SHEET:





2 TYPICAL TREE PLANTING DETAIL
ST-006 N.T.S.

3 TYPICAL SHRUB PLANTING DETAILS
ST-006 N.T.S.

1 LANDSCAPE PLAN
ST-006 Scale: 1" = 20'-0"

0 10' 20' 40'
SCALE: 1" = 20'-0"

PLANTING SCHEDULE:

TREES

SYM.	QTY.	BOTANICAL NAME	COMMON NAME	SIZE/ SP.
AC	4	AMELANCHIER CANADENSIS	SHADBUSH SERVICEBERRY	8-10' HT.
CBF	15	CARPINUS BETULUS FASTIGIATA	PYRAMIDAL EUROPEAN HORNBEAM	3- 3 1/2" CAL 20' O.C.
IA	13	ILEX AQUIPERNYI	SAN JOSE HOLLY	6-8' HT.
IV	5	ILEX VERTICILLATA	WINTERBERRY	10-12' HT. - 15' O.C.
PA	14	PICEA ABIES	NORWAY SPRUCE	6-8' HT. - 10' O.C.
TON	21	THUJA OCCIDENTALIS NIGRA	DARK AMERICAN ARBORVITAE	8-10' HT. - 5' O.C.
TPG	17	THUJA PLICATA GREEN GIANT	WESTERN ARBORVITAE	10-12' HT. - 10' O.C.

SYM.	QTY.	BOTANICAL NAME	COMMON NAME	SIZE/ SP.
UA	19	ULMUS AMERICANA LIBERTY	LIBERTY ELM	3- 3 1/2" CAL 20' O.C.
ZS	10	ZELKOVA SERRATA	JAPANESE ZELKOVA	3- 3 1/2" CAL 20' O.C.
CC	4	CERCIS CANADENSIS	REDBUD	10-12' HT.
CK	6	CORNUS KOUSA	KOUSA DOGWOOD	8-10' HT.
CL	4	CRATAEGUS LAVALLEI	LAVALLE HAWTHORN	8-10' HT.
LG	2	LAGERSTROEMIA ARAPAHO	RED CRAPE MYRTLE	10-12' HT.

TOTAL NEW TREES = 134

SHRUBS

SYM.	QTY.	BOTANICAL NAME	COMMON NAME	SIZE/ SP.
AG	264	ABELIA GRANDIFOLIA	GLOSSY ABELIA	18 - 24" SP. - 4' O.C.
EJ	91	EUONYMUS JAPONICA	JAPANESE EUONYMUS	18 - 24" SP. - 3' O.C.
EKM	52	EUONYMUS KATSCHOVICA 'MANHATTAN	MANHATTAN EUONYMUS	18 - 24" SP. - 3' O.C.
ICGL	284	ILEX CRENATA GREEN LUSTER	GREEN LUSTER HOLLY	18 - 24" SP. - 2.5' O.C.
ICS	28	ILEX CRENATA SENTINEL	SENTINEL HOLLY	5-6' HT.
TMB	131	TAXUS MEDIA BROWNII	BROWN YEW	2 - 2.5' SP. - 3' O.C.

HYDROSEED 'A' @ 170#/AC.

(ECOLOGY MIX)

80% RELIANT HARD FESCUE
20% JAMESTOWN II CHEWINGS FESCUE

LEGEND:

SYMBOL	DESCRIPTION
	EXISTING TREES TO REMAIN
	PROPOSED TREES
	PROPOSED SHRUBS
	EXISTING SHRUBS TO REMAIN

NOTES:

1. ALL PLANT MATERIAL GUARANTEED FOR A PERIOD OF ONE YEAR FOLLOWING ACCEPTANCE BY OWNER.
2. ALL PLANTING BEDS TO BE MULCHED WITH 2" OF SHREDDED BARK.
3. ALL PLANTING BEDS TO RECEIVE 4" OF SCREENED TOPSOIL PRIOR TO PLANT INSTALLATION.
4. NO PLANT MATERIAL, EXCEPT LAWN OR GROUND COVER, IS TO BE LOCATED WITHIN 2'-0" OF ANY PARKING LOT CURBS.
5. LANDSCAPING SHALL BE PLANTED AND MAINTAINED IN COMPLIANCE WITH THE VILLAGE OF GREAT NECK SUBDIVISION REGULATIONS AND SITE IMPROVEMENT SPECIFICATIONS AND ADDENDA.
6. THERE SHALL BE NO PLANT SUBSTITUTIONS UNLESS AUTHORIZED BY STAFF OF THE VILLAGE OF GREAT NECK PLANNING AND ENVIRONMENTAL DEPARTMENT.
7. ALL DECIDUOUS TREES TO BE SECURED WITH TWO 3" DIA. CEDAR STAKES, 180 DEGREES APART. ALL ROPES AND WIRES SURROUNDING ROOT BALL TO BE REMOVED PRIOR TO BACK FILLING OF TREE PITS/ TREE TRUNK WRAP TO BE REMOVED.
8. NO TREES TO BE LOCATED WITHIN 10'-0" OF DRYWELLS WALLS OR PIPING AND DRAINAGE STRUCTURES AS PER THE VILLAGE OF GREAT NECK STANDARDS.
9. ALL PROPOSED STREET TREES TO BE LIMBED UP TO A HEIGHT OF 7'-0" TO AVOID ANY INTERFERENCE WITH PEDESTRIAN MOVEMENTS ALONG PROPOSED SIDEWALKS.
10. PLANTING OF STREET TREES AND OTHER PLANT MATERIAL MUST BE UNDER THE SUPERVISION OF A GRADUATE LANDSCAPE ARCHITECT. THE DEVELOPER MUST SUPPLY THE VILLAGE ENGINEER WITH THE AFFIDAVIT OF THE GRADUATE LANDSCAPE ARCHITECT STATING THAT THE QUALITY, VARIETY, SIZE OF PLANTS AND PLANTING PROCEDURES CONFORM TO THE SPECIFICATIONS OF THE VILLAGE OF GREAT NECK.

R.B. IGNATOW
LANDSCAPE
ARCHITECT

91 GREEN STREET
HUNTINGTON,
N.Y. 11743

REV.	DATE	DESCRIPTION
	05-23-18	ISSUED TO VGN and NASSAU COUNTY PLANNING COMMISSION
	03-5-18	REVISED
	12-18-17	REVISED
	07-20-17	REVISED
	05-19-17	REVISED
	03-13-17	REVISED
	03-01-17	REVISED
	08-03-16	REVISED
	12-02-15	REVISED
	11-19-15	REVISED
	11-13-15	REVISED
	11-09-15	REVISED
	10-26-15	REVISED
	9-04-15	REVISED

REVISIONS:

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TEL: 212.673.3110 • TEL: 631.673.3111 • FAX: 631.673.2031
www.ndarchitects.com

PROJECT:

MILLBROOK APARTMENTS

240-250 MIDDLE NECK ROAD

GREAT NECK, NY 11023

TITLE:

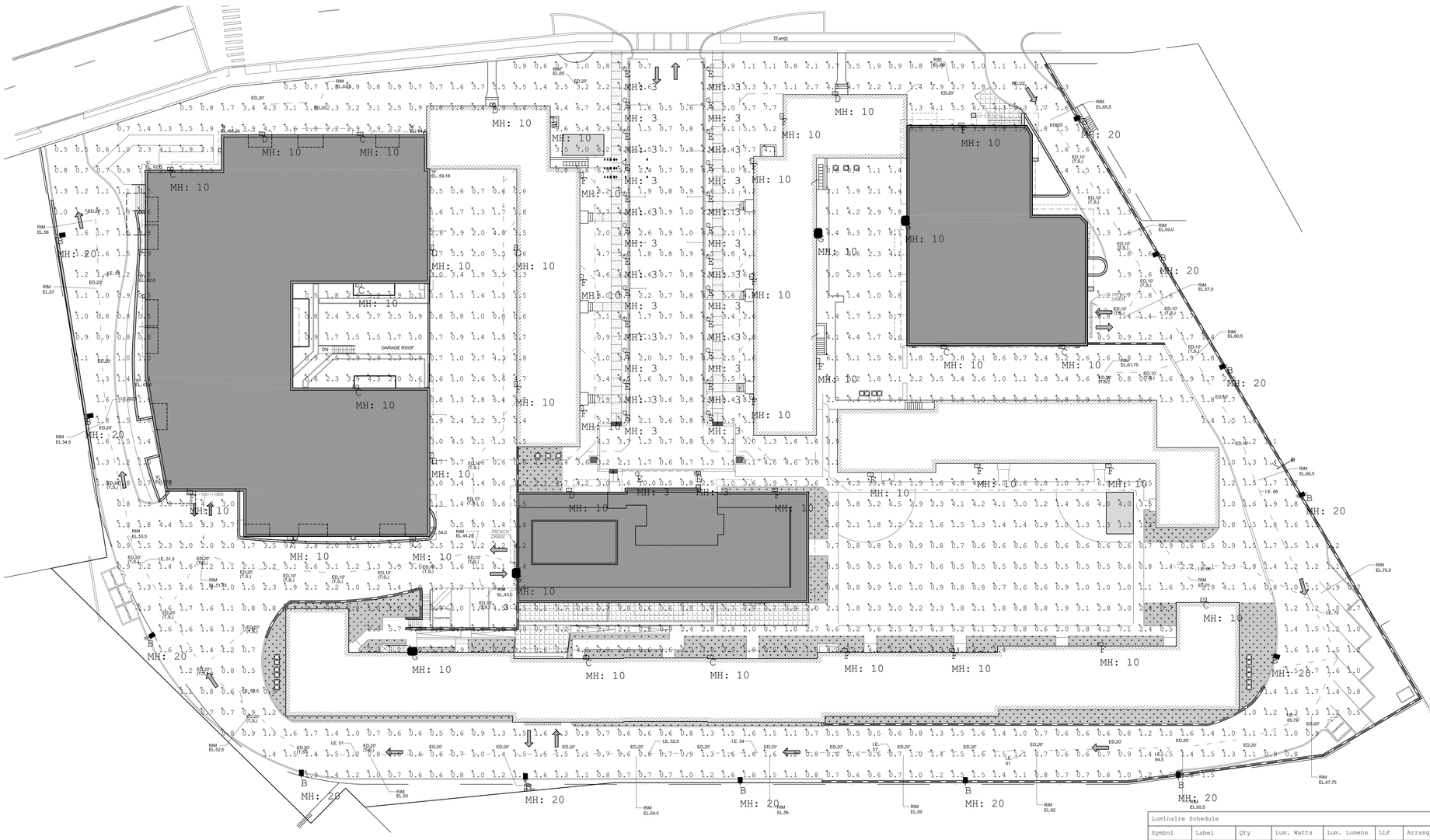
LANDSCAPE PLAN

STAMP:

DATE: **08/19/15**
JOB #: **14-43**
DRAWN BY: **AG, RT**
SCALE: **AS NOTED**
DRAWING NO: **ST-006**

FILE No. :

SHEET:



PHOTOMETRIC PLAN

1 ST-003 Scale: 1" = 20'-0"

0 10' 20' 40'

SCALE: 1" = 20'-0"

Luminaire Schedule

Symbol	Label	Qty	Lum. Watts	Lum. Lumens	LLF	Arrangement	Description
	B	13	56	5831	1.000	SINGLE	CL1S-32L-4K-3-053
	C	10	40.3	4502	0.850	SINGLE	LNC4-36L-4K-035-4-U
	D	7	40.3	4631	0.850	SINGLE	LNC4-36L-4K-035-3-U
	E	26	26.8	654	0.850	SINGLE	FN1-12LU-4K-XX
	F	20	80	7424	0.850	SINGLE	LNC4-36L-4K-065-4-U
	G	4	80	7404	0.850	SINGLE	LNC4-36L-4K-065-3-U

Calculation Summary

Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Drive Way	Illuminance	Fc	2.09	14.3	0.5	4.18	28.60

Note:

Calculation Grid (10ft X 10ft) @ Ground Level.

Luminaire Mounting height is noted on each Luminaire Label.

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	07-20-17	REVISED
	05-19-17	REVISED
	03-13-17	REVISED
	03-01-17	REVISED
	08-03-16	REVISED
	12-02-15	REVISED
	11-19-15	REVISED
	11-13-15	REVISED
	11-09-15	REVISED
	10-26-15	REVISED
	9-04-15	REVISED
	8-19-15	REVISED

REVISIONS:

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PROJECT:

MILLBROOK APARTMENTS

240-250 MIDDLE NECK ROAD

GREAT NECK, NY 11023

TITLE:

PHOTOMETRIC PLAN

STAMP:

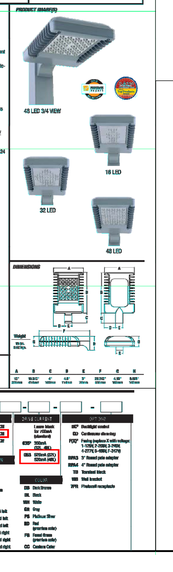
DATE:	08/14/15
JOB #:	14-43
DRAWN BY:	AG
SCALE:	AS NOTED

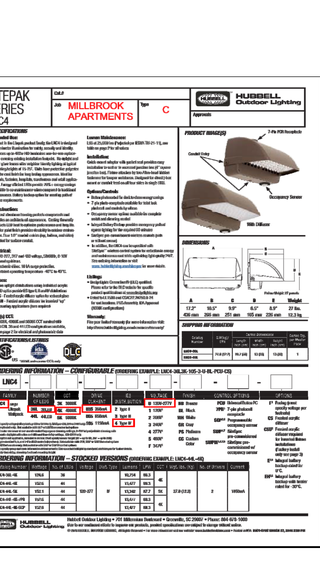
DRAWING NO:

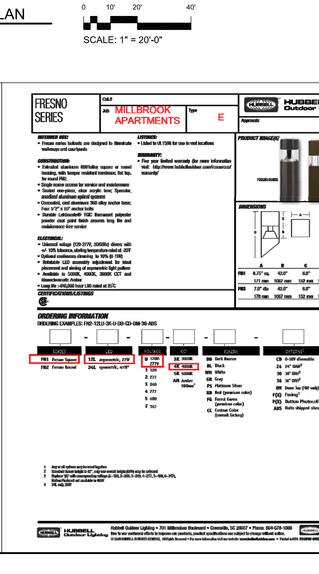
ST-003

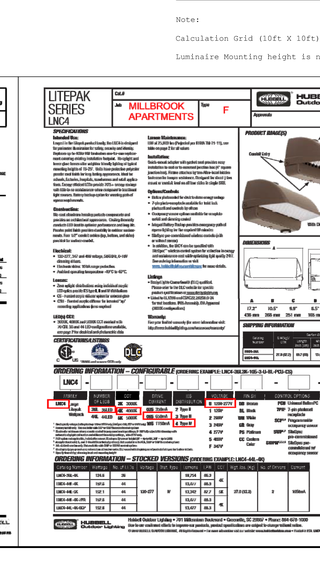
FILE No. :

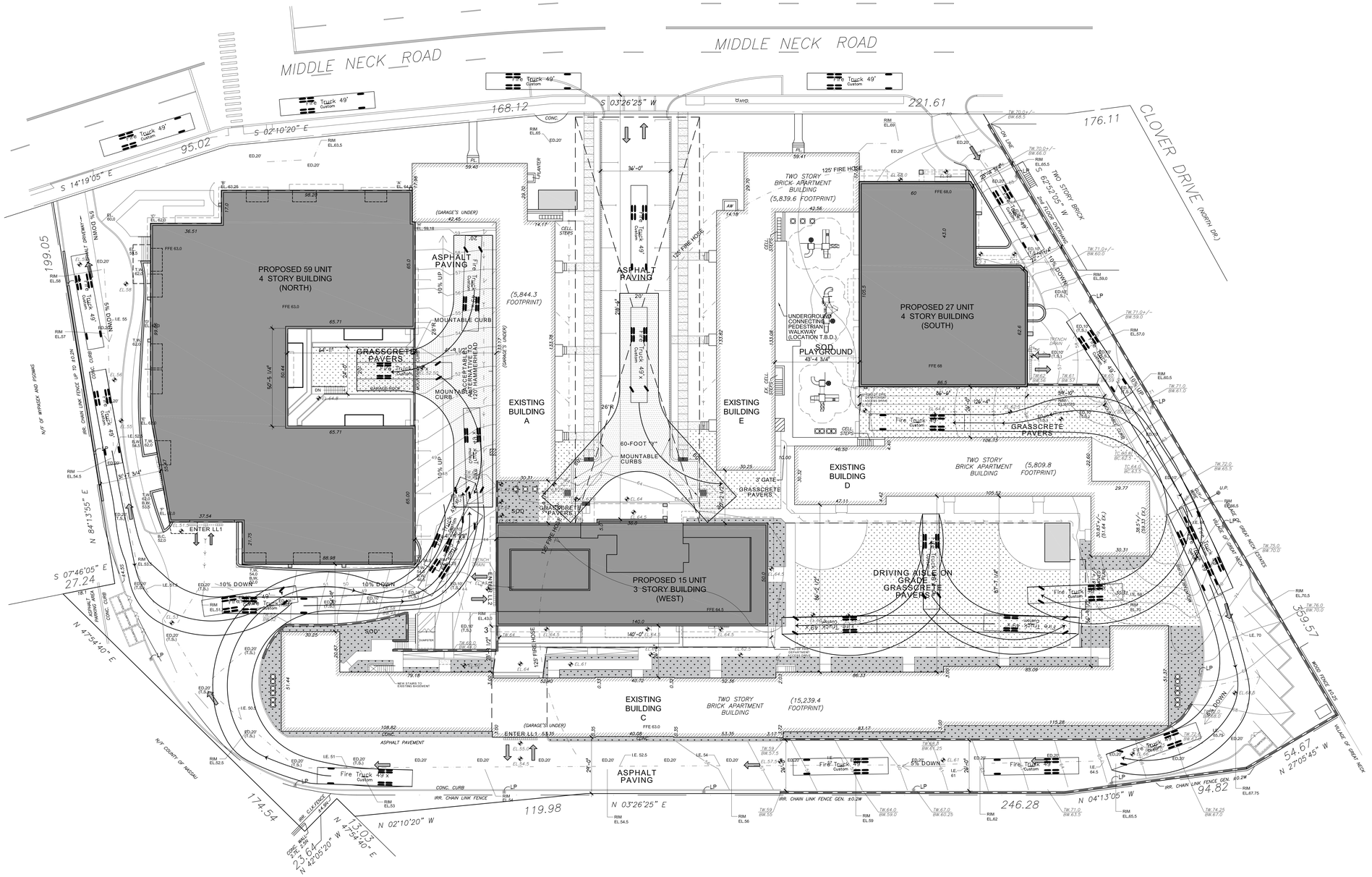
SHEET:











1 ST-004 TRUCK PATH
Scale: 1" = 20'-0"

SCALE: 1" = 20'-0"

Grasscrete

Grass reinforcement

Occasionally confused with pre-cast blocks Grasscrete is in fact a cast on site cellular reinforced concrete system with voids created by styrene void formers.

This type of construction offers significant structural advantages over precast concrete and plastic systems.

- load bearing up to 40 tonnes gross vehicle weight
- resists differential settlement
- reduces sub-base depths
- eliminates kerb edges
- no reliance on grass for stability
- optimum drainage capability

The lightweight nature of the Grasscrete former moulds enables us to ship economically throughout the world.

Typical traffic related specifications for Grasscrete can include.

- vehicle parking for daily or overspill use
- emergency access
- maintenance access
- highway verges and pull-ins

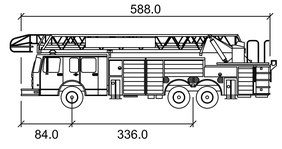
In addition to its ability to withstand traffic loads, Grasscrete is also massively used for projects in the water environment. Tested to flow rates in excess of 8 metres per second, this self-venting paving system is ideal for armouring the following.

- reservoirs
- spillways
- storm/drainage channels
- river and sea defences
- swales

When combined with its ability to withstand traffic, Grasscrete has a unique position in the field of Water Engineering.

LEGEND

- HYD. EXISTING HYDRANT
- GRASSCRETE PAVERS
- FIRE HOSE (125' W/ 20' SPRAY)



Fire Truck 49'

	inches
Width	: 102.0
Track	: 96.0
Lock to Lock Time	: 6.0
Steering Angle	: 33.3
Outrigger	: 240.0

REV.	DATE	DESCRIPTION
	05-23-18	ISSUED TO VGN and NASSAU COUNTY PLANNING COMMISSION
	03-5-18	REVISED
	02-07-18	REVISED- REISSUED TO N.C.F.M. AS PER COMMENTS
	12-18-17	REVISED
	07-20-17	REVISED
	05-19-17	REVISED
	03-13-17	REVISED
	03-01-17	REVISED
	08-03-16	REVISED
	1-26-16	REVISED PER NCFM COMMENTS
	12-02-15	REVISED
	11-19-15	REVISED
	11-13-15	REVISED
	11-09-15	REVISED
	10-26-15	REVISED
	9-25-15	REVISED
	9-24-15	REVISED
	9-21-15	REVISED
	9-17-15	REVISED
	9-04-15	REVISED
	8-19-15	REVISED

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PROJECT:

MILLBROOK APARTMENTS

240-250 MIDDLE NECK ROAD

GREAT NECK, NY 11023

TITLE:

FIRE TRUCK ACCESS PATH

STAMP:

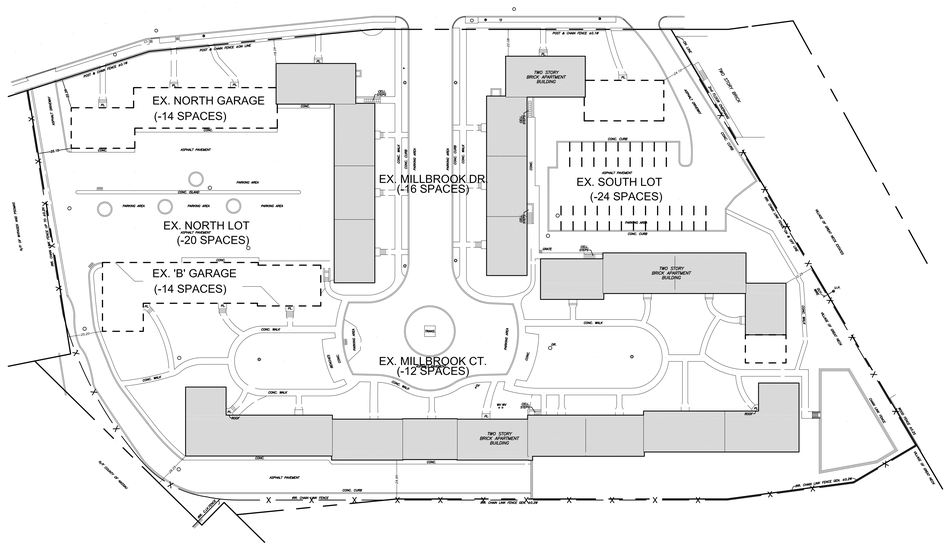
DATE:	08/14/15
JOB #:	14-43
DRAWN BY:	JK
SCALE:	AS NOTED

DRAWING NO:

ST-004

FILE No. :

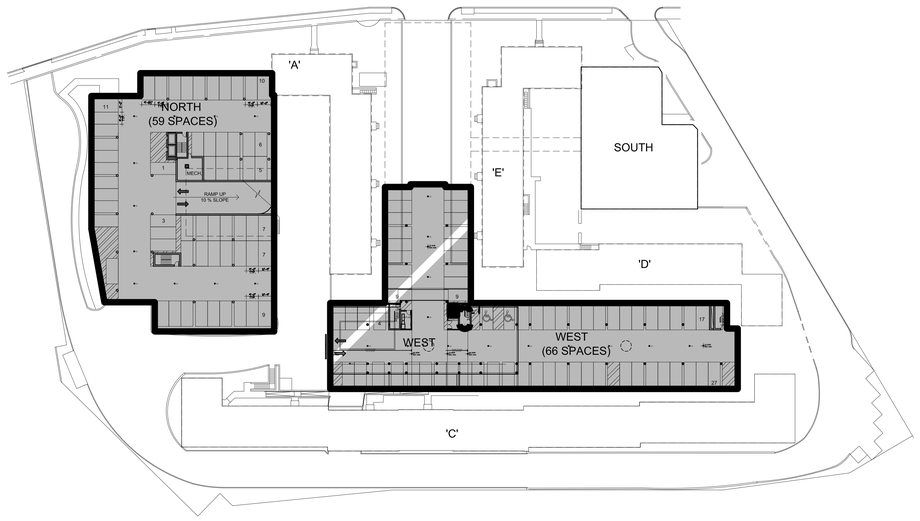
SHEET:



PARKING SPACES LOST	
EX. MILLBROOK COURT	= 12 SPACES
EX. MILLBROOK DRIVE	= 16 SPACES
EX. NORTH LOT	= 20 SPACES
EX. NORTH GARAGE	= 14 SPACES
EX. SOUTH LOT	= 24 SPACES
EX. 'B' GARAGE	= 14 SPACES
EX. 'A' GARAGE	= 10 SPACES
EX. 'C' GARAGE	= 3 SPACES
TOTAL LOST	= 113 SPACES

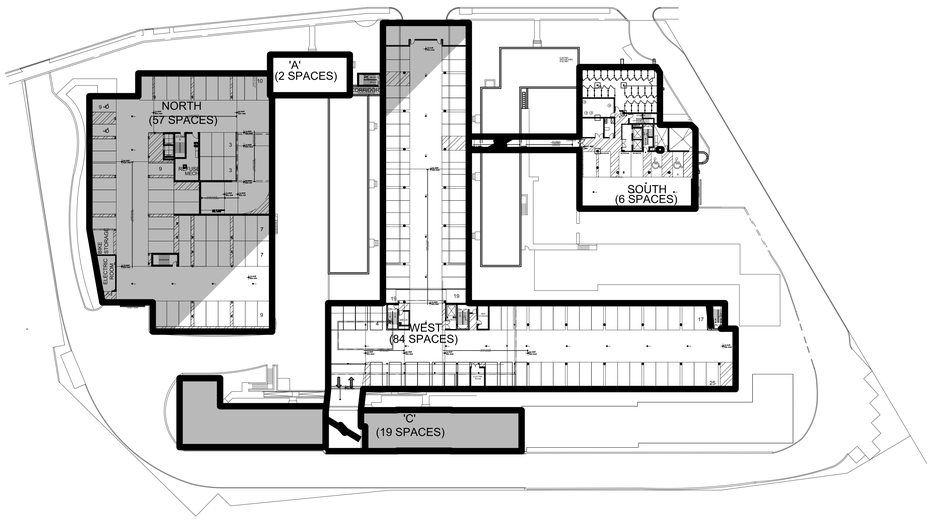
1 ST-007 ON GRADE PARKING DEMO PLAN
Scale: 1" = 40'-0"

0 20' 40' 80'
SCALE: 1" = 40'-0"



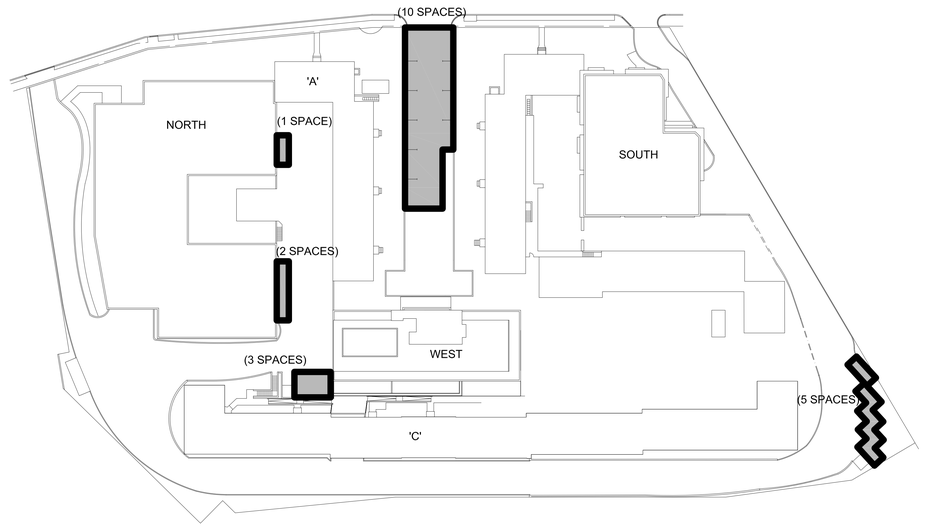
2 ST-007 LOWER LEVEL II PARKING
Scale: 1" = 40'-0"
(125 SPACES)

0 20' 40' 80'
SCALE: 1" = 40'-0"



3 ST-007 LOWER LEVEL I PARKING
Scale: 1" = 40'-0"
(168 SPACES)

0 20' 40' 80'
SCALE: 1" = 40'-0"



4 ST-007 ON GRADE PARKING
Scale: 1" = 40'-0"
(21 SPACES)

0 20' 40' 80'
SCALE: 1" = 40'-0"

PARKING PROVIDED BY BUILDING:

NORTH GARAGE	= 116 SPACES
SOUTH GARAGE	= 6 SPACES
WEST GARAGE	= 150 SPACES
MILLBROOK COURT	= 10 SPACES
NORTHWEST DRIVE	= 6 SPACES
SOUTHWEST DRIVE	= 5 SPACES
EX. BLDG. A	= 2 SPACES
EX. BLDG. C	= 19 SPACES
TOTAL	= 314 SPACES PROVIDED

PARKING PROVIDED BY LEVEL:

LLII	= 59 + 66 = 125
LLI	= 2 + 57 + 19 + 84 + 6 = 168
ON GRADE	= 10 + 5 + 6 = 21
	= 314 SPACES PROVIDED

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	05-19-17	REVISED
	03-13-17	REVISED
	03-01-17	REVISED
	12-22-16	REVISED
	08-03-16	REVISED
	12-02-15	REVISED
	11-19-15	REVISED
	11-13-15	REVISED
	11-09-15	REVISED
	10-26-15	REVISED
	9-04-15	REVISED

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www.ndarchitects.com

PROJECT:

MILLBROOK APARTMENTS
240-250 MIDDLE NECK ROAD
GREAT NECK, NY 11023

TITLE:

PARKING LAYOUTS

STAMP:

DATE:	9/04/15
JOB #:	14-43
DRAWN BY:	AG
SCALE:	AS NOTED

DRAWING NO:

ST-007

FILE No. :

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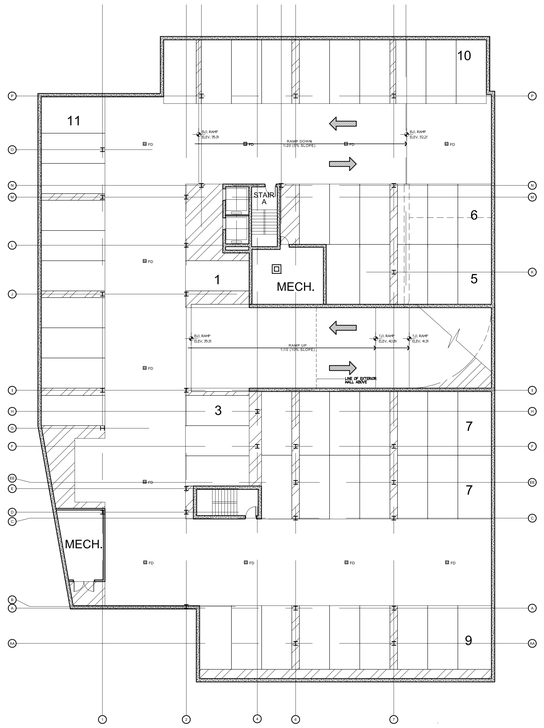
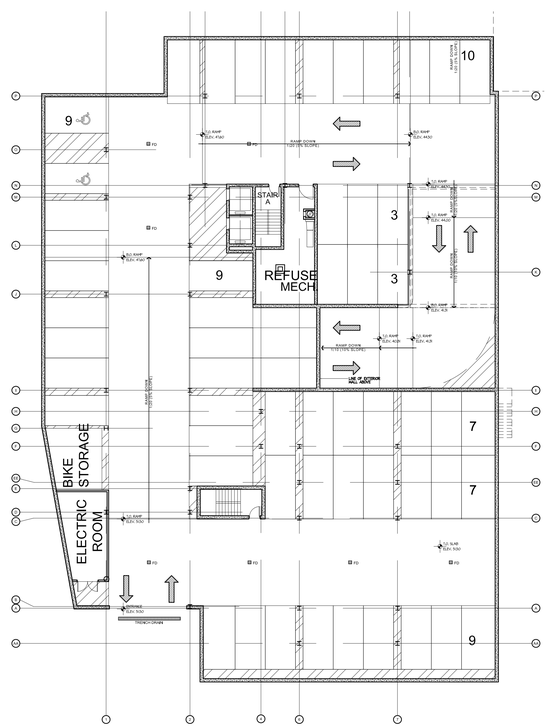
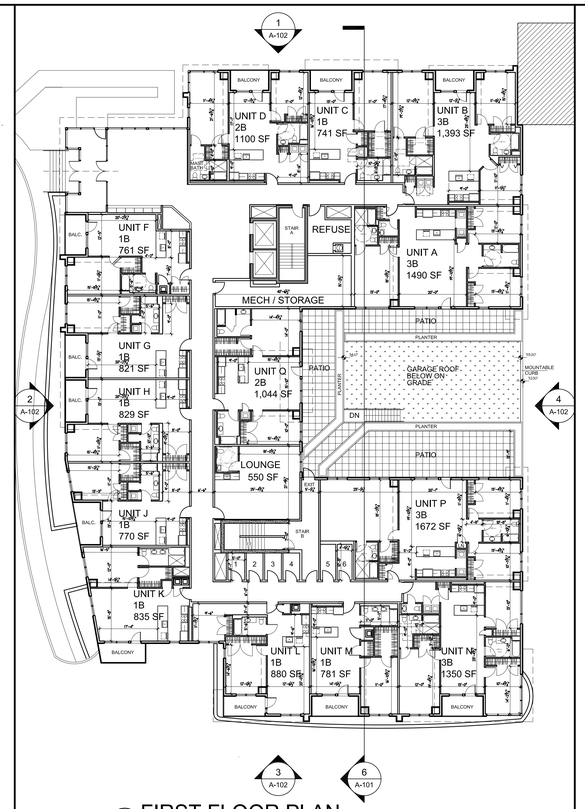


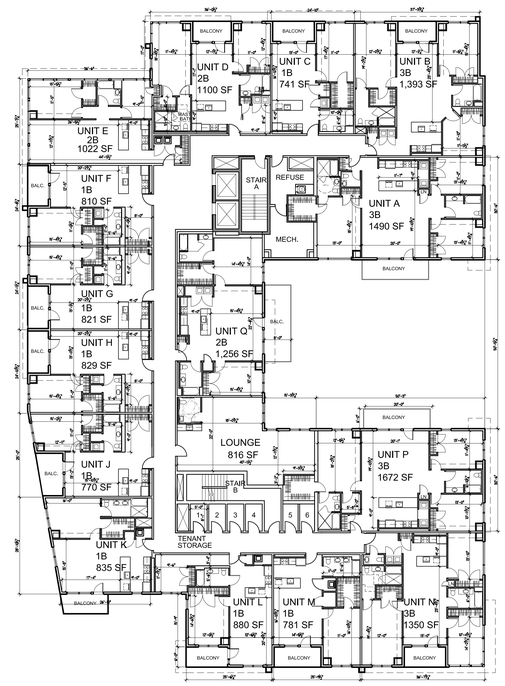
1 A-101 LOWER LEVEL II (NORTH BUILDING)
Scale: 1/16" = 1'-0"
(35 SPACES + 12 TANDEM)
35 SPACES + 24 SPACES = 59 SPACES



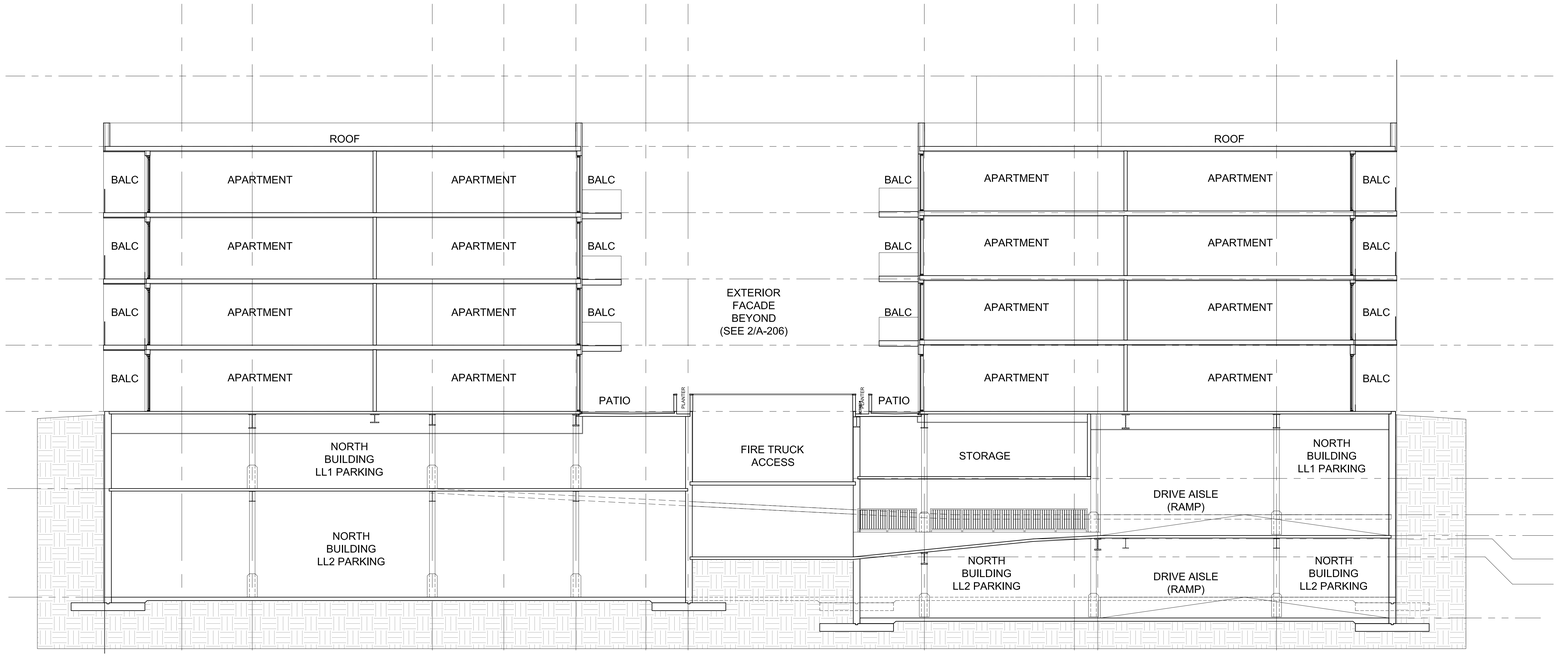
2 A-101 LOWER LEVEL I (NORTH BUILDING)
Scale: 1/16" = 1'-0"
(33 SPACES + 12 TANDEM)
33 SPACES + 24 SPACES = 57 SPACES



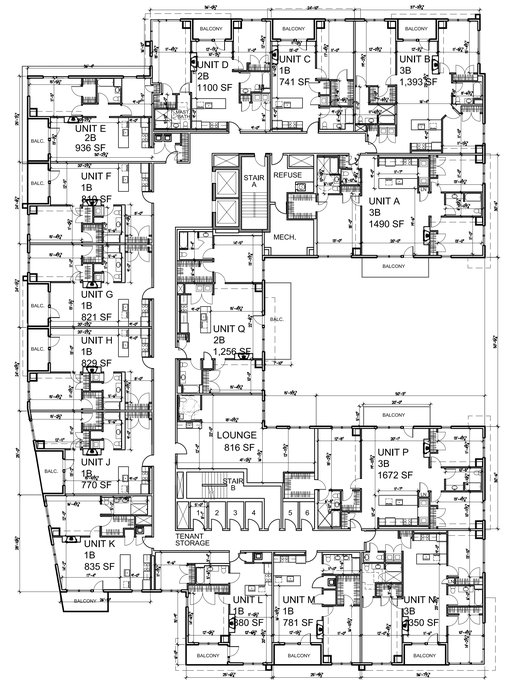
3 A-101 FIRST FLOOR PLAN (NORTH BUILDING)
Scale: 1/16" = 1'-0"



4 A-101 2ND & 3RD FLOOR PLAN (NORTH BUILDING)
Scale: 1/16" = 1'-0"



6 A-101 SECTION 'A-A' (NORTH BUILDING)
Scale: 1/8" = 1'-0"



5 A-101 4TH FLOOR PLAN (NORTH BUILDING)
Scale: 1/16" = 1'-0"

REV.	DATE	DESCRIPTION
	05-23-18	ISSUED TO VGN and NASSAU COUNTY PLANNING COMMISSION
	03-05-18	REVISED
	02-07-18	REVISED- REISSUED TO N.C.F.M. AS PER COMMENTS
	12-18-17	REVISED
	05-19-17	REVISED
	03-13-17	REVISED
	9-04-15	REVISED
	8-19-15	REVISED

REVISIONS:

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www.ndarchitects.com

PROJECT:

MILLBROOK APARTMENTS
240-250 MIDDLE NECK ROAD
GREAT NECK, NY 11023

TITLE:

NORTH BUILDING

STAMP:

DATE:	08/14/15
JOB #:	14-43
DRAWN BY:	AG
SCALE:	AS NOTED

DRAWING NO:

A-101.00

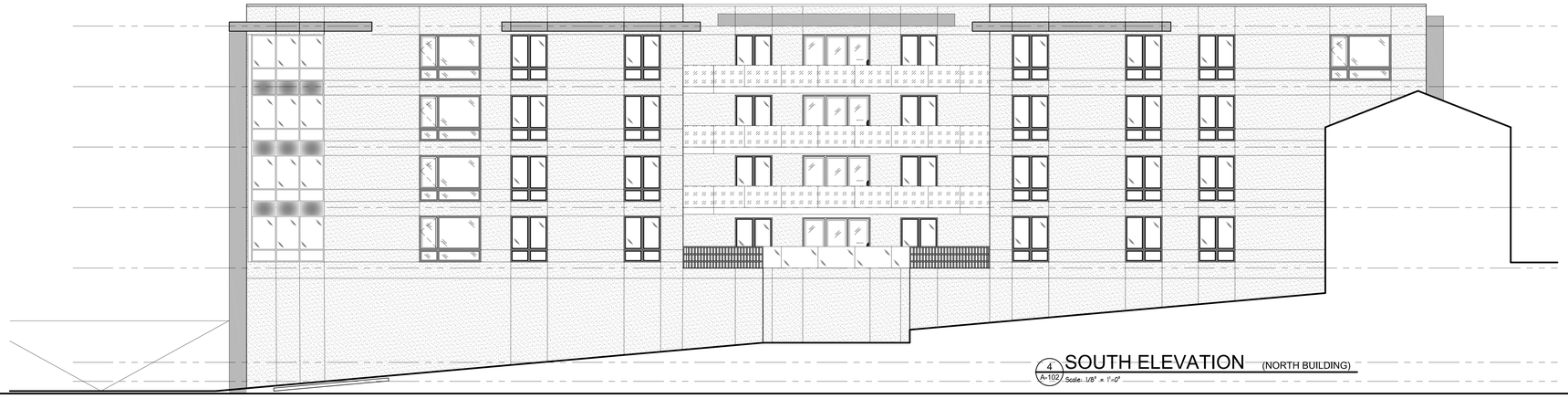
FILE No. :

SHEET:

1 A-102 EAST ELEVATION (NORTH BUILDING)
Scale: 1/8" = 1'-0"

2 A-102 NORTH ELEVATION (NORTH BUILDING)
Scale: 1/8" = 1'-0"

3 A-102 WEST ELEVATION (NORTH BUILDING)
Scale: 1/8" = 1'-0"



4 A-102 SOUTH ELEVATION (NORTH BUILDING)
Scale: 1/8" = 1'-0"

REV.	DATE	DESCRIPTION
	05-23-18	ISSUED TO VGN and NASSAU COUNTY PLANNING COMMISSION
	03-05-18	REVISED
	02-07-18	REVISED- REISSUED TO N.C.P.M. AS PER COMMENTS
	12-18-17	REVISED
	05-19-17	REVISED
	03-13-17	REVISED
	9-04-15	REVISED
	8-19-15	REVISED

REVISIONS:

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PROJECT:

MILLBROOK APARTMENTS
240-250 MIDDLE NECK ROAD
GREAT NECK, NY 11023

TITLE:

NORTH BUILDING ELEVATIONS

STAMP:

DATE:	**08/14/15**
JOB #:	**14-43**
DRAWN BY:	**AG**
SCALE:	**AS NOTED**
DRAWING NO:	**A-102.00**

FILE No. :

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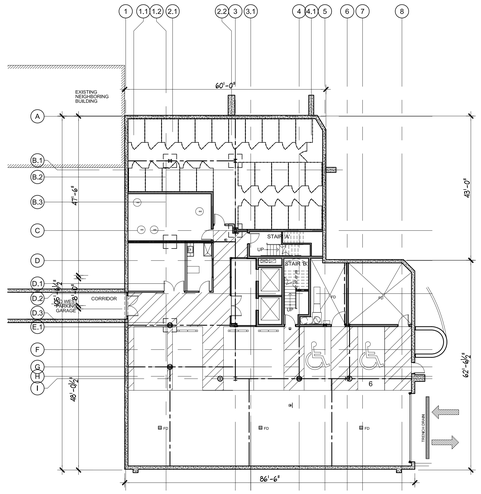

1 A-103 LOWER LEVEL I (SOUTH BUILDING) (6 SPACES)
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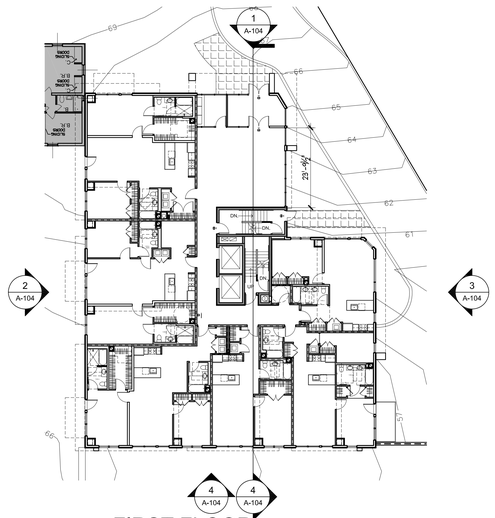

2 A-104 FIRST FLOOR (SOUTH BUILDING)
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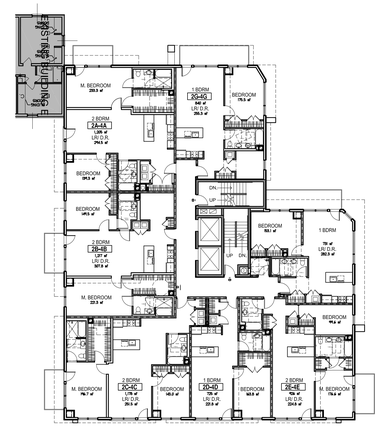

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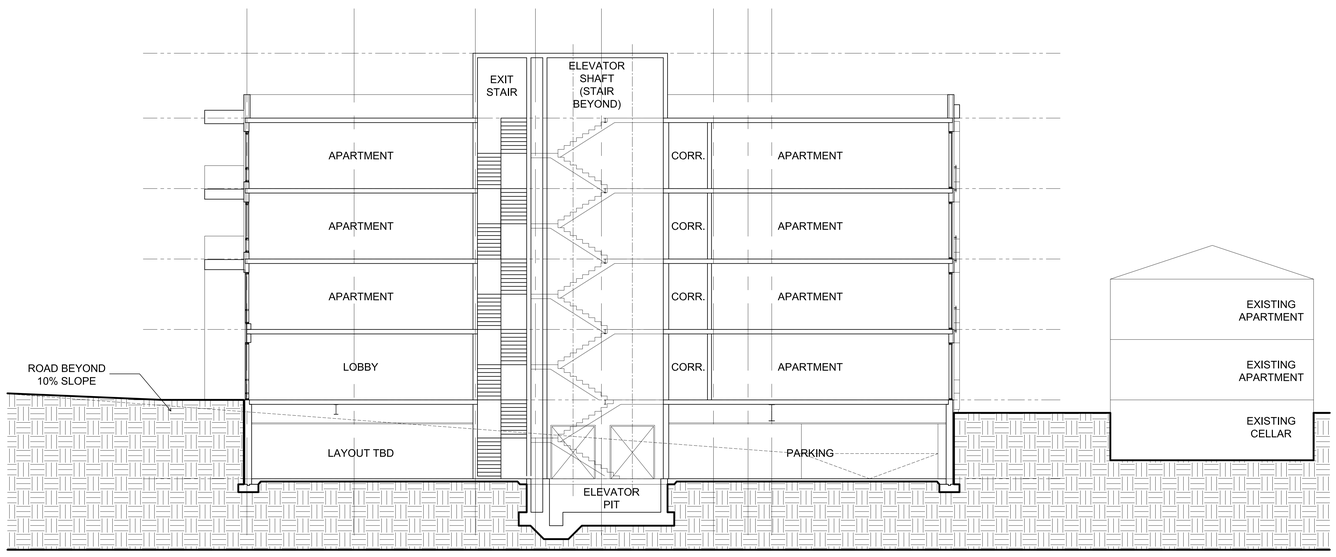

4 A-104 SECTION 'D-D' (SOUTH BUILDING)
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SCALE: **AS NOTED**

DRAWING NO:

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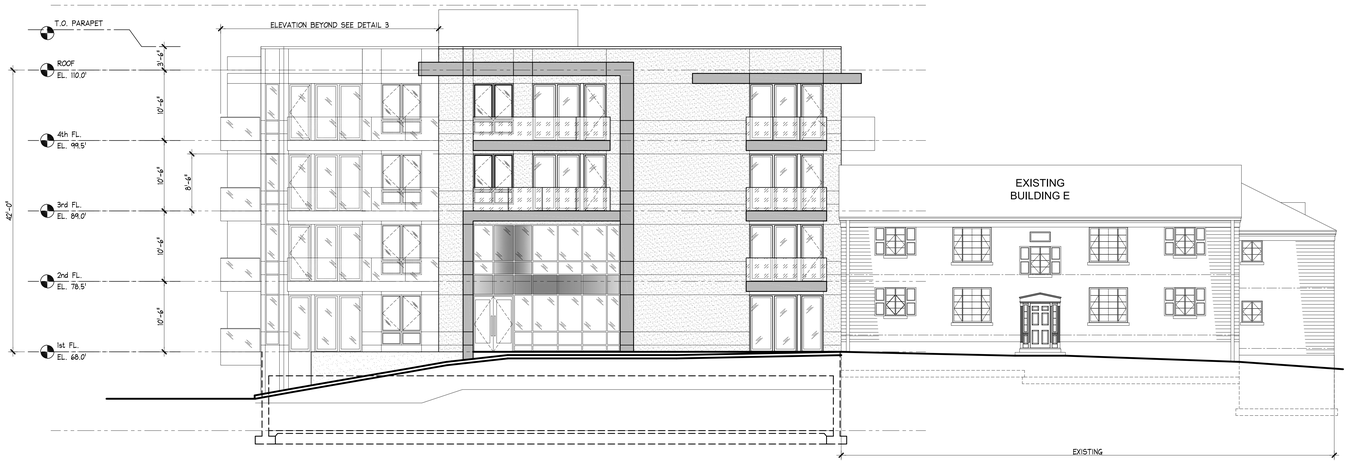

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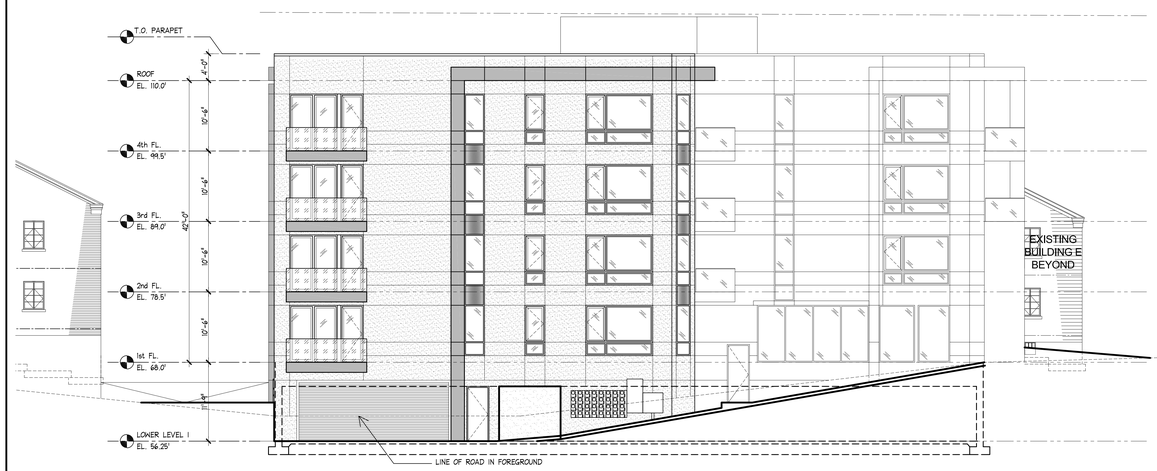
2 A-104 **NORTH ELEVATION** (SOUTH BUILDING)
Scale: 1/8" = 1'-0"



2 A-104 **SOUTH ELEVATION** (SOUTH BUILDING)
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4 A-104 **WEST ELEVATION** (SOUTH BUILDING)
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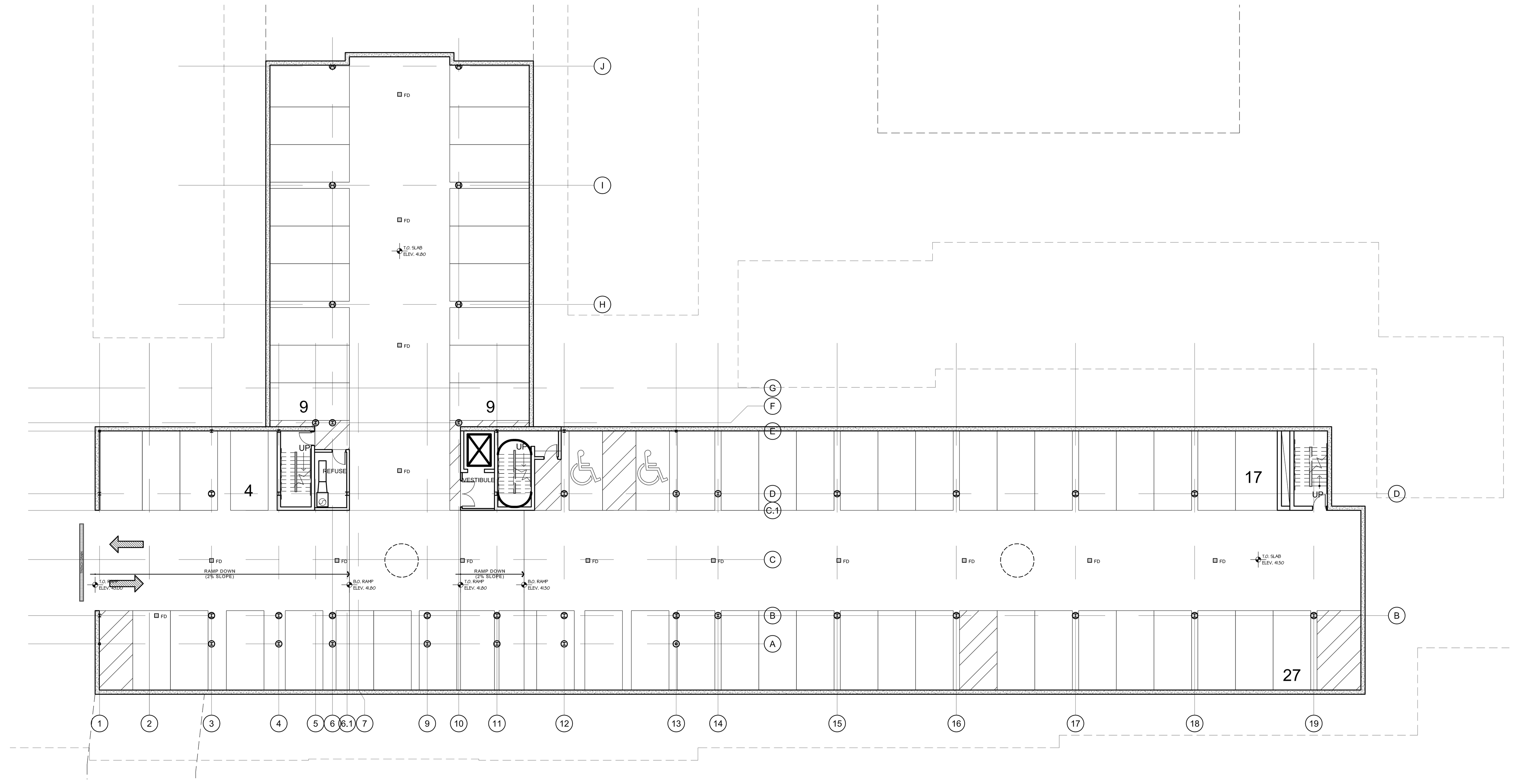

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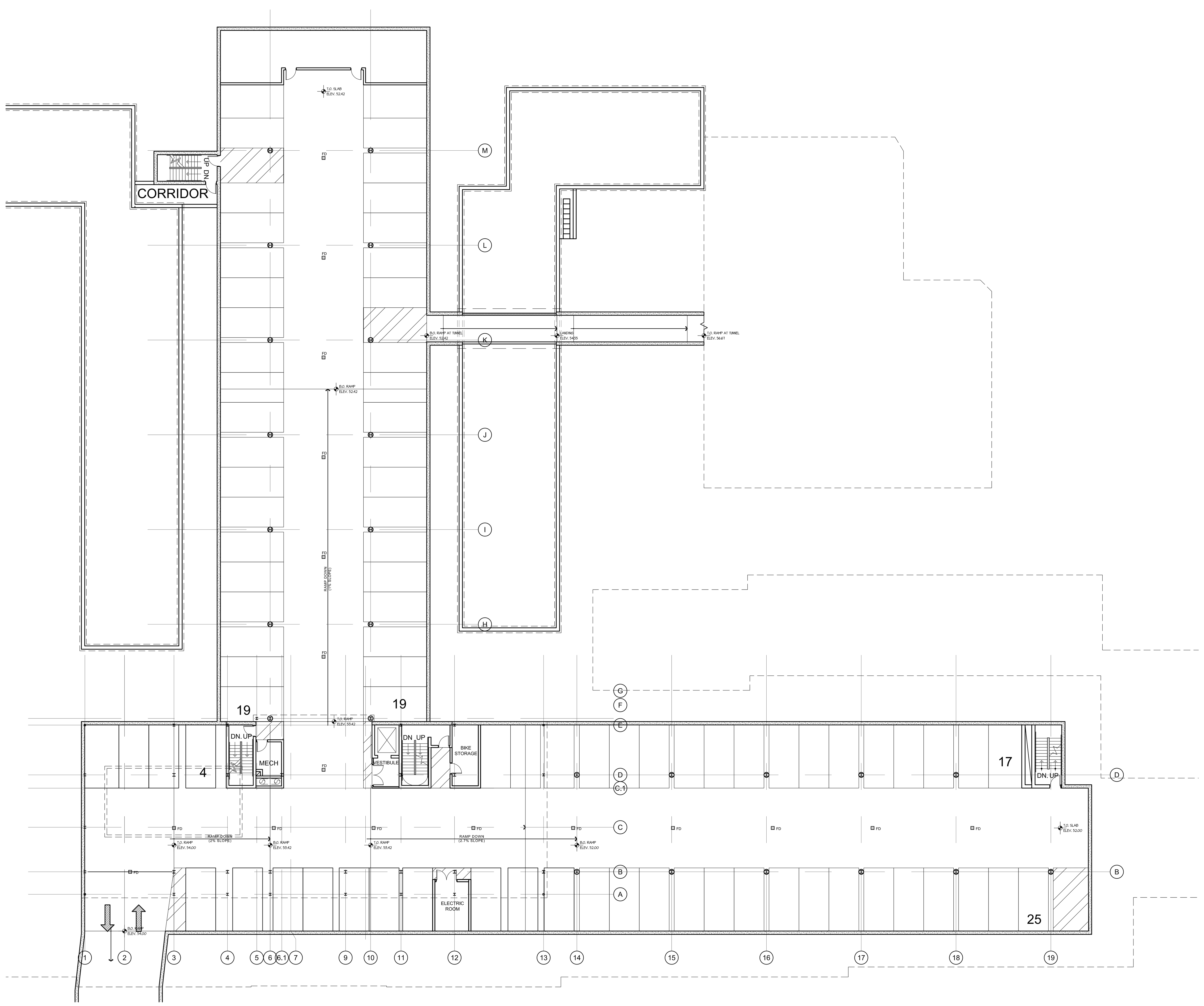

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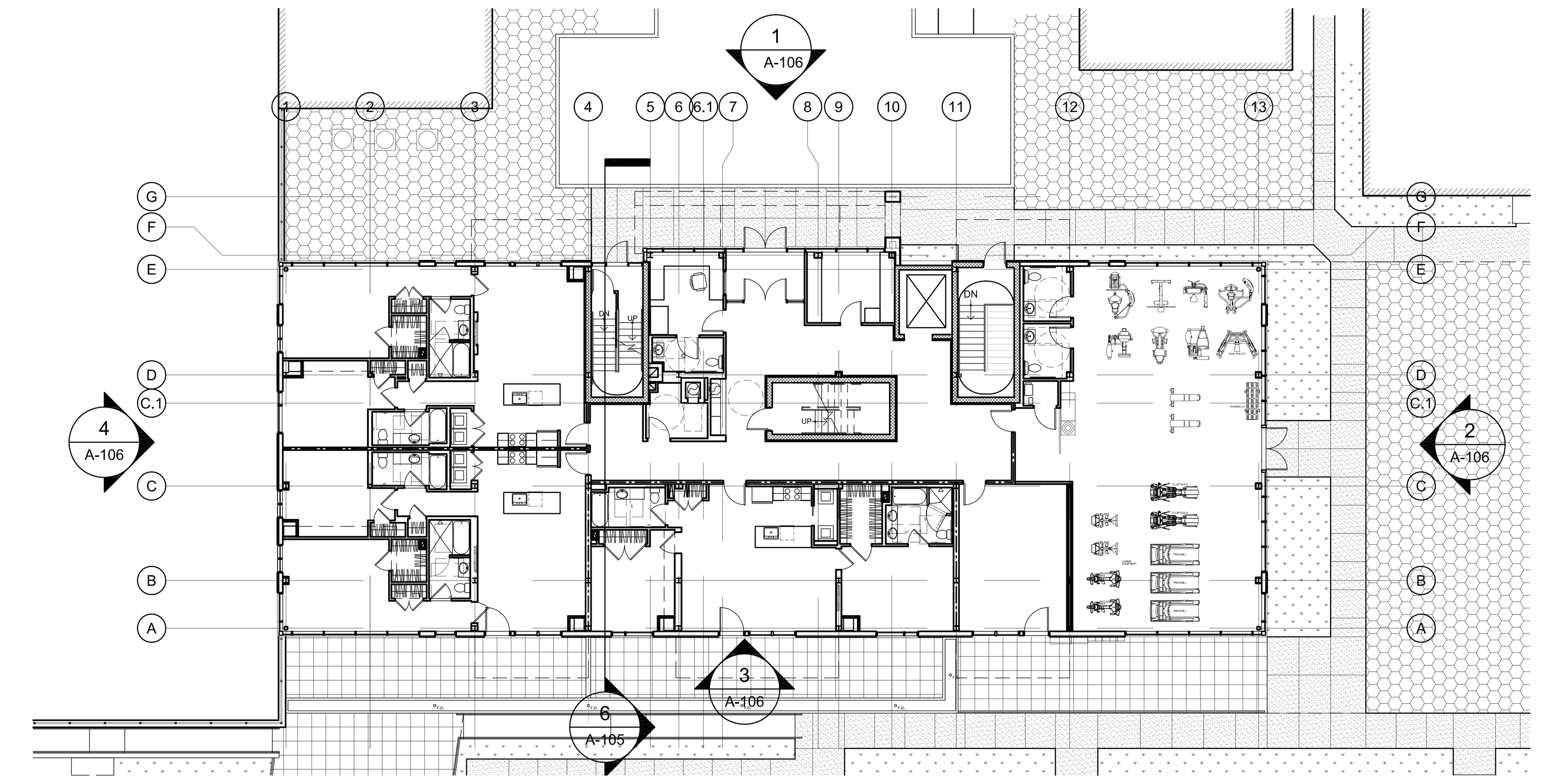

3 A-105 **FIRST FLOOR PLAN** (WEST BUILDING)
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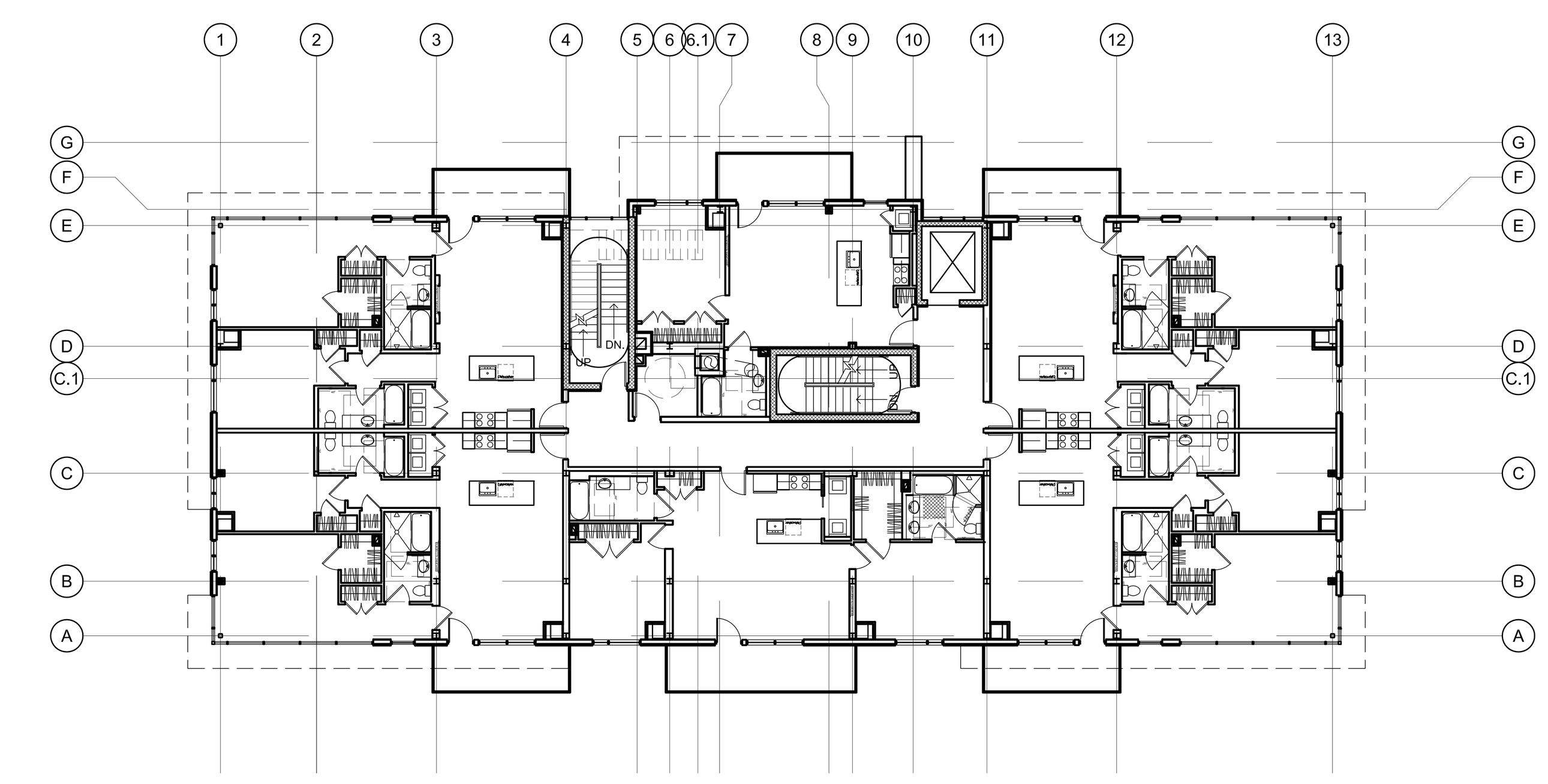

4 A-105 **SECOND & THIRD FLOOR PLAN** (WEST BUILDING)
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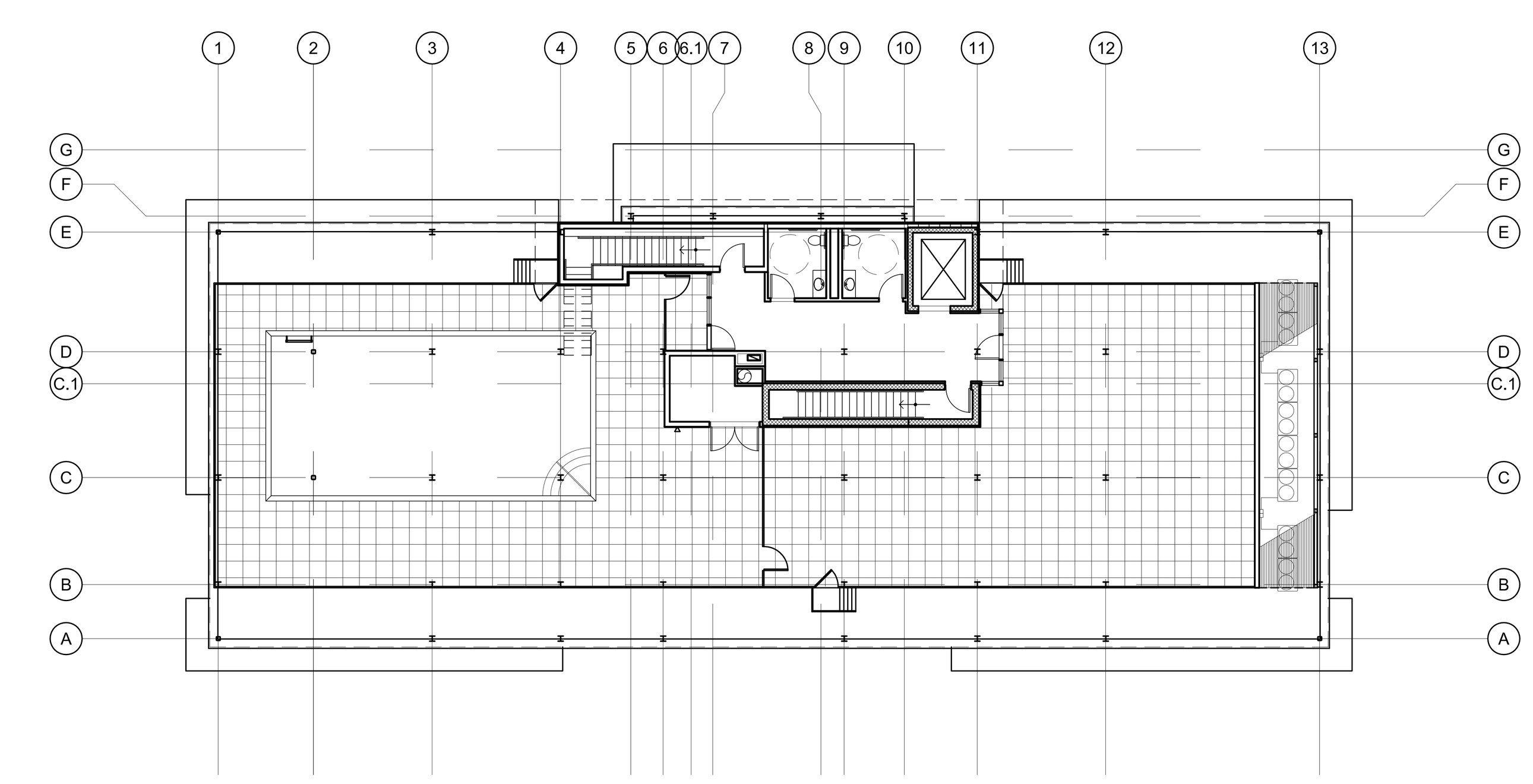

5 A-105 **ROOF PLAN** (WEST BUILDING)
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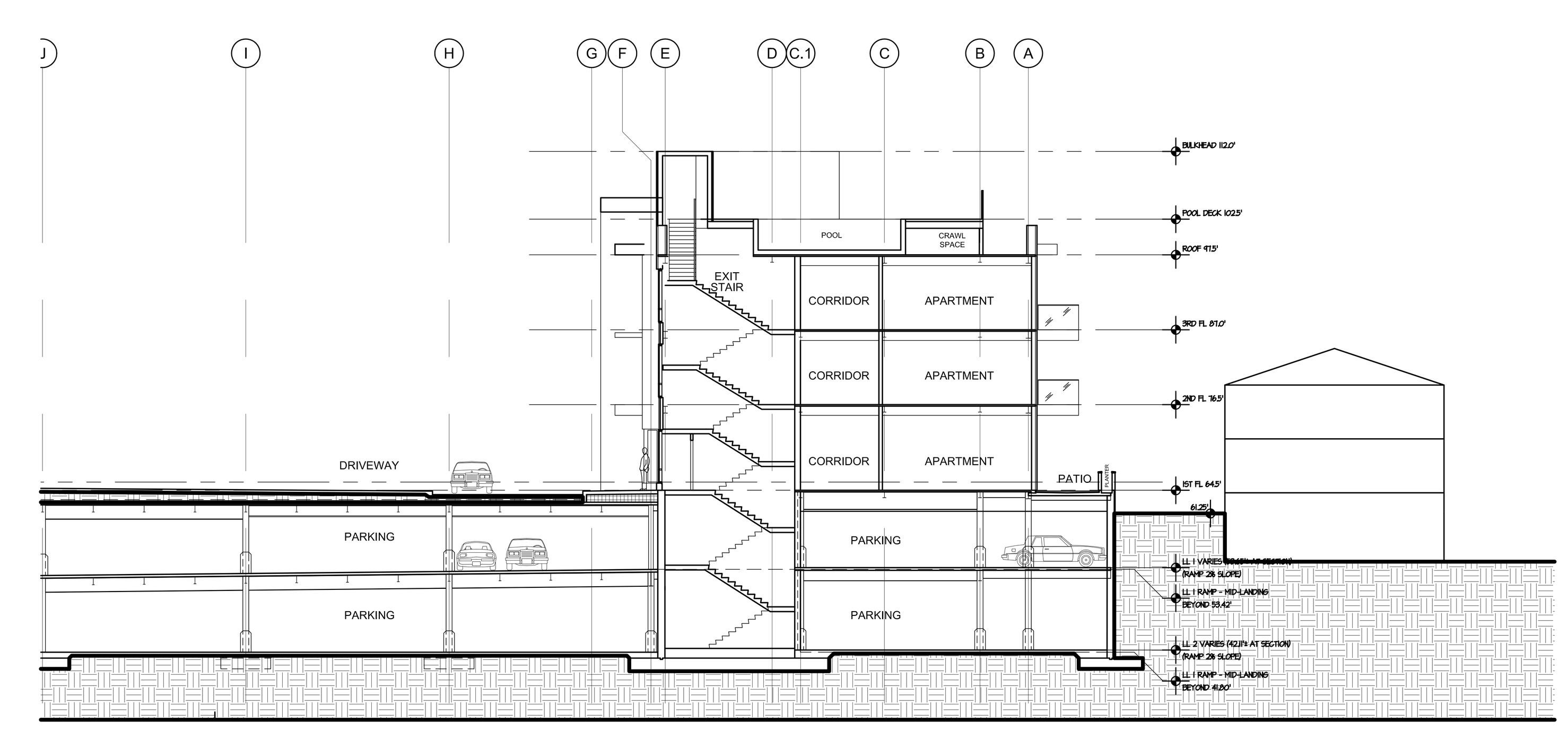

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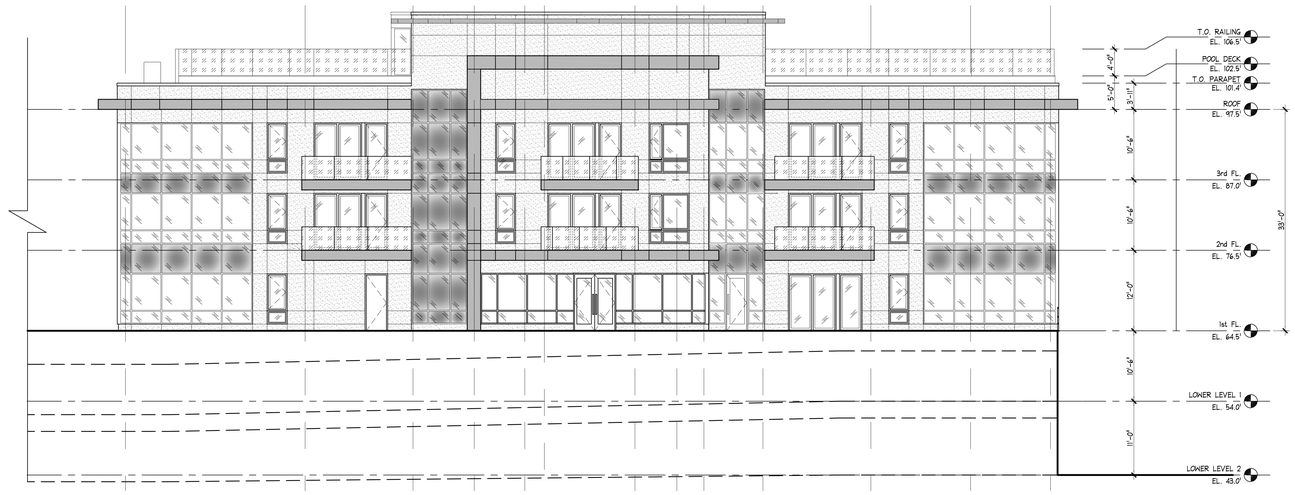
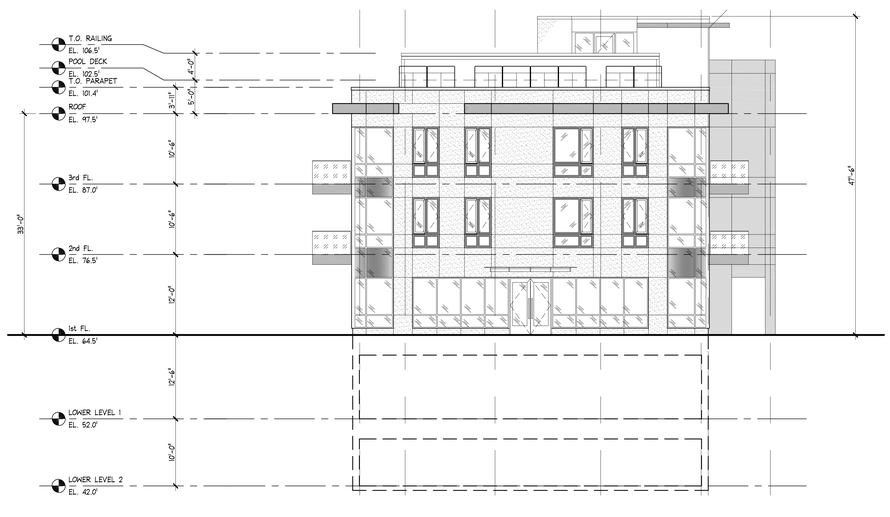


1 A-106 **EAST ELEVATION** (WEST BUILDING)
Scale: 1/8" = 1'-0"

2 A-106 **NORTH ELEVATION** (WEST BUILDING)
Scale: 1/8" = 1'-0"



2 A-106 **SOUTH ELEVATION** (WEST BUILDING)
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4 A-106 **WEST ELEVATION** (WEST BUILDING)
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Existing Conditions

Proposed Conditions

Existing Conditions

Proposed Conditions

Existing Conditions

Proposed Conditions

3. Analysis of Potential Environmental impacts

3.1. Impact on Land

3.1.1. Geology

Existing Conditions - Long Island's geology is especially important as it relates to the population's source of drinking water. Because all of Nassau and Suffolk County drinking water is derived from groundwater, the geological formations that retain that water are referred to collectively as a sole-source aquifer. These aquifers are recharged by rainfall and consequently all activities that occur at the surface have the potential to impact the quantity and quality of the aquifers' recharge. Long Island ultimately rests on bedrock, impermeable rock composed of schist and gneiss.

The Lloyd Aquifer rests on the bedrock and is isolated from the shallower Magothy Aquifer by a 100-foot thick layer of clay. The Water Authority of Great Neck North draws water from several wells in the Lloyd and Glacial aquifers and one in the Magothy aquifer. The Lloyd aquifer and overlying clay are part of the Raritan Formation, fine to coarse-grained sand and gravel.

The Magothy Formation is separated from the Raritan Formation by the Raritan clay layer. The Magothy Formation consists of sand, silt, and clay fluvial deposits with scattered clay lenses.

Sand and gravel from the last Ice Age of 15,000 years ago were deposited on top of the Magothy Formation. Most shallow private wells and some municipal wells draw from the Glacial Aquifer. The Water Authority of Great Neck North has two (2) wells that draw water from the Glacial Aquifer located within Great Neck.

Potential Impacts of Proposed Project – Only the surface glacial deposits would be impacted by the development of the site. Grading of the site would result in movement of material throughout the site (see following sections on Soils and Topography). Deeper geological layers would not be impacted by site development.

Proposed Mitigation – Mitigation for the effects of site grading/construction are discussed in Section 3.1.3 below.

3.1.2. Soils and Topography

Existing Conditions – The 4.35 acre property slopes from south to north. Based on the most recent USGS LIDAR digital elevation model (DEM), the southern end of the site is approximately 70 feet above sea level, while the northern end drops to

approximately 53 feet above sea level. As such, site topography is relatively level with approximately 82% of the site having slopes less than 10%, approximately 9.5% of the site having slopes ranging from 10-15% and approximately 8.5% of the site having slopes greater than 15%.

The Soil Conservation Survey (SCS) of Nassau County[4] provides information that is useful as a general evaluation of the soils. According to the SCS, 100% of the soil on site is classified as Urban Land-Montauk Complex, 3 to 8 percent slopes (UnB). UnB soil consists of urbanized areas and very deep, well-drained soils. This unit comprises approximately 60% urbanized area, 25% Montauk soils, and 15% other soils.

Potential Impacts of Proposed Project – Excavation would be required for construction of the parking garages/buildings and drainage structures.

Proposed Mitigation – See construction impacts section below.

3.1.3. Construction Impacts

Potential Impacts of Proposed Project – The redevelopment of Millbrook Apartments, like any construction project, would have short-term impacts on the environment related strictly to the process itself. These could include soil erosion, noise, traffic disruption, and dust. Demolition of the existing buildings and construction is estimated to extend approximately 27 months, subject to weather-related delays and other unforeseen events. Weekday construction activities would be confined to the hours of 8 AM to 7 PM. Weekend construction activities would be restricted to the hours of 9 AM to 7 PM on Saturdays and holidays. An overall construction schedule is provided in Figure 2-3.

A. Pappajohn Company is the general contractor for this project and has prepared a Site Logistics Plan (Figure 2-2) detailing the two major phases of construction. The Site Logistics Plan has been designed to minimize potential impacts while the building is under construction. The components of the two phases are as follows:

Phase No. 1

- Install safety fencing/temporary sidewalks/bridges/lighting etc. in front of apartments that face work areas. Relocate mailboxes and household garbage containers.

[4] *Soil Survey of Nassau County New York*. Soil Conservation Service, February, 1987

- Complete drive way around rear of existing building in the south west corner of the property, add 5 parking spaces. New section of drive way completes a loop drive around the property.
- Demolish 2 units in the south west corner of the property. Removal of these units allows for future fire truck access.
- Demolish 4 units at front of property on south side. Removal of these units allows for the construction of the South apartment building.
- Lose 24 surface parking spaces where South apartment building is to be built.
- Lose 28 on grade parking spaces at Millbrook Court.
- Construct 150-car Millbrook Court/West garage.
- Construct 27-unit South apartment building and 6-car parking garage
- Construct 15-unit West apartment building.
- Regain use of 10 on-grade parking spaces Millbrook Court.

It is estimated that Phase 1 will take approximately 15 months. At the completion of Phase No. 1, there will be 155 units and 261 parking spaces.

Phase No. 2

- Demolish 13 units at front of property/north side - allows for the construction of the North building.
- Demolish 15 units - allows for the construction of the North building.
- Demolish 28 existing garage spaces.
- Lose 20 surface parking spaces north side.
- Construct 59-unit apartment North building and 116-car garage.
- Construct 6 surface parking spaces on north side.

It is estimated that Phase 2 will take approximately 12 months. At the completion of Phase No. 2, there will be 186 units 314 parking spaces.

Excavation will be required for the construction of the proposed parking garages and the installation of new drywells. The total volume of soil to be excavated is approximately 47,760 cubic yards. Construction of the West parking garage will result in approximately 19,600 cubic yards of material removed (providing 66 parking spaces on Lower Level II and 84 parking spaces on Lower Level I for a total of 150 parking spaces). Construction of the South parking garage on the south-east corner of the property will require the removal of approximately 4,000 cubic yards of material (providing a total of 6 parking spaces on Lower Level I). The North parking garage on the north-east corner of the property will require the removal of

approximately 16,200 cubic yards of material (providing 59 parking spaces on Lower Level II and 57 parking spaces on Lower Level 1 for a total of 116 parking spaces). Construction of the 'Building A' parking area will result in approximately 800 cubic yards of material removed (providing a total of 2 parking spaces on Lower Level I). Construction of the 'Building C' parking area will result in approximately 3,400 cubic yards of material removed (providing a total of 19 parking spaces on Lower Level I). In addition, approximately 3,760 cubic yards of soil will be removed to install the 102,000 cubic feet of stormwater storage.

Overall, the excavation portions of the project could total approximately 34 weeks. During this phase, approximately 36 truck trips per day could be anticipated.

Vibration impacts are anticipated to be minimal as the construction process is not anticipated to require any drilling or significant disturbances underground.

Proposed Mitigation – Throughout the construction process, all construction vehicles and materials will be stored on-site within the limits denoted by the temporary construction fencing. To accommodate the potential demand for off-site resident and contractor vehicle parking during construction, the applicant has initiated discussions with nearby religious institutions (Temple Beth-El and Shaare Zion) to provide off-site parking for resident and construction worker vehicles if on-site space becomes limited during construction.

A detailed Soil Erosion Control Plan has also been prepared (Figure 2-8). Erosion would be curtailed by the use of construction fencing with silt barriers, storm drain inlet filters and filter protection for new drywells on-site. The construction entrances would be stabilized with crushed stone to prevent soil and loose debris from being carried onto local roads. All construction-related erosion control measures would be removed during final landscaping.

3.2. Impact on Water

3.2.1. Groundwater

Existing Conditions – The site is not located in a Special Groundwater Protection Area (SGPA) as designated by the Nassau County Department of Health and Long Island Comprehensive Special Groundwater Protection Area Plan. An SGPA is defined by the Long Island Regional Planning Board[5] as a "*recharge watershed area*

[5] L. E. Koppelman, A. Kunz, E. Tanenbaum, and D. Davies. The Long Island Comprehensive Special Groundwater Protection Area Plan, Long Island Regional Planning Board, 1992.

within a designated sole source area contained within counties having a population of one million or more which is particularly important for the maintenance of large volumes of high quality groundwater for long periods of time."

Article X of the Nassau County Public Health Ordinance was drafted to help protect the aquifer by regulating the discharge of sewerage and industrial wastewater. Because the Millbrook Apartments would be connected to the public sewerage collection system and would not generate industrial wastewater, the development restrictions of Article X would not apply.

The site is located in Hydrogeological Zone I. Areas designated as such are identified as "deep recharge areas" important to the groundwater aquifers. Hydrogeological Zone I is one of the three (3) major deep recharge zones of Long Island. Nitrates from fertilizers and on-site waste disposal systems have contaminated portions of this zone. Additional contamination has also occurred in parts of the Zone from synthetic organic chemicals derived from industrial and other activities. Zone I contributes water to the Magothy aquifer and is the major water supply for Nassau and Suffolk residents. As such it is closely monitored and protected.

The three (3) major aquifers or saturated water-bearing strata beneath the surface of Nassau and Suffolk Counties are the Upper Glacial, Magothy, and Lloyd aquifers. The upper glacial and Magothy aquifers are the major sources of drinking water for Long Island (see section on Geology). Groundwater below the site generally flows in a north-northwesterly direction toward the shore where it discharges to the bays and harbors of the Long Island Sound. According to the USGS Water Resources Investigations Report 86-4189, the water table is at an elevation of approximately 20 feet above mean sea level. As site elevation averages approximately 60 feet, the water table would be approximately 40 feet below grade.

The existing building is connected to the sewer system.

Potential Impacts of Proposed Project – Impacts to groundwater include those related to withdrawals and others related to infiltration. This project would result in a minor increase in withdrawal of groundwater from Water Authority of Great Neck North wells. Water consumption by the redeveloped Millbrook Apartments is estimated to be 47,400 gallons per day.[6] Existing water consumption, based upon water use records provided by the applicant, is approximately 11,500 gallons per day

[6] Nassau County Department of Public Works. *Minimum Design Sewage Flow Rates*. 2008.

The proposed apartment building would be connected to the Great Neck Water Pollution Control District wastewater system. On-site groundwater inputs would therefore include only minor quantities of stormwater and its typical contaminants. These are discussed further in the section on stormwater (Section 3.2.3).

Proposed Mitigation – Letters requesting water availability were sent to the Water Authority of Great Neck North on March 24, 2015, June 29, 2016 and July 25, 2017. Letters requesting sewer service availability were sent to the Great Neck Water Pollution Control District on March 24, 2015 and July 25, 2017 (Appendix B). Use of mulch would conserve moisture in planters. Water conserving appliances would further reduce consumption of public water.

3.2.2. Flooding and Flood Zones

Existing Conditions – The subject property is referred to on the Federal Emergency Management Agency flood zone map as "No Special Flood Hazard."

Potential Impacts of Proposed Project – After development, the flooding potential on the property would be unchanged.

Proposed Mitigation – No mitigation is required.

3.2.3. Stormwater Collection, Treatment, and Recharge

Existing Conditions – Stormwater from the existing developed site drains to on-site drywells. The site is currently developed as a residential apartment complex and consists of roughly 2.74 acres of impervious surface (approximately 63% of the site area).

Potential Impacts of Proposed Project – Development of the site would result in a fully developed site with approximately 3.04 acres of impervious surfaces (roof and paved areas representing approximately 70% of the site area) and 1.31 acres of pervious surfaces (grass area representing approximately 30% of site area) over which stormwater would flow.

Runoff from nearby roads and parking areas can carry contaminants including various metals, petroleum products, sand and salt from deicing, and other compounds. Any runoff generated on-site would be collected in drywells where it would infiltrate in the soils beneath the site. The pollutants that may be released from the use of these surfaces would be derived exclusively from automotive residuals. Ordinary soil bacteria readily degrade most petroleum compounds that reach the ground. Trace metals are usually bound up in the organic material of the soil.

Groundwater is approximately 40 feet below grade. Consequently, very little if any stormwater contaminants would be expected to reach groundwater. The potential impact of stormwater on the soils and groundwater is therefore expected to be minimal.

Proposed Mitigation – The applicant intends to install 102,000 cubic feet of storage to collect and recharge stormwater for the proposed project (51 12-foot drywells with an effective depth of 20 feet each will provide 1,020 linear feet/102,000 cubic feet of storage – exceeding the required 1,000.9 linear feet/100,090 cubic feet of storage). The proposed system would be able to handle an eight-inch rainfall event.

3.3. Impact on Plants and Animals

Existing Conditions – The site is currently fully developed, with a mix of trees and shrubs typical of a multi-family suburban property.

Potential Impacts of Proposed Project – The site would be fully developed, featuring a combination of existing trees (primarily along Middle Neck Road) and shrubs (primarily adjacent to the existing buildings) along with newly installed trees and shrubs (see Figure 2-9).

Proposed Mitigation – None required.

3.4. Impact on Agricultural Land Resources

There are no agricultural land resources on the project site.

3.5. Impact on Aesthetic Resources

Existing Conditions – The current site is developed with a 119-unit apartment complex. A photograph of the existing property is provided below.

Figure 3-1: Existing View from Middle Neck Road

Figure 3-2: Existing View from Sidewalk (corner of Millbrook Court & Middle Neck Road)

Figure 3-3: View from Rear of Property (NW Corner)

Figure 3-4: View from North Parking Lot

Figure 3-5: View from South Parking Lot

Figure 3-6: View from South Driveway

Potential Impacts of Proposed Project – The visual character of the site would change as a result of development. The existing 119-unit apartment complex would be renovated to provide a total of 186 residential units. Several multi-family buildings of similar height are located in the vicinity of the proposed project. These buildings include: Versailles Court (260 Middle Neck Road), 1 Wooleys Lane, the Hadley Arms apartments (6-8 Wooleys Lane) and 221 Middle Neck Road.

Proposed Mitigation – No mitigation is required.

3.6. Impact on Critical Environmental Areas

There are no critical environmental areas on the project site.

3.7. Impact on Transportation

3.7.1. Traffic

A Traffic Study prepared by Mulryan Engineering, P.C. is provided in Appendix C and is summarized below.

Existing Conditions – The following provides a description of the key roadways located in proximity to the subject site.

- Middle Neck Road provides two lanes in each direction and provides for on-street parking. Middle Neck Road is located to the east of the subject property. Middle Neck Road is under the jurisdiction of the Nassau County Department of Public Works.
- Old Mill Road is located just north of the subject site. Old Mill Road connects to Bayview Avenue to the west.
- Bayview Avenue runs parallel to Middle Neck Road and is one of the key routes within the area. Bayview Avenue provides two lanes in each direction with turn lanes at key intersections. The cross section of Bayview Avenue changes to one lane in each direction between Cedar Drive and Old Mill Road.
- Piccadilly Road is located opposite Old Mill Road at the intersection with Middle Neck Road. Piccadilly Road is a local roadway providing one lane in each direction.
- Wooleys Lane also provides one lane in each direction. The intersection of Wooleys Lane and Middle Neck Road is controlled by a traffic signal located along the site frontage.
- Clover Drive is under the jurisdiction of the Village of Great Neck Estates.

- Allenwood Road is a local roadway under the jurisdiction of the Town of North Hempstead.

The signalized intersections in this area are under the jurisdiction of the Nassau County Department of Public Works.

The area is served by the Long Island Railroad and two Nassau Inter-County Express (NICE) bus routes. Theses bus routes are the N57 Great Neck Loop and the N58 Great Neck Railroad Station-Kings Point. The N57 bus route travels on Middle Neck Road directly in front of the subject site. The N58 bus route travels on Steamboat Road directly in front of the subject site turning onto or off of Middle Neck Road.

Potential Impacts of Proposed Project – The proposed site will maintain the existing site driveways. The site has one driveway to the north, one in the center of the property and one to the south. The central driveway is known as Millbrook Court.

Following redevelopment, the north and south driveways will be reconfigured. The south driveway will allow entrance only traffic flow from Middle Neck Road. The north driveway will permit exit only traffic flow onto Middle Neck Road. The center driveway/Millbrook Court will maintain two way traffic flow.

The site is anticipated to generate a maximum of 115-trips during the evening peak hour (75-entering and 40-exiting the site).

During the peak hour the proposed site is anticipated to generate one to two trips per minute in any direction.

Based on the low traffic volume increases volumes due to the proposed project, the proposed project should have no perceptible impacts to the surrounding roadway network, with the exception of the North Site Access.

Proposed Mitigation – As part of the redevelopment of this project the North Site Access will become the main exit for the complex. The southbound stop line on Middle Neck Road, at the intersection with Wooleys Lane, is located approximately 65 feet south of the driveway. Approximately six vehicles can queue at the signal (within the two southbound lanes) before blocking the site driveway. It is recommended that "Do Not Block The Box" pavement markings and signage be installed at this location.

3.7.2. Parking

Off-site parking counts of the surrounding area were performed during the three peak periods. Parking observations were conducted on Tuesday, May 12, 2015 between

the hours of 10:00 pm and 11:30 pm. These hours reflect peak demand associated with residential uses. In addition to the parking provided on the subject site parking counts were conducted on Middle Neck Road from Old Mill Road to Clover Drive (on the west) and from Piccadilly Road to Allenwood Road (on the east).

The results of the parking study show that limited on street parking is available in proximity to the subject site in the overnight hours. A minimum of 18 parking spaces in total were available on-site in the north and south parking lots. The parking spaces along Millbrook Court were found to be 100% occupied during these observations.

The parking generation of the proposed development was calculated using the ITE ITE *Parking Generation* manual. Based on the ITE parking generation data, the existing complex consisting of a total of 119 apartment units is anticipated to generate 147 parked vehicles during peak demand. Of these vehicles approximately 13 would need to park off-site.

Based on the ITE parking generation data, the proposed complex consisting of a total of 186 apartment units is anticipated to generate 230 parked vehicles during peak demand. Peak parking demand for residential developments occurs during the overnight hours between 10:00 pm and 5:00 am. The site plans prepared by NDA Architects for the proposed project provides for a total of 314 parking spaces.

Required parking for the proposed project was calculated using the following method: For the 101 new units, parking will comply with VGN Code§ 575-155 B.(1)(a), which requires multi-family dwellings to provide two parking spaces for each one-bedroom and two-bedroom unit and three parking spaces for each three-bedroom unit. Therefore, the new units are required to provide 218 new parking spaces.

The existing apartment complex provides approximately 1.13 parking spaces for each apartment unit (134 parking spaces/119 units). Upon completion of the project the site will provide 1.69 parking spaces per unit (314 parking spaces/186 units). The proposed site provides ample parking to accommodate the anticipated demand. Given the increase in on-site parking spaces, the redevelopment of the site is anticipated to reduce on street parking demand to zero in proximity of the site. Based on the statistics compiled by the ITE, the proposed site will have a peak occupancy rate of approximately 75%.

24[7] of the 314 on-site parking spaces provided will be in tandem with another parking space. Tandem parking is subject to the review and approval of the Board of Trustees as per VGN Code:§ 575-155 B.(1)(d), with the condition that all parking spaces that are in tandem with each other shall be assigned to the same unit, as will be the case for the tandem parking spaces in this complex. Tandem parking has been incorporated into other projects in the Village such as the Versailles apartment complex located directly to the north of the subject site. The tandem parking utilized by the Versailles apartment complex received approval by Board of Trustees.

Proposed Mitigation – No mitigation is proposed as no significant adverse impacts are anticipated.

3.8. Noise and Odor Impacts

Existing Conditions – There are currently minor noise levels and odors associated with the existing residential and institutional uses.

Potential Impacts of Proposed Project – A residential apartment building would create noise levels and odors typical of other multi-family developments in the local area.

Proposed Mitigation – No mitigation is proposed as no significant adverse impacts are anticipated.

3.9. Impact on Public Health

The redevelopment of an existing apartment complex would not involve impacts to public health.

3.10. Impact on Growth and Character of Community or Neighborhood

3.10.1. Land Use

Existing Conditions – The land uses immediately surrounding the property are primarily residential and institutional. Immediately to the north of the project site, there is a multi-family residential building, Versailles Court (260 Middle Neck Road). To the east of the project site, there are also several multi-family residential buildings and an institutional/religious building. These buildings include: 1 Wooleys Lane, the Hadley Arms apartments (6-8 Wooleys Lane), 221 Middle Neck Road and Shaare Zion of Great Neck (225 Middle Neck Road). Immediately south of the

[7] Note: The number of tandem parking spaces has been increased from 22 to 24. Approval of tandem parking spaces is subject to Board of Trustees approval.

project site is another institutional/religious building, Young Israel of Great Neck (236 Middle Neck Road). To the west of the project site, land use is predominately single-family residential. There is also a narrow parcel of land dedicated to utility/public water supply that runs just west of the project site's westernmost property line.

Potential Impacts of Proposed Project - The proposed project would not change the land use of the subject property. The redevelopment of an existing apartment complex would be consistent with the surrounding area's numerous multi-family residential and institutional uses. The project would not result in any perceptible impact to the level of service on the surrounding roadway network (with the exception of the North Site Access as discussed in Section 3.7.1.) and would improve the visual environment.

Mitigation Required - There is no mitigation required as the proposed use is entirely compatible with existing uses. That is, the proposed use is a residential apartment building with many other multi-family residential buildings in the immediate vicinity. Other nearby uses, including institutional and single-family residential uses, are compatible and complementary with apartment complexes. A significant number of local residents use alternative methods of transportation, including: commuter train, local bus, walking and bicycling. The project's proximity to the Great Neck LIRR station (less than one mile north) encourages these alternative modes of transportation.

3.10.2. Zoning

Existing Conditions – The project site is located in the Residence E or Apartment zoning district and will utilize incentives available within the Middle Neck Road Multifamily Incentive Overlay District (MNR-MIO). § 575-285 B. of the Village of Great Neck Code describes the MNR-MIO district boundaries as follows: "The boundaries of said district, as shown on the Building Zone Map of the Village of Great Neck, shall be coterminous with the boundaries of the Residence E District." Adjacent properties to the north and east along Middle Neck Road are also zoned Residence E (Apartment District). To the west of the project site, properties are zoned Residence A. To the south of the project site, zoning is controlled by the Village of Great Neck Estates with properties zoned Residence B and Business D.

Potential Impacts of Proposed Project – The applicant is applying to redevelop a residential apartment building in the Residence E or Apartments District and utilize incentives available within the MNR-MIO.

Following completion, the proposed project would be similar to the many multi-family buildings in the area, including adjacent properties to the north and east of the project site.

The following table outlines compliance with Village zoning requirements.

Table 3-1: Middle Neck Road Multifamily Incentive Overlay District Requirements

Requirement	Compliance
§ 575-286 Use. A building may be erected, altered, or used and a lot or premises may be used for any of the purposes set forth in the underlying district.	The proposed project is a multifamily dwelling, which is permitted in the underlying zoning district (Residence E or Apartments District).
§ 575-287 Development incentives. A. Pursuant to the powers set forth in Village Law § 7-703, in recognition of the opportunities to advance a specific physical, cultural, and/or social policy of the Village, in accordance with the Village's Comprehensive Plan, as set forth in this chapter, in coordination with such other community planning mechanisms and/or land use techniques as may be available and appropriate, if any, where an applicant proposes such an opportunity that the Board of Trustees may, from time to time, by resolution, find appropriate and that meets the criteria herein, the Board of Trustees may approve adjustments to any zoning restrictions set forth in this chapter, other than as to use, with such limitations as may be set forth more particularly with regard to the incentive sections for the zoning district within which the premises are located. B. In determining whether or not to grant the adjustment, the Board of Trustees shall consider the following: (1) The extent and dollar value of the proposed amenity; (2) The public costs that would otherwise be required to effect the proposed amenity; and (3) The improvement to the immediate neighborhood and/or the Village as a whole from the proposed amenity. C. Payment in lieu of community amenities. (1) At the request of the applicant or on its own determination that the identified amenities to the Village are not immediately feasible or otherwise not practical for the applicant to provide, the Board of Trustees may require, in lieu of	The applicant agrees to provide a community amenity or payment in lieu of a community amenity based on the discretion of the Board of Trustees.

the identified amenities, a payment to the Village of a sum determined by the Board of Trustees. Alternatively, the Board may choose to accept a partial amenity and partial payment in lieu of such proposed amenity. If cash is accepted in lieu of a community amenity, provision shall be made for such sum to be deposited in a trust fund to be used by the Board of Trustees exclusively for specific community amenities that could be applied throughout the Village as authorized by the Board of Trustees. (2) Any payment in lieu of community amenities must be received prior to the issuance of a building permit for the construction of the proposed development.	
§ 575-288 Limitations on incentives. No incentive shall be granted for an attached townhome or a multifamily dwelling in contravention of any of the following: A. The maximum height for a townhome shall not exceed 30 feet or 22 feet at the eaves. B. No townhome building shall contain more than six townhomes. C. The maximum length of a townhome building shall not exceed 204 feet. D. No horizontal plane of any façade of a townhome building shall exceed 88 feet without a change or break in said plane of at least 10 feet. E. The maximum height for a multifamily dwelling shall not exceed four stories or 42 feet with an area on the roof for recreational use by the tenants of the dwelling (a roof deck). If a roof deck is permitted, it shall be limited to the following restrictions: (1) The roof deck shall not exceed 50% of the roof area. (2) The use of the roof deck shall be limited to the residents of the building and their guests. (3) There shall be no barbequing or other cooking on the roof deck. (4) There shall be no lights, permanent or temporary, on the roof deck other than as approved on the site plan. (5) The roof deck shall be for communal use, with no private areas for individual residents. (6) The roof deck shall have only one lobby, whether for an elevator, a staircase, or both, which shall not exceed an area of 100 square feet. The area of the elevator and/or staircase shall not be considered as part of the lobby for the purpose of calculating the one-hundred-square foot	The proposed project will shall conform to the requirements (§ 575-288 E-G) for multifamily dwellings, as described below. The proposed project will have a maximum building height of 42’. Proposed density will be approximately 42.8 dwelling units per acre. The front yard of the proposed project is approximately 22’7” feet from the property line.

limitation. F. The maximum density for a multifamily dwelling shall not exceed 48 dwellings per acre. G. The minimum front yard shall be 10 feet from the property line and 15 feet from the curb. No incentive shall be given that reduces the ten-foot setback from the property line unless there is a sufficient area of not less than 10 feet between the building and the sidewalk for a landscape buffer (which may be in whole or in part on Village property and which will be landscaped and maintained by the property owner).	
§ 575-289 Incentive procedures. Applications seeking increased density or modification of dimensional standards as part of this district's incentive zoning framework shall comply with the procedural requirements outlined in Article XXXI.	The proposed density and dimensional standards comply with the requirements outlined above in § 575-288 of Article XXXII.

Table 3-2: Residence E (Apartments District) Zoning Requirements

Requirement	Compliance
§ 575-105 Use. A building may be erected, altered, or used and a lot or premises may be used for any of the purposes set forth in this section and for no other: A. Multifamily dwellings, subject to site plan approval by the Board of Trustees. B. Townhomes, subject to site approval by the Board of Trustees. C. Single-family detached dwellings, conforming to all the provisions of Article VIII. D. House of worship or other building used exclusively for religious purposes, parish house, parochial and nonprofit private school when authorized by the Board of Appeals pursuant to the provisions of § 575-190 of this chapter. E. Regularly organized institution of learning approved by the State Board of Regents and supported by public funds, a public library, or public art gallery. F. Government or municipal building, for the administration of or service rendered by the Village government. G. Municipal park, for recreational use. H. Accessory private garage, detached or attached to or within the main building, for the parking of vehicles used for the residential use of the main building. I. Accessory use on same lot, including, but not limited to: (1) Real estate office for the management, marketing, and/or sales of the units. (2) Indoor and outdoor recreation facilities, including indoor swimming pools, spas,	The proposed project is a multifamily dwelling.

tennis courts, clubhouses, pool houses, recreation and/or fitness centers, business centers, meeting spaces, and similar facilities, provided that such facilities are planned as an integral part of the principal use and are for the sole use of the residents of such principal use and their guests. (3) Off-street parking areas and garages.	
§ 575-106 Height. A. The maximum height for a townhome shall not exceed 30 feet or 22 feet at the eaves. B. The maximum height for a multifamily dwelling shall not exceed 31 feet. C. In the case of a building other than one used for dwelling purposes, the maximum height shall not exceed three stories or 31 feet, except for a spire, dome, or belfry on a house of worship. D. The following encroachments above said maximum heights are hereby permitted: (1) Parapets, not exceeding three feet in vertical distance from base to the highest point or the minimum height required by the New York State Building Code for such parapets, whichever is greater. (2) Stairwell and elevator lobbies, water tanks, chimneys, heating and air-conditioning apparatus, or other mechanical equipment projections occupying less than 10% of the area of the roof and not exceeding 12 feet in vertical distance from base to the highest point. (3) Safety railings or walls required by the New York State Building Code to enclose outdoor living space or decks, not exceeding the minimum height required by the New York State Building Code for such railings or walls.	The proposed building is 42 feet in height. However, a building height of 42' is permitted within the MNR-MIO district. See Table 3-1 above.
§ 575-107 Lot sizes for multifamily dwellings and townhomes. No multifamily dwelling or townhome shall be constructed and no existing building shall be converted for use as a multifamily dwelling or townhome on a lot containing an area of less than 20,000 square feet.	The project site is greater than 20,000 square feet (189,481.6 square feet or 4.35 acres in total).
§ 575-108 Street frontage for multifamily dwellings and townhomes. No multifamily dwelling or townhome shall be constructed and no existing building shall be converted for use as a multifamily dwelling or townhome on a lot having street frontage of less than 150 feet on one street. For clarification, for a corner lot, 70 feet on one street and 80 feet on another street would not meet the one-hundred-fifty-foot requirement.	The proposed project has street frontage greater than 150 along Middle Neck Road (approximately 500 feet).

§ 575-109 Floor area for multifamily dwellings and townhomes. A. No multifamily dwelling shall provide habitable floor area of less than 600 square feet per unit. B. No townhome shall provide habitable floor area of less than 1,000 square feet per unit.	The proposed multifamily dwelling units will all be greater than 600 square feet per unit.
§ 575-110 Density for multifamily dwellings and townhomes. A. The maximum density for a multifamily dwelling shall be at the ratio of 43 dwelling units per acre. B. The maximum density for townhomes shall be at the ratio of 15 dwelling units per acre.	The proposed project would result in a density of 42.8 dwelling units per acre.
§ 575-111 Building area for multifamily dwellings and townhomes. A. The building area for multifamily dwellings and townhomes shall not exceed 60% of the lot area. B. The building area for all other uses shall not exceed 35% of the lot area. C. In the discretion of the Board of Trustees, as part of its site plan review, the building area of any structure used solely or primarily for parking, whether attached to or detached from the principal building, may be excluded in whole or in part from the maximum building area provisions of this section.	The building area of the proposed project is 72,152.7 square feet, which represents approximately 38.1% of the 189,481.6 square foot lot.
§ 575-112 Front yards. A. There shall be a front yard, the depth of which shall not be less than 15 feet from the property line and 21 feet from the curb, unless otherwise approved by the Board of Trustees. B. On a corner lot, a front yard shall be required on each street, each having a depth of not less than 15 feet from the property line and 21 feet from the curb, unless otherwise approved by the Board of Trustees.	The front yard of the proposed project is approximately 22’7” feet from the property line.
§ 575-113 Side yards. The minimum side yard setback for each side yard shall be 10 feet, which area shall be landscaped, except for necessary access drives, parking, and walkways, in accordance with a plan approved as part of the site plan approval.	The minimum side yard of the proposed project is approximately 25’7” feet from the property line.
§ 575-114 Rear yards. There shall be a rear yard, the depth of which shall not be less than 25 feet.	The rear yard of the proposed project is approximately 29 feet from the property line (same as existing conditions).
§ 575-115 Distance between adjacent buildings. A. The minimum distance between buildings shall be 10 feet. B. Encroachments not exceeding two feet from each building shall be permitted within said ten-foot distance. C. In no event shall the distance between such encroachments be less than eight feet.	0 feet new to existing (same as existing conditions).

§ 575-115.2 Landscaping and buffers. As part of the site plan approval, the Board of Trustees shall require a landscape plan that provides adequate buffer and appropriate design treatment for the uses of the abutting properties.	A landscape plan for the proposed project is provided in Section 2 (Figure 2-9).
§ 575-115.3 Permitted encroachments. The following encroachments into required yards are hereby permitted: A. Cornices, eaves, gutters, and chimneys projecting not more than 24 inches. B. Bay windows not more than six feet in width and one story high, projecting not more than three feet. C. One-story open porch or terrace, projecting not more than five feet into a minimum front yard. D. One-story enclosed vestibule, not greater than nine feet in width, projecting not more than 5 1/2 feet into a minimum front yard. E. One-story open porch or terrace, which shall project into a rear yard not more than 10 feet. F. Unenclosed and unroofed platform and steps, designed to provide safe access to grade from service entrance doors, projecting not more than three feet six inches into a minimum side yard. The maximum horizontal surface of any encroaching platform shall not exceed 14 square feet.	N/A
§ 575-115.4 Accessory structures. A. Fences shall not exceed four feet in height, except where a lot or premises in this district is contiguous with a lot or premises in a Residence A, A-1, B, C or D District, subject to the limitations set forth in § 575-150 of this chapter. B. Retaining walls shall not extend above the ground that they support. C. Stationary outdoor fireplaces shall be located at least 10 feet from property lines and shall not exceed five feet in height. D. Pergolas shall not exceed 10 feet in height.	N/A
§ 575-115.5 Accessory buildings. A. Accessory buildings, except as otherwise provided in this article, shall not be over 15 feet in height at their highest point and shall not occupy more than 40% of the rear yard. B. Unless otherwise provided in this article, accessory buildings or structures shall be located in the rear yard and shall be not less than 10 feet distant from the main building and not less than three feet distant from the rear and side lot lines. C. Unless otherwise provided in this article, accessory buildings or structures on corner lots 100 feet or less in depth shall be located as far as possible from the front property lines. D. No accessory buildings or structures, except fences or retaining walls as hereinabove provided in this article, shall be erected within 20 feet of a	No accessory buildings are proposed.

residential building on an adjoining lot.	
§ 575-115.6 Design standards for multifamily dwellings and townhomes. A. For any multifamily or townhome development, the site plan application shall consider any visual impacts of the proposed development on adjacent properties and the surrounding community, including, but not limited to shadowing effects and those guidelines specified in § 575-179. B. In addition, building frontage along a public street should be designed with principal access to the street. If driveways and indoor garages are provided in that area, there should be sufficient space for at least one vehicle to park in the driveway without blocking the sidewalk. Principal pedestrian access should be provided to the multifamily building or townhome from the street.	A. Aerial photography/renderings of the proposed project are provided (Figure 2-16). B. The building frontage of the project along Middle Neck Road will be designed with principal access to the street. There will be sufficient space for vehicle parking in the driveways without blocking the sidewalk. Principal pedestrian access will be provided to the multifamily building from Middle Neck Road.

Proposed Mitigation – No mitigation is proposed as no significant adverse impacts are anticipated.

3.10.3. Growth-Inducing Aspects of the Proposed Project

Existing Conditions – The site is currently developed as a multi-family apartment complex.

Potential Impacts of Proposed Project – The redevelopment of the Millbrook Apartments is expected to induce minimal population growth that will not require any major infrastructure improvements. The residents would be anticipated to utilize existing retail and commercial facilities within the Village but would not be expected to create a demand for additional facilities.

Proposed Mitigation – No mitigation is proposed as no significant adverse impacts are anticipated.

3.10.4. Demand for Additional Community Services

Emergency Services

Existing Conditions – Police protection is provided by the Nassau County Police Department, Third Precinct, located at 214 Hillside Avenue, Williston Park, NY 11596. Fire protection is the responsibility of the Great Neck Alert Fire Company, located at 555 Middle Neck Road, Great Neck, NY 11023. Ambulance service is

provided by the Vigilant Engine & Hook & Ladder Company, located at 83 Cutter Mill Road, Great Neck, NY 11021. Health care is available at the North Shore University Hospital on Community Drive, less than three (3) miles from the proposed apartment complex and Long Island Jewish Hospital, which is less than four (4) miles away on Lakeville Road.

Potential Impacts of Proposed Project – Letters were sent to the Great Neck Alert Fire Company and the Nassau County Police Department, Third Precinct, on March 19, 2015. The Nassau County Police Department, Third Precinct has indicated that they will be able to serve the subject property. A letter was sent to Vigilant Engine and Hook & Ladder Company on March 20, 2015. Follow up letters were sent to both the Great Neck Alert Fire Company and the Vigilant Engine and Hook & Ladder Company on December 10, 2015, June 24, 2016 and July 25, 2017. Copies of all letters and responses are provided in Appendix B. A project description, location map and site plan were also enclosed. In addition, a Fire Truck Access Path Plan (see Figure 2-11) has been developed to ensure that the site is accessible to a typical 49-foot fire truck.

Responses have not been received to date from the Great Neck Alert Fire Company or Vigilant Engine and Hook & Ladder Company. When these letters are received they will be provided to the Village.

Proposed Mitigation – No mitigation is anticipated to be required.

Schools

Existing Conditions – Based upon the Residential Demographic Multipliers issued by Rutgers University, Center for Urban Policy Research for New York, it is estimated that approximately 12 school-age children in public school could be residing onsite under existing conditions. However, based on information provided by the applicant, only 10 school-age children currently reside on-site.

Potential Impacts of Proposed Project – Using the Residential Demographic Multipliers issued by Rutgers University, Center for Urban Policy Research for New York, the redeveloped Millbrook Apartments could become the home to approximately 29 school-aged children in public school as shown in Table 3-3 below. The Rutgers multipliers assume that 20% of the children in a district attend private schools.

Table 3-3: Public School-Age Children Projected for Millbrook Apartments

Quantity	Unit Type	Grade

Rate		All	K-2	3-6	7-9	10-12
-	1 br/studio	0.07	0.02	0.02	0.01	0.01
-	2 br	0.16	0.05	0.05	0.04	0.03
-	3 br	0.63	0.14	0.20	0.12	0.17
Proposed		All	K-2	3-6	7-9	10-12
101	1 br/studio	7.07	2.02	2.02	1.01	1.01
68	2 br	10.88	3.40	3.40	2.72	2.04
17	3 br	10.71	2.38	3.40	2.04	2.89
Total Proposed		**28.66**	**7.80**	**8.82**	**5.77**	**5.94**

District enrollment for the 2015-2016 school year was 6,394 in grades K-12.[8] A net increase of 19 new students would represent an increase of less than three-tenths of one percent in enrollment. A letter was sent to the Great Neck School District, on March 24, 2015 requesting the ability of the District to accommodate the potential increase in enrollment from the redeveloped apartment complex (a copy of the letter and the district's response is provided in Appendix B).

Proposed Mitigation – With few new students projected (a potential net increase of 19 students), cost and resource impacts to the school district would be minimal as there should not be a need for additional classrooms or teachers.

Utilities

Water

Existing Conditions - The Water Authority of Great Neck North provides water service to the existing apartment complex. The estimated existing water use, based upon water records provided by the applicant, is approximately 11,500 gallons per day.

Potential Impacts of Proposed Project – The proposed project would increase on-site water consumption. The projected water use for the proposed project is approximately 47,400 gallons per day, an estimated net increase of 35,900 gallons per day (see Table 3-4 below).

Letters requesting water availability were sent to the Water Authority of Great Neck North on March 24, 2015, June 29, 2016 and July 25, 2017 (Appendix B). It is anticipated that the Water Authority of Great Neck North will have sufficient capacity exists to accommodate the proposed increase in water usage. The applicant will pay for the design and construction of the connection to the Water Authority.

Table 3-4: Projected Water Use/Sewage Flow

[8] NYS Education Department. *Great Neck UFSD Enrollment (2013 - 14).* <http://data.nysed.gov/enrollment.php?year=2014&instid=800000049062> Updated 2015.

Proposed	Quantity	Rate (gpd/unit)	Gallons per day
1 br/studio	101 units	200	20,200
2 br	68 units	300	20,400
3 br	17 units	400	6,800
		Total Proposed	**47,400**
		Total Existing	**11,500**
		Estimated Net Increase	**35,900**

Proposed Mitigation – Water conservation techniques would be incorporated into the design of the kitchens and bathrooms including low-flow showerheads, faucets, and toilets. It is anticipated that drip irrigation will be used for all planted areas on-site.

Sewage Disposal

Existing Conditions – The property is located within the Great Neck Water Pollution Control District. The estimated average sewage flow generated by the existing uses is approximately 11,500 gallons per day, based on water usage records provided by the applicant.

Potential Impacts of Proposed Project – Wastewater is projected to be roughly equal to water consumption. The estimated future average sewage flow to be generated by the residential development is approximately 47,400 gpd (see Table 3-4 above). This represents a net increase of 35,900 gpd above the existing apartment complex. Letters requesting sewer availability were sent to the Great Neck Water Pollution Control District on March 24, 2015 and July 25, 2017 (Appendix B). It is anticipated that the Great Neck Water Pollution Control Department has capacity at the treatment plant to accept sewage flow from the proposed project. When this letter is received it will be provided to the Village.

Proposed Mitigation – The applicant will pay for the design and construction of the connection to the sewer district. Sewage flow would be moderated through the use of the water conservation methods described in the section on Water, above.

Solid Waste Disposal

Existing Conditions – Solid waste is currently generated by the existing residential apartment complex. Based on the existing unit count, the existing property is

estimated to generate approximately 640 pounds of solid waste per day (160 bedrooms in total x 4 pounds per bedroom per day).[9]

Potential Impacts of Proposed Project – For the proposed project, solid waste production is estimated at four (4) pounds/bedroom per day. In total, the project is estimated to generate approximately 1,152 pounds of solid waste per day which would be collected by a private carter and disposed of at a permitted solid waste management facility (288 bedrooms in total x 4 pounds per bedroom per day).

Proposed Mitigation – Each building will have a garbage chute leading to a trash compactor system. Solid waste would be collected by a private carter and disposed of at a permitted solid waste management facility.

Electricity

Existing Conditions – PSEG currently supplies energy to the existing commercial and residential uses on site and would continue to provide electricity to the new apartment complex.

Potential Impacts of Proposed Project – As a result of the net increase in residential units (67 additional units), an increase in energy consumption would occur as a result of the redevelopment of Millbrook Apartments. The major energy demands of the apartments would be for heating, air conditioning, and lighting.

Proposed Mitigation – Modern energy efficient (Energy Star) appliances and building materials would be incorporated into the design of the apartments.

[9] Technical Bulletin #85-6, Basic Data: Solid Waste Amounts, Composition and Management Systems, National Solid Waste Management Association, October 1985.

APPENDICES INFORMATION

Appendix A - Full Environmental Assessment Form

Appendix B - Correspondence

Appendix C - Traffic Impact Study

APPENDIX A

ENVIRONMENTAL ASSESSMENT FORM

Instructions for Completing Part 1

Part 1 is to be completed by the applicant or project sponsor. Responses become part of the application for approval or funding, are subject to public review, and may be subject to further verification.

Complete Part 1 based on information currently available. If additional research or investigation would be needed to fully respond to any item, please answer as thoroughly as possible based on current information; indicate whether missing information does not exist, or is not reasonably available to the sponsor; and, when possible, generally describe work or studies which would be necessary to update or fully develop that information.

Applicants/sponsors must complete all items in Sections A & B. In Sections C, D & E, most items contain an initial question that must be answered either "Yes" or "No". If the answer to the initial question is "Yes", complete the sub-questions that follow. If the answer to the initial question is "No", proceed to the next question. Section F allows the project sponsor to identify and attach any additional information. Section G requires the name and signature of the project sponsor to verify that the information contained in Part 1is accurate and complete.

A. Project and Sponsor Information.

Name of Action or Project: Millbrook Apartments		
Project Location (describe, and attach a general location map): Millbrook Apartments, Middle Neck Road, Village of Great Neck, NY (Section: 2, Block: 354, Lot: 138)		
Brief Description of Proposed Action (include purpose or need): The applicant proposes to redevelop an existing 119-unit apartment complex by removing 34 units, converting an additional unit, and adding 101 units for a total of 186 residential units. The project site is a 4.349-acre property located on Middle Neck Road in the Village of Great Neck, New York. The site address is 240-250 Middle Neck Road (Section 2, Block 354, Lot 138). The proposed project is located within the Residence E or Apartment zoning district and will utilize incentives available within the Middle Neck Road Multifamily Incentive Overlay District (MNR-MIO).		
Name of Applicant/Sponsor: North Shore Millbrook, LLC	Telephone: 203-356-4055 E-Mail: jschlesinger@principalmgt.com	
Address: 40 Randall Avenue		
City/PO: Freeport	State: New York	Zip Code: 11520
Project Contact (if not same as sponsor; give name and title/role):	Telephone: E-Mail:	
Address:		
City/PO:	State:	Zip Code:
Property Owner (if not same as sponsor):	Telephone: E-Mail:	
Address:		
City/PO:	State:	Zip Code:

B. Government Approvals

B. Government Approvals, Funding, or Sponsorship. ("Funding" includes grants, loans, tax relief, and any other forms of financial assistance.)

Government Entity	If Yes: Identify Agency and Approval(s) Required	Application Date (Actual or projected)
a. City Council, Town Board, or Village Board of Trustees ☑Yes ☐No	Village Board of Trustees:(see Exp. EA)	5/2018
b. City, Town or Village Planning Board or Commission ☐Yes ☑No		
c. City Council, Town or Village Zoning Board of Appeals ☐Yes ☑No		
d. Other local agencies ☑Yes ☐No	Water: Water Authority of Great Neck North; Sewer: GN Water Pollution Control District	7/25/2017
e. County agencies ☑Yes ☐No	NCDH: Water & Sewer Connections; NCPC review; NCDPW: 239-F	5/2018
f. Regional agencies ☐Yes ☑No		
g. State agencies ☐Yes ☑No		
h. Federal agencies ☐Yes ☑No		

i. Coastal Resources.

i. Is the project site within a Coastal Area, or the waterfront area of a Designated Inland Waterway? ☐Yes ☑No

ii. Is the project site located in a community with an approved Local Waterfront Revitalization Program? ☐Yes ☑No

iii. Is the project site within a Coastal Erosion Hazard Area? ☐Yes ☑No

C. Planning and Zoning

C.1. Planning and zoning actions.

Will administrative or legislative adoption, or amendment of a plan, local law, ordinance, rule or regulation be the only approval(s) which must be granted to enable the proposed action to proceed? ☐Yes ☑No

- **If Yes,** complete sections C, F and G.
- **If No,** proceed to question C.2 and complete all remaining sections and questions in Part 1

C.2. Adopted land use plans.

a. Do any municipally- adopted (city, town, village or county) comprehensive land use plan(s) include the site where the proposed action would be located? ☑Yes ☐No

If Yes, does the comprehensive plan include specific recommendations for the site where the proposed action would be located? ☐Yes ☑No

b. Is the site of the proposed action within any local or regional special planning district (for example: Greenway Brownfield Opportunity Area (BOA); designated State or Federal heritage area; watershed management plan; or other?) ☑Yes ☐No

If Yes, identify the plan(s):

NYS Heritage Areas:LI North Shore Heritage Area

c. Is the proposed action located wholly or partially within an area listed in an adopted municipal open space plan, or an adopted municipal farmland protection plan? ☐Yes ☑No

If Yes, identify the plan(s):

C.3. Zoning

a. Is the site of the proposed action located in a municipality with an adopted zoning law or ordinance. ☑ Yes ☐ No
If Yes, what is the zoning classification(s) including any applicable overlay district?
Residence E or Apartment District/Middle Neck Road Multifamily Incentive Overlay District (MNR-MIO)

b. Is the use permitted or allowed by a special or conditional use permit? ☐ Yes ☑ No

c. Is a zoning change requested as part of the proposed action? ☐ Yes ☑ No
If Yes,
i. What is the proposed new zoning for the site? _____

C.4. Existing community services.

a. In what school district is the project site located? Great Neck Public Schools

b. What police or other public protection forces serve the project site?
Nassau County Police Department, Third Precinct.

c. Which fire protection and emergency medical services serve the project site?
Great Neck Alerts Fire Company (fire); Vigilant Fire Company (EMS/ambulance)

d. What parks serve the project site?
Allenwood Park, Village Green Park

D. Project Details

D.1. Proposed and Potential Development

a. What is the general nature of the proposed action (e.g., residential, industrial, commercial, recreational; if mixed, include all components)? Residential

b. a. Total acreage of the site of the proposed action? 4.349 acres
b. Total acreage to be physically disturbed? 4.349 acres
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? 4.349 acres

c. Is the proposed action an expansion of an existing project or use? ☑ Yes ☐ No
i. If Yes, what is the approximate percentage of the proposed expansion and identify the units (e.g., acres, miles, housing units, square feet)? % 56 Units: Housing Units

d. Is the proposed action a subdivision, or does it include a subdivision? ☐ Yes ☑ No
If Yes,
i. Purpose or type of subdivision? (e.g., residential, industrial, commercial; if mixed, specify types)
ii. Is a cluster/conservation layout proposed? ☐ Yes ☐ No
iii. Number of lots proposed? _____
iv. Minimum and maximum proposed lot sizes? Minimum _____ Maximum _____

e. Will proposed action be constructed in multiple phases? ☐ Yes ☑ No
i. If No, anticipated period of construction: 27 months
ii. If Yes:
- Total number of phases anticipated _____
- Anticipated commencement date of phase 1 (including demolition) _____ month _____ year
- Anticipated completion date of final phase _____ month _____year
- Generally describe connections or relationships among phases, including any contingencies where progress of one phase may determine timing or duration of future phases: _____

f. Does the project include new residential uses? ☑ Yes ☐ No

If Yes, show numbers of units proposed.

	One Family	Two Family	Three Family	Multiple Family (four or more)
Initial Phase	_____	_____	_____	186 in total (net gain of 67 units)
At completion of all phases	_____	_____	_____	186 in total (net gain of 67 units)

g. Does the proposed action include new non-residential construction (including expansions)? ☐ Yes ☑ No

If Yes,

i. Total number of structures _____

ii. Dimensions (in feet) of largest proposed structure: _____height; _____width; and _____ length

iii. Approximate extent of building space to be heated or cooled: _____ square feet

h. Does the proposed action include construction or other activities that will result in the impoundment of any liquids, such as creation of a water supply, reservoir, pond, lake, waste lagoon or other storage? ☐ Yes ☑ No

If Yes,

i. Purpose of the impoundment: _____

ii. If a water impoundment, the principal source of the water: ☐ Ground water ☐ Surface water streams ☐ Other specify:

_____

iii. If other than water, identify the type of impounded/contained liquids and their source.

_____

iv. Approximate size of the proposed impoundment. Volume: _____ million gallons; surface area: _____ acres

v. Dimensions of the proposed dam or impounding structure: _____ height; _____ length

vi. Construction method/materials for the proposed dam or impounding structure (e.g., earth fill, rock, wood, concrete):

_____

D.2. Project Operations

a. Does the proposed action include any excavation, mining, or dredging, during construction, operations, or both? (Not including general site preparation, grading or installation of utilities or foundations where all excavated materials will remain onsite) ☐ Yes ☑ No

If Yes:

i .What is the purpose of the excavation or dredging? _____

ii. How much material (including rock, earth, sediments, etc.) is proposed to be removed from the site?

- Volume (specify tons or cubic yards): _____
- Over what duration of time? _____

iii. Describe nature and characteristics of materials to be excavated or dredged, and plans to use, manage or dispose of them.

_____

_____

i*v.* Will there be onsite dewatering or processing of excavated materials? ☐ Yes ☐ No

If yes, describe. _____

_____

v. What is the total area to be dredged or excavated? _____acres

vi. What is the maximum area to be worked at any one time? _____ acres

vii. What would be the maximum depth of excavation or dredging? _____ feet

viii. Will the excavation require blasting? ☐ Yes ☐ No

ix. Summarize site reclamation goals and plan: _____

_____

_____

b. Would the proposed action cause or result in alteration of, increase or decrease in size of, or encroachment into any existing wetland, waterbody, shoreline, beach or adjacent area? ☐ Yes ☑ No

If Yes:

i. Identify the wetland or waterbody which would be affected (by name, water index number, wetland map number or geographic description): _____

_____

ii. Describe how the proposed action would affect that waterbody or wetland, e.g. excavation, fill, placement of structures, or alteration of channels, banks and shorelines. Indicate extent of activities, alterations and additions in square feet or acres:

_____

_____

_____

_____

iii. Will proposed action cause or result in disturbance to bottom sediments? ☐ Yes ☐ No

If Yes, describe: _____

iv. Will proposed action cause or result in the destruction or removal of aquatic vegetation? ☐ Yes ☐ No

If Yes:

- acres of aquatic vegetation proposed to be removed: _____
- expected acreage of aquatic vegetation remaining after project completion: _____
- purpose of proposed removal (e.g. beach clearing, invasive species control, boat access): _____

_____

- proposed method of plant removal: _____
- if chemical/herbicide treatment will be used, specify product(s): _____

v. Describe any proposed reclamation/mitigation following disturbance: _____

_____

c. Will the proposed action use, or create a new demand for water? ☑ Yes ☐ No

If Yes:

i. Total anticipated water usage/demand per day: 47,400 gallons/day

ii. Will the proposed action obtain water from an existing public water supply? ☑ Yes ☐ No

If Yes:

- Name of district or service area: Great Neck Water Authority North
- Does the existing public water supply have capacity to serve the proposal? ☑ Yes ☐ No
- Is the project site in the existing district? ☑ Yes ☐ No
- Is expansion of the district needed? ☐ Yes ☑ No
- Do existing lines serve the project site? ☑ Yes ☐ No

iii. Will line extension within an existing district be necessary to supply the project? ☐ Yes ☑ No

If Yes:

- Describe extensions or capacity expansions proposed to serve this project: _____

_____

- Source(s) of supply for the district: _____

iv. Is a new water supply district or service area proposed to be formed to serve the project site? ☐ Yes ☑ No

If, Yes:

- Applicant/sponsor for new district: _____
- Date application submitted or anticipated: _____
- Proposed source(s) of supply for new district: _____

v. If a public water supply will not be used, describe plans to provide water supply for the project: _____

_____

vi. If water supply will be from wells (public or private), maximum pumping capacity: _____ gallons/minute.

d. Will the proposed action generate liquid wastes? ☑ Yes ☐ No

If Yes:

i. Total anticipated liquid waste generation per day: 47,400 gallons/day

ii. Nature of liquid wastes to be generated (e.g., sanitary wastewater, industrial; if combination, describe all components and approximate volumes or proportions of each): _____

Sanitary wastewater.

_____

iii. Will the proposed action use any existing public wastewater treatment facilities? ☑ Yes ☐ No

If Yes:

- Name of wastewater treatment plant to be used: Great Neck Water Pollution Control District Waste Water Treatment Plant
- Name of district: Great Neck Water Pollution Control
- Does the existing wastewater treatment plant have capacity to serve the project? ☑ Yes ☐ No
- Is the project site in the existing district? ☑ Yes ☐ No
- Is expansion of the district needed? ☐ Yes ☑ No

- Do existing sewer lines serve the project site? ☑ Yes ☐ No
- Will line extension within an existing district be necessary to serve the project? ☐ Yes ☑ No

  If Yes:
  - Describe extensions or capacity expansions proposed to serve this project: _____

iv. Will a new wastewater (sewage) treatment district be formed to serve the project site? ☐ Yes ☑ No

If Yes:
- Applicant/sponsor for new district: _____
- Date application submitted or anticipated: _____
- What is the receiving water for the wastewater discharge? _____

v. If public facilities will not be used, describe plans to provide wastewater treatment for the project, including specifying proposed receiving water (name and classification if surface discharge, or describe subsurface disposal plans):

N/A

vi. Describe any plans or designs to capture, recycle or reuse liquid waste: _____

N/A

e. Will the proposed action disturb more than one acre and create stormwater runoff, either from new point sources (i.e. ditches, pipes, swales, curbs, gutters or other concentrated flows of stormwater) or non-point source (i.e. sheet flow) during construction or post construction? ☑ Yes ☐ No

If Yes:

i. How much impervious surface will the project create in relation to total size of project parcel?

_____ Square feet or 3.04 acres (impervious surface)

_____ Square feet or 4.35 acres (parcel size)

ii. Describe types of new point sources. Curbs

iii. Where will the stormwater runoff be directed (i.e. on-site stormwater management facility/structures, adjacent properties, groundwater, on-site surface water or off-site surface waters)?

On-site drywells

- If to surface waters, identify receiving water bodies or wetlands: _____
- Will stormwater runoff flow to adjacent properties? ☐ Yes ☑ No

iv. Does proposed plan minimize impervious surfaces, use pervious materials or collect and re-use stormwater? ☐ Yes ☑ No

f. Does the proposed action include, or will it use on-site, one or more sources of air emissions, including fuel combustion, waste incineration, or other processes or operations? ☐ Yes ☑ No

If Yes, identify:

i. Mobile sources during project operations (e.g., heavy equipment, fleet or delivery vehicles)

ii. Stationary sources during construction (e.g., power generation, structural heating, batch plant, crushers)

iii. Stationary sources during operations (e.g., process emissions, large boilers, electric generation)

g. Will any air emission sources named in D.2.f (above), require a NY State Air Registration, Air Facility Permit, or Federal Clean Air Act Title IV or Title V Permit? ☐ Yes ☑ No

If Yes:

i. Is the project site located in an Air quality non-attainment area? (Area routinely or periodically fails to meet ambient air quality standards for all or some parts of the year) ☐ Yes ☐ No

ii. In addition to emissions as calculated in the application, the project will generate:
- _____Tons/year (short tons) of Carbon Dioxide (CO_2)
- _____Tons/year (short tons) of Nitrous Oxide (N_2O)
- _____Tons/year (short tons) of Perfluorocarbons (PFCs)
- _____Tons/year (short tons) of Sulfur Hexafluoride (SF_6)
- _____Tons/year (short tons) of Carbon Dioxide equivalent of Hydroflourocarbons (HFCs)
- _____Tons/year (short tons) of Hazardous Air Pollutants (HAPs)

h. Will the proposed action generate or emit methane (including, but not limited to, sewage treatment plants, landfills, composting facilities)? ☐Yes ☑No

If Yes:

i. Estimate methane generation in tons/year (metric): _____

ii. Describe any methane capture, control or elimination measures included in project design (e.g., combustion to generate heat or electricity, flaring): _____

_____

i. Will the proposed action result in the release of air pollutants from open-air operations or processes, such as quarry or landfill operations? ☐Yes ☑No

If Yes: Describe operations and nature of emissions (e.g., diesel exhaust, rock particulates/dust):

_____

_____

j. Will the proposed action result in a substantial increase in traffic above present levels or generate substantial new demand for transportation facilities or services? ☐Yes ☑No

If Yes:

i. When is the peak traffic expected (Check all that apply): ☐ Morning ☐ Evening ☐Weekend ☐ Randomly between hours of _____ to _____.

ii. For commercial activities only, projected number of semi-trailer truck trips/day: _____

iii. Parking spaces: Existing _____ Proposed _____ Net increase/decrease _____

iv. Does the proposed action include any shared use parking? ☐Yes ☐No

v. If the proposed action includes any modification of existing roads, creation of new roads or change in existing access, describe:

_____

_____

_____

vi. Are public/private transportation service(s) or facilities available within ½ mile of the proposed site? ☐Yes ☐No

vii Will the proposed action include access to public transportation or accommodations for use of hybrid, electric or other alternative fueled vehicles? ☐Yes ☐No

viii. Will the proposed action include plans for pedestrian or bicycle accommodations for connections to existing pedestrian or bicycle routes? ☐Yes ☐No

k. Will the proposed action (for commercial or industrial projects only) generate new or additional demand for energy? **(N/A - Residential Project)** ☐Yes ☑No

If Yes:

i. Estimate annual electricity demand during operation of the proposed action: _____

_____

ii. Anticipated sources/suppliers of electricity for the project (e.g., on-site combustion, on-site renewable, via grid/local utility, or other):

_____

iii. Will the proposed action require a new, or an upgrade to, an existing substation? ☐Yes ☐No

l. Hours of operation. Answer all items which apply.

i. During Construction:

- Monday - Friday: 8AM-7PM (VGN Const. Hours)
- Saturday: 9AM-7PM (No work anticipated)
- Sunday: No work permitted
- Holidays: 9AM-7PM (No work anticipated)

ii. During Operations:

- Monday - Friday: Residential: 24 hrs/day
- Saturday: Residential: 24 hrs/day
- Sunday: Residential: 24 hrs/day
- Holidays: Residential: 24 hrs/day

m. Will the proposed action produce noise that will exceed existing ambient noise levels during construction, operation, or both? ☑ Yes ☐ No

If yes:

i. Provide details including sources, time of day and duration:

Certain construction activities may temporarily increase ambient noise levels but these will be restricted to the hours specified above.

ii. Will proposed action remove existing natural barriers that could act as a noise barrier or screen? ☐ Yes ☑ No

Describe: _____

n.. Will the proposed action have outdoor lighting? ☑ Yes ☐ No

If yes:

i. Describe source(s), location(s), height of fixture(s), direction/aim, and proximity to nearest occupied structures:

There will be 30 Pedestrian-scale LED fixtures (MH: 16 ft.) located throughout the site, as well as 21 LED Bollards. Additional landscaping will be provided to enhance screening - particularly along the property edges. Please see Photometric Plan and Landscaping Plan for location/direction/aim of each fixture.

ii. Will proposed action remove existing natural barriers that could act as a light barrier or screen? ☐ Yes ☑ No

Describe: _____

o. Does the proposed action have the potential to produce odors for more than one hour per day? ☐ Yes ☑ No

If Yes, describe possible sources, potential frequency and duration of odor emissions, and proximity to nearest occupied structures: _____

p. Will the proposed action include any bulk storage of petroleum (combined capacity of over 1,100 gallons) or chemical products 185 gallons in above ground storage or any amount in underground storage? ☐ Yes ☑ No

If Yes:

i. Product(s) to be stored _____

ii. Volume(s) _____ per unit time _____ (e.g., month, year)

iii. Generally describe proposed storage facilities: _____

q. Will the proposed action (commercial, industrial and recreational projects only) use pesticides (i.e., herbicides, insecticides) during construction or operation? ☐ Yes ☑ No

If Yes:

i. Describe proposed treatment(s):

_____

ii. Will the proposed action use Integrated Pest Management Practices? ☐ Yes ☐ No

r. Will the proposed action (commercial or industrial projects only) involve or require the management or disposal of solid waste (excluding hazardous materials)? ☐ Yes ☑ No

If Yes:

i. Describe any solid waste(s) to be generated during construction or operation of the facility:

- Construction: _____ tons per _____ (unit of time)
- Operation : _____ tons per _____ (unit of time)

ii. Describe any proposals for on-site minimization, recycling or reuse of materials to avoid disposal as solid waste:

- Construction: _____
- Operation: _____

iii. Proposed disposal methods/facilities for solid waste generated on-site:

- Construction: _____
- Operation: _____

s. Does the proposed action include construction or modification of a solid waste management facility? ☐ Yes ☑ No

If Yes:

i. Type of management or handling of waste proposed for the site (e.g., recycling or transfer station, composting, landfill, or other disposal activities): _____

ii. Anticipated rate of disposal/processing:

- _____ Tons/month, if transfer or other non-combustion/thermal treatment, or
- _____ Tons/hour, if combustion or thermal treatment

iii. If landfill, anticipated site life: _____ years

t. Will proposed action at the site involve the commercial generation, treatment, storage, or disposal of hazardous waste? ☐ Yes ☑ No

If Yes:

i. Name(s) of all hazardous wastes or constituents to be generated, handled or managed at facility: _____

ii. Generally describe processes or activities involving hazardous wastes or constituents: _____

iii. Specify amount to be handled or generated _____ tons/month

iv. Describe any proposals for on-site minimization, recycling or reuse of hazardous constituents: _____

v. Will any hazardous wastes be disposed at an existing offsite hazardous waste facility? ☐ Yes ☐ No

If Yes: provide name and location of facility: _____

If No: describe proposed management of any hazardous wastes which will not be sent to a hazardous waste facility:

E. Site and Setting of Proposed Action

E.1. Land uses on and surrounding the project site

a. Existing land uses.

i. Check all uses that occur on, adjoining and near the project site.

☐ Urban ☐ Industrial ☑ Commercial ☑ Residential (suburban) ☐ Rural (non-farm)
☐ Forest ☐ Agriculture ☐ Aquatic ☐ Other (specify): _____

ii. If mix of uses, generally describe:

Surrounding the project site, land uses are a mix of multi-family residential (Hadley Arms, Versailles Court) and institutional (Young Israel of Great Neck, Shaare Zion of Great Neck).

b. Land uses and covertypes on the project site.

Land use or Covertype	Current Acreage	Acreage After Project Completion	Change (Acres +/-)
• Roads, buildings, and other paved or impervious surfaces	2.74	3.04	+0.3
• Forested			
• Meadows, grasslands or brushlands (non-agricultural, including abandoned agricultural)			
• Agricultural (includes active orchards, field, greenhouse etc.)			
• Surface water features (lakes, ponds, streams, rivers, etc.)			
• Wetlands (freshwater or tidal)			
• Non-vegetated (bare rock, earth or fill)			
• Other Describe: landscaped grass area	1.61	1.31	-0.3

c. Is the project site presently used by members of the community for public recreation? ☐ Yes ☑ No

i. If Yes: explain: _____

d. Are there any facilities serving children, the elderly, people with disabilities (e.g., schools, hospitals, licensed day care centers, or group homes) within 1500 feet of the project site? ☑ Yes ☐ No

If Yes,

i. Identify Facilities:

Great Neck Public Schools Adult Learning Center

e. Does the project site contain an existing dam? ☐ Yes ☑ No

If Yes:

i. Dimensions of the dam and impoundment:

- Dam height: _____ feet
- Dam length: _____ feet
- Surface area: _____ acres
- Volume impounded: _____ gallons OR acre-feet

ii. Dam's existing hazard classification: _____

iii. Provide date and summarize results of last inspection:

_____

_____

f. Has the project site ever been used as a municipal, commercial or industrial solid waste management facility, or does the project site adjoin property which is now, or was at one time, used as a solid waste management facility? ☐ Yes ☑ No

If Yes:

i. Has the facility been formally closed? ☐ Yes ☐ No

- If yes, cite sources/documentation: _____

ii. Describe the location of the project site relative to the boundaries of the solid waste management facility:

_____

_____

iii. Describe any development constraints due to the prior solid waste activities: _____

_____

g. Have hazardous wastes been generated, treated and/or disposed of at the site, or does the project site adjoin property which is now or was at one time used to commercially treat, store and/or dispose of hazardous waste? ☐ Yes ☑ No

If Yes:

i. Describe waste(s) handled and waste management activities, including approximate time when activities occurred:

_____

_____

h. Potential contamination history. Has there been a reported spill at the proposed project site, or have any remedial actions been conducted at or adjacent to the proposed site? ☑ Yes ☐ No

If Yes:

i. Is any portion of the site listed on the NYSDEC Spills Incidents database or Environmental Site Remediation database? Check all that apply: ☑ Yes ☐ No

☑ Yes – Spills Incidents database — Provide DEC ID number(s): 8906491

☐ Yes – Environmental Site Remediation database — Provide DEC ID number(s): _____

☐ Neither database

ii. If site has been subject of RCRA corrective activities, describe control measures:_____

_____

_____

iii. Is the project within 2000 feet of any site in the NYSDEC Environmental Site Remediation database? ☐ Yes ☑ No

If yes, provide DEC ID number(s): _____

iv. If yes to (i), (ii) or (iii) above, describe current status of site(s):

_____

_____

v. Is the project site subject to an institutional control limiting property uses? ☐ Yes ☑ No

- If yes, DEC site ID number: _____
- Describe the type of institutional control (e.g., deed restriction or easement): _____
- Describe any use limitations: _____
- Describe any engineering controls: _____
- Will the project affect the institutional or engineering controls in place? ☐ Yes ☐ No
- Explain: _____

E.2. Natural Resources On or Near Project Site

a. What is the average depth to bedrock on the project site? >100 feet

b. Are there bedrock outcroppings on the project site? ☐ Yes ☑ No
If Yes, what proportion of the site is comprised of bedrock outcroppings? _____%

c. Predominant soil type(s) present on project site:

UnB: Urban Land-Montauk Complex	100 %
	%
	%

d. What is the average depth to the water table on the project site? Average: 40 feet

e. Drainage status of project site soils:

☑	Well Drained:	100 % of site
☐	Moderately Well Drained:	% of site
☐	Poorly Drained	% of site

f. Approximate proportion of proposed action site with slopes:

☑	0-10%:	82 % of site
☑	10-15%:	9.5 % of site
☑	15% or greater:	8.5 % of site

g. Are there any unique geologic features on the project site? ☐ Yes ☑ No
If Yes, describe: _____

h. Surface water features.

i. Does any portion of the project site contain wetlands or other waterbodies (including streams, rivers, ponds or lakes)? ☐ Yes ☑ No

ii. Do any wetlands or other waterbodies adjoin the project site? ☐ Yes ☑ No

If Yes to either *i* or *ii*, continue. If No, skip to E.2.i.

iii. Are any of the wetlands or waterbodies within or adjoining the project site regulated by any federal, state or local agency? ☐ Yes ☑ No

iv. For each identified regulated wetland and waterbody on the project site, provide the following information:

- Streams: Name _____ Classification _____
- Lakes or Ponds: Name _____ Classification _____
- Wetlands: Name _____ Approximate Size _____
- Wetland No. (if regulated by DEC) _____

v. Are any of the above water bodies listed in the most recent compilation of NYS water quality-impaired waterbodies? ☐ Yes ☑ No

If yes, name of impaired water body/bodies and basis for listing as impaired: _____

i. Is the project site in a designated Floodway? ☐ Yes ☑ No

j. Is the project site in the 100 year Floodplain? ☐ Yes ☑ No

k. Is the project site in the 500 year Floodplain? ☐ Yes ☑ No

l. Is the project site located over, or immediately adjoining, a primary, principal or sole source aquifer? ☑ Yes ☐ No
If Yes:

i. Name of aquifer: Sole Source Aquifer Names:Nassau-Suffolk SSA

m. Identify the predominant wildlife species that occupy or use the project site: N/A - site is currently fully developed with multi-family housing.

n. Does the project site contain a designated significant natural community? ☐ Yes ☑ No
If Yes:
i. Describe the habitat/community (composition, function, and basis for designation): _____
ii. Source(s) of description or evaluation: _____
iii. Extent of community/habitat:
- Currently: _____ acres
- Following completion of project as proposed: _____ acres
- Gain or loss (indicate + or -): _____ acres

o. Does project site contain any species of plant or animal that is listed by the federal government or NYS as endangered or threatened, or does it contain any areas identified as habitat for an endangered or threatened species? ☐ Yes ☑ No

p. Does the project site contain any species of plant or animal that is listed by NYS as rare, or as a species of special concern? ☐ Yes ☑ No

q. Is the project site or adjoining area currently used for hunting, trapping, fishing or shell fishing? ☐ Yes ☑ No
If yes, give a brief description of how the proposed action may affect that use: _____

E.3. Designated Public Resources On or Near Project Site

a. Is the project site, or any portion of it, located in a designated agricultural district certified pursuant to Agriculture and Markets Law, Article 25-AA, Section 303 and 304? ☐ Yes ☑ No
If Yes, provide county plus district name/number: _____

b. Are agricultural lands consisting of highly productive soils present? ☐ Yes ☑ No
i. If Yes: acreage(s) on project site? _____
ii. Source(s) of soil rating(s): _____

c. Does the project site contain all or part of, or is it substantially contiguous to, a registered National Natural Landmark? ☐ Yes ☑ No
If Yes:
i. Nature of the natural landmark: ☐ Biological Community ☐ Geological Feature
ii. Provide brief description of landmark, including values behind designation and approximate size/extent: _____

d. Is the project site located in or does it adjoin a state listed Critical Environmental Area? ☐ Yes ☑ No
If Yes:
i. CEA name: _____
ii. Basis for designation: _____
iii. Designating agency and date: _____

e. Does the project site contain, or is it substantially contiguous to, a building, archaeological site, or district which is listed on, or has been nominated by the NYS Board of Historic Preservation for inclusion on, the State or National Register of Historic Places? ☐ Yes ☑ No

If Yes:

i. Nature of historic/archaeological resource: ☐ Archaeological Site ☐ Historic Building or District

ii. Name: _____

iii. Brief description of attributes on which listing is based:

_____

f. Is the project site, or any portion of it, located in or adjacent to an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory? ☐ Yes ☑ No

g. Have additional archaeological or historic site(s) or resources been identified on the project site? ☐ Yes ☑ No

If Yes:

i. Describe possible resource(s): _____

ii. Basis for identification: _____

h. Is the project site within fives miles of any officially designated and publicly accessible federal, state, or local scenic or aesthetic resource? ☐ Yes ☑ No

If Yes:

i. Identify resource: _____

ii. Nature of, or basis for, designation (e.g., established highway overlook, state or local park, state historic trail or scenic byway, etc.): _____

iii. Distance between project and resource: _____ miles.

i. Is the project site located within a designated river corridor under the Wild, Scenic and Recreational Rivers Program 6 NYCRR 666? ☐ Yes ☑ No

If Yes:

i. Identify the name of the river and its designation: _____

ii. Is the activity consistent with development restrictions contained in 6NYCRR Part 666? ☐ Yes ☐ No

F. Additional Information

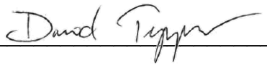
Attach any additional information which may be needed to clarify your project.

If you have identified any adverse impacts which could be associated with your proposal, please describe those impacts plus any measures which you propose to avoid or minimize them.

G. Verification

I certify that the information provided is true to the best of my knowledge.

Applicant/Sponsor Name David Tepper Date 5/24/2018

Signature  Title Planner, AICP

PRINT FORM


Patsy Pl
Nirvana Ave
Berkshire Rd
Florence St
Piccadilly Rd
Old Mill Rd
Sands Ct
Wooleys Ln
Hadley Ct
Millbrook Ct
Project Site
Middle Neck Rd
Day Ct
Clover Dr
Allenwood Rd
N
Feet
0
100
200
Aerial Source: New York Statewide Digital Orthoimagery Program (NYSDOP); Aerial Photo Date: March 2016/ Digital 4Band/Half-foot Resolution

APPENDIX B

CORRESPONDENCE

Date	From	To	Topic
March 24, 2015	Cameron Engineering & Associates, LLP	Water Authority of Great Neck North	Water Availability
March 24, 2015	Cameron Engineering & Associates, LLP	Great Neck Water Pollution Control District	Sewer Availability
March 19, 2015	Cameron Engineering & Associates, LLP	Nassau County Police Department, Third Precinct	Police Availability
March 24, 2015	Nassau County Police Department, Third Precinct	Cameron Engineering & Associates, LLP	Police Availability
March 19, 2015	Cameron Engineering & Associates, LLP	Great Neck Alert Fire Company	Fire Response Availability
March 20, 2015	Cameron Engineering & Associates, LLP	Vigilant Fire Company	Ambulance Service Availability
March 24, 2015	Cameron Engineering & Associates, LLP	Great Neck School District	School District Impacts
April 1, 2015	Great Neck School District	Cameron Engineering & Associates, LLP	School District Impacts
December 10, 2015	Cameron Engineering & Associates, LLP	Great Neck Alert Fire Company	Fire Response Availability
December 10, 2015	Cameron Engineering & Associates, LLP	Vigilant Fire Company	Ambulance Service Availability
June 24, 2016	Cameron Engineering & Associates, LLP	Great Neck Alert Fire Company	Fire Response Availability
June 24, 2016	Cameron Engineering & Associates, LLP	Vigilant Fire Company	Ambulance Service Availability
June 29, 2016	Cameron Engineering & Associates, LLP	Water Authority of Great Neck North	Water Availability
July 25, 2017	Cameron Engineering & Associates, LLP	Great Neck Alert Fire Company	Fire Response Availability
July 25, 2017	Cameron Engineering & Associates, LLP	Vigilant Fire Company	Ambulance Service Availability
July 25, 2017	Cameron Engineering & Associates, LLP	Water Authority of Great Neck North	Water Availability
July 25, 2017	Cameron Engineering & Associates, LLP	Great Neck Water Pollution Control District	Sewer Availability

CAMERON ENGINEERING & ASSOCIATES, L.L.P.

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Andrew L. Narus, P.E.

Chief Financial Officer
Michael A. Neal, CPA

March 24, 2015

Gregory C. Graziano, Superintendent
Water Authority of Great Neck North
50 Watermill Lane
Great Neck, NY 11021

Re: Millbrook Apartments (240-250 Middle Neck Road) - Request for Water Availability
Village of Great Neck, NY
CE 2508

Dear Mr. Graziano:

This correspondence is forwarded requesting water availability from the Water Authority of Great Neck North for the above referenced residential development. Specifically, the project will involve the redevelopment of an existing 119-unit apartment complex located at 240-250 Middle Neck Road in the Village of Great Neck. The existing complex is proposed to be modified by removing 16 units and adding an additional 94 units (net gain of 78 residential units). Based upon preliminary design, the proposed project would include 79 one-bedroom units and 118 two-bedroom units for a total of 197 residential units (see attached Site Plan and Location Map).

As shown in the table below, the estimated average water demand generated by the existing uses is 29,600 gallons per day (gpd). The estimated future average water demand to be generated by the residential development is 51,200 gpd (see table below). This represents a net increase of 21,600 gpd above the existing apartment complex.

Existing	Quantity	gpd/unit	Gallons per day
1 br	61 units	200	12,200
2 br	58 units	300	17,400
		Total Existing	**29,600**
Proposed	Quantity	gpd/unit	Gallons per day
1 br	79 units	200	15,800
2 br	118 units	300	35,400
		Total Proposed	**51,200**
		Net Increase	**21,600**

Calculations based on rates specified in the Nassau County Department of Public Works Sewage Flow Chart.

Should you have any questions or require additional information in order to provide a letter of availability, please feel free to contact our office.

Sincerely,

David J. Tepper
Planner

Enclosures:
Site Plan
Aerial/Location Map

K:\C2500-2549\CE2508 - Millbrook Apts\Community Service Letters\L 032415 to Great Neck Water Authority North.doc

CAMERON ENGINEERING & ASSOCIATES, L.L.P.

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Andrew L. Narus, P.E.

Chief Financial Officer
Michael A. Neal, CPA

March 24, 2015

Christopher D. Murphy, Superintendent
Great Neck Water Pollution Control District
236 East Shore Road
Great Neck, NY 11023

Re: Millbrook Apartments (240-250 Middle Neck Road) - Request for Sewer Availability
Village of Great Neck, NY
CE 2508

Dear Mr. Murphy:

This correspondence is forwarded requesting sewer availability into the Great Neck Water Pollution Control District (GNWPCD) for the above referenced residential development. Specifically, the project will involve the redevelopment of an existing 119-unit apartment complex located at 240-250 Middle Neck Road in the Village of Great Neck. The existing complex is proposed to be modified by removing 16 units and adding an additional 94 units (net gain of 78 residential units). Based upon preliminary design, the proposed project would include 79 one-bedroom units and 118 two-bedroom units for a total of 197 residential units (see attached Site Plan and Location Map).

As shown in the table below, the estimated average sewage flow generated by the existing uses is 29,600 gallons per day (gpd). The estimated future average sewage flow to be generated by the residential development is approximately 51,200 gpd (see table below). This represents a net increase of 21,600 gpd above the existing apartment complex.

Existing	Quantity	gpd/unit	Gallons per day
1 br	61 units	200	12,200
2 br	58 units	300	17,400
		Total Existing	**29,600**
Proposed	Quantity	gpd/unit	Gallons per day
1 br	79 units	200	15,800
2 br	118 units	300	35,400
		Total Proposed	**51,200**
		Net Increase	**21,600**

Calculations based on rates specified in the Nassau County Department of Public Works Sewage Flow Chart.

Should you have any questions or require additional information in order to provide a letter of availability, please feel free to contact our office.

Very truly yours,

David J. Tepper
Planner

Enclosures:

Aerial/Location Map
Site Plan

K:\C2500-2549\CE2508 - Millbrook Apts\Community Service Letters\L 032415 to GNWPCD.doc

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Chief Financial Officer
Michael A. Neal, CPA

March 19, 2015

Commanding Officer Inspector Sean M. McCarthy
Nassau County Police Department, Third Precinct
214 Hillside Avenue
Williston Park, NY 11596

Re: Request for Resource Availability
Redevelopment of Millbrook Apartments (240-250 Middle Neck Road)
Village of Great Neck, NY
CE 2508

Dear Inspector McCarthy:

Cameron Engineering & Associates, LLP is conducting a study of the potential impacts of the proposed redevelopment of an existing apartment complex (Millbrook Apartments) located at 240-250 Middle Neck Road in the Village of Great Neck. Specifically, the project will involve the redevelopment of an existing 119-unit apartment complex located at 240-250 Middle Neck Road in the Village of Great Neck. The existing complex is proposed to be modified by removing 16 units and adding an additional 94 units (net gain of 78 residential units). Upon completion, the proposed project would include a total of 197 residential units.

Please advise regarding your department's ability to properly serve the proposed redevelopment of the site.

A proposed site plan and location map are attached for your reference. Please provide us with the requested information at your earliest possible convenience.

Should you have any questions or require additional information in order to provide a letter of availability, please feel free to contact our office. Thank you for your assistance with this matter.

Sincerely,

David J. Tepper
Planner

Enclosures:
Site Plan
Aerial Location Map

K:\C2500-2549\CE2508 - Millbrook Apts\Community Service Letters\L 031915 to NCPD.doc

Nassau County Police Department

EDWARD P. MANGANO
COUNTY EXECUTIVE

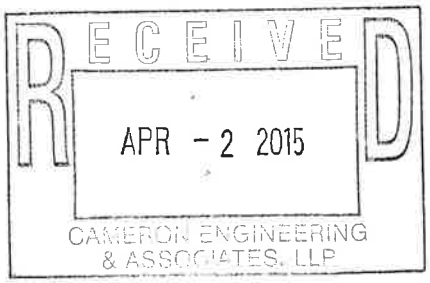
1490 Franklin Avenue
Mineola, New York 11501
(516) 573-8800

THOMAS C. KRUMPTER
ACTING COMMISSIONER

Third Precinct
214 Hillside Ave
Williston Park, NY 11596

March 24, 2015

David J. Tepper
Cameron Engineering & Associates, LLP
100 Sunnyside Boulevard
Woodbury, N.Y. 11797



RE: Request for Resource Availability
Redevelopment of Millbrook Apartments
240-250 Middle Neck Road, Great Neck
CE 2508

Dear Mr. Tepper,

This is in response to your Request for Resource Availability regarding a proposed redevelopment and addition of (78) new residential units at the Millbrook Apartments complex located at 240-250 Middle Neck Road, Great Neck. The following are responses as it relates to the Nassau County Police Department and the services that we provide:

1. The subject property is within the jurisdiction of the Third Precinct.
2. The nearest police station to the site would be the Third Precinct Policing Center, Nassau County Police Department, located at 100 Community Dr., Manhasset N.Y. 11030.
3. Police protection will continue to be provided at the same level of service as it is presently. The increase in additional residents within this area will obviously result in a greater number of calls for service from our department. It will not, however, adversely affect our abilities to promptly respond and provide all necessary services to this apartment complex.

If you require any additional information in regards to your Request for Resource Availability, or the abilities of the Nassau County Police Department to provide required services, please feel free to contact me at 516-573-6348.

Sincerely,
Robert Johnston
Administrative Sergeant

CAMERON ENGINEERING & ASSOCIATES, L.L.P.

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Chief Financial Officer
Michael A. Neal, CPA

March 19, 2015

Chief Raymond Plakstis
Alert Engine, Hook, Ladder and Hose Co., No. 1, Inc.
555 Middle Neck Road
Great Neck, New York 11023

Re: Request for Resource Availability
Redevelopment of Millbrook Apartments (240-250 Middle Neck Road)
Village of Great Neck, NY
CE 2508

Dear Chief Plakstis:

Cameron Engineering & Associates, LLP is conducting a study of the potential impacts of the proposed redevelopment of an existing apartment complex (Millbrook Apartments) located at 240-250 Middle Neck Road in the Village of Great Neck. Specifically, the project will involve the redevelopment of an existing 119-unit apartment complex located at 240-250 Middle Neck Road in the Village of Great Neck. The existing complex is proposed to be modified by removing 16 units and adding an additional 94 units (net gain of 78 residential units). Upon completion, the proposed project would include a total of 197 residential units.

Please advise regarding your department's ability to properly serve the proposed redevelopment of the site.

A proposed site plan and location map are attached for your reference. Please provide us with the requested information at your earliest possible convenience.

Should you have any questions or require additional information in order to provide a letter of availability, please feel free to contact our office. Thank you for your assistance with this matter.

Sincerely,

David J. Tepper
Planner

Enclosures:

Site Plan
Aerial Location Map

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Andrew L. Narus, P.E.

Chief Financial Officer
Michael A. Neal, CPA

March 20, 2015

Chief Laurence Jacobs
Vigilant Engine and Hook & Ladder Co., Inc.
83 Cutter Mill Road
Great Neck, NY 11021

Re: Request for Resource Availability
Redevelopment of Millbrook Apartments (240-250 Middle Neck Road)
Village of Great Neck, NY
CE 2508

Dear Inspector McCarthy:

Cameron Engineering & Associates, LLP is conducting a study of the potential impacts of the proposed redevelopment of an existing apartment complex (Millbrook Apartments) located at 240-250 Middle Neck Road in the Village of Great Neck. Specifically, the project will involve the redevelopment of an existing 119-unit apartment complex located at 240-250 Middle Neck Road in the Village of Great Neck. The existing complex is proposed to be modified by removing 16 units and adding an additional 94 units (net gain of 78 residential units). Upon completion, the proposed project would include a total of 197 residential units.

Please advise regarding your department's ability to provide ambulance service for the proposed redevelopment of the site.

A proposed site plan and location map are attached for your reference. Please provide us with the requested information at your earliest possible convenience.

Should you have any questions or require additional information in order to provide a letter of availability, please feel free to contact our office. Thank you for your assistance with this matter.

Sincerely,

David J. Tepper
Planner

Enclosures:
Site Plan
Aerial Location Map

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CAMERON ENGINEERING & ASSOCIATES, L.L.P.

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Andrew L. Narus, P.E.

Chief Financial Officer
Michael A. Neal, CPA

March 24, 2015

Dr. Thomas P. Dolan, Superintendent
Great Neck School District
345 Lakeville Road
Great Neck, NY 11020

Re: Request for Resource Availability
Redevelopment of Millbrook Apartments (240-250 Middle Neck Road)
Village of Great Neck, NY
CE 2508

Dear Dr. Dolan:

Cameron Engineering & Associates, LLP is conducting a study of the potential impacts of the proposed redevelopment of an existing apartment complex (Millbrook Apartments) located at 240-250 Middle Neck Road in the Village of Great Neck. Specifically, the project will involve the redevelopment of an existing 119-unit apartment complex located at 240-250 Middle Neck Road in the Village of Great Neck. The existing complex is proposed to be modified by removing 16 units and adding an additional 94 units (net gain of 78 residential units). Based up preliminary design, the proposed project would include 79 one-bedroom units and 118 two-bedroom units for a total of 197 residential units (see attached Site Plan and Location Map). The proposed apartment building is located within the Great Neck School District.

Based on the *Residential Demographic Multipliers for New York,* issued by Rutgers University, Center for Urban Policy Research, the proposed project could become home to approximately 24 public school-age children, i.e., 7.48 for grades K-2, 7.48 for grades 3-6, 5.51 for grades 7-9 and 4.33 for grades 10-12. Based upon the same *Residential Demographic Multipliers*, the existing apartment complex could be home to an estimated 14 public school-age children. This represents a net increase of approximately 10 public school-age children. Please advise regarding your district's ability to accommodate the students from the proposed apartment building.

Please provide us with the requested information at your earliest possible convenience. Should you have any questions or require additional information, please feel free to contact me at (516) 224-5224. Thank you for your assistance with this matter.

Sincerely,

David J. Tepper
Planner

Enclosures:
Site Plan
Aerial Location Map

GREAT NECK PUBLIC SCHOOLS
345 Lakeville Road
Great Neck, New York 11020
Telephone (516) 441-4020
Fax (516) 441-4922

John T. Powell
Assistant Superintendent for Business

April 1, 2015

Mr. David J. Tepper
Cameron Engineering & Associates, LLP
100 Sunnyside Blvd, Ste 100
Woodbury, NY 11797

Re: Request for Resource Availability
Redevelopment of Millbrook Apartments (240-250 Middle Neck Road)
Village of Great Neck, NY
CE 2508

Dear Mr. Tepper:

In an answer to your letter of March 24, 2015 requesting the Great Neck Public School District's availability to accommodate the possibility of an additional 10 new students (spread out among grades Kindergarten through 12th grade) from the redevelopment of the Millbrook Apartments, the answer is yes, the District has the availability.

If you have any additional questions please feel free to contact my office.

Sincerely,

John T. Powell
Assistant Superintendent

JTP/md

CameronEngineeringApril115

CAMERON ENGINEERING & ASSOCIATES, L.L.P.

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Michael A. De Giglio, R.L.A.

Chief Financial Officer
Michael A. Neal, CPA

December 10, 2015

Chief James E. Neubert
Alert Engine, Hook, Ladder and Hose Co., No. 1, Inc.
555 Middle Neck Road
Great Neck, New York 11023

Re: Request for Resource Availability
Redevelopment of Millbrook Apartments (240-250 Middle Neck Road)
Village of Great Neck, NY
CE 2508

Dear Chief Neubert:

Cameron Engineering & Associates, LLP is conducting a study of the potential impacts of the proposed redevelopment of an existing apartment complex (Millbrook Apartments) located at 240-250 Middle Neck Road in the Village of Great Neck. We previously sent a letter on March 19, 2015 regarding this project – please note that the project has been revised slightly since then. Specifically, the project will involve the redevelopment of an existing 119-unit apartment complex. The existing complex is proposed to be modified by removing 18 units and adding an additional 101 units (net gain of 83 residential units). Upon completion, the proposed project would include a total of 202 residential units and 326 parking spaces.

Please advise regarding your department's ability to provide fire service for the proposed redevelopment of the site.

A proposed site plan, construction logistics plan and location map are attached for your reference. Please provide us with the requested information at your earliest possible convenience. Should you have any questions or require additional information in order to provide a letter of availability, please feel free to contact our office. Thank you for your assistance with this matter.

Sincerely,

David J. Tepper
Planner

Enclosures:

Site Plan
Construction Logistics Plan
Aerial Location Map

K:\C2500-2549\CE2508 - Millbrook Apts\Community Service Letters\L 121015 to Alert Fire Co.doc

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Andrew L. Narus, P.E.
Michael A. De Giglio, R.L.A.

Chief Financial Officer
Michael A. Neal, CPA

December 10, 2015

Chief Joshua Forst
Vigilant Engine and Hook & Ladder Co., Inc.
83 Cutter Mill Road
Great Neck, NY 11021

Re: Request for Resource Availability
Redevelopment of Millbrook Apartments (240-250 Middle Neck Road)
Village of Great Neck, NY
CE 2508

Dear Chief Forst:

Cameron Engineering & Associates, LLP is conducting a study of the potential impacts of the proposed redevelopment of an existing apartment complex (Millbrook Apartments) located at 240-250 Middle Neck Road in the Village of Great Neck. We previously sent a letter on March 20, 2015 regarding this project – please note that the project has been revised slightly since then. Specifically, the project will involve the redevelopment of an existing 119-unit apartment complex. The existing complex is proposed to be modified by removing 18 units and adding an additional 101 units (net gain of 83 residential units). Upon completion, the proposed project would include a total of 202 residential units and 326 parking spaces.

Please advise regarding your department's ability to provide ambulance service for the proposed redevelopment of the site.

A proposed site plan, construction logistics plan and location map are attached for your reference. Please provide us with the requested information at your earliest possible convenience.

Should you have any questions or require additional information in order to provide a letter of availability, please feel free to contact our office. Thank you for your assistance with this matter.

Sincerely,

David J. Tepper
Planner

Enclosures:
Site Plan
Construction Logistics Plan
Aerial Location Map

K:\C2500-2549\CE2508 - Millbrook Apts\Community Service Letters\L 121015 to Vigilant.doc

CAMERON ENGINEERING & ASSOCIATES, L.L.P.

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Michael A. De Giglio, R.L.A.

June 24, 2016

Chief James E. Neubert
Alert Engine, Hook, Ladder and Hose Co., No. 1, Inc.
555 Middle Neck Road
Great Neck, New York 11023

Re: Request for Resource Availability
Redevelopment of Millbrook Apartments (240-250 Middle Neck Road)
Village of Great Neck, NY
CE 2508

Dear Chief Neubert:

Cameron Engineering & Associates, LLP is conducting a study of the potential impacts of the proposed redevelopment of an existing apartment complex (Millbrook Apartments) located at 240-250 Middle Neck Road in the Village of Great Neck. We previously sent letters on March 19, 2015 and December 10, 2015 regarding this project. The project will involve the redevelopment of an existing 119-unit apartment complex. The existing complex is proposed to be modified by removing 18 units and adding an additional 101 units (net gain of 83 residential units). Upon completion, the proposed project would include a total of 202 residential units and 326 parking spaces.

In addition to submitting written requests for service availability, Mr. Andrew DeMartin has met with Alert Engine, Hook, Ladder and Hose Co., No. 1, Inc. to discuss any potential concerns about the proposed redevelopment. Based on these conversations, the proposed project has been modified and mitigation measures have been developed to ensure adequate fire service protection. Specifically, balconies have been removed from multiple buildings/access routes to ensure that a 49' fire truck could service the site. In addition, after reviewing the project phasing plan with the department, it was determined that on-site security will be provided during the construction phases to ensure fire safety and protection.

Please advise regarding your department's ability to provide fire service for the proposed redevelopment of the site. Previous letters, including a proposed site plan, fire truck access path plan, construction logistics plan, and location map are attached for your reference. Please provide us with the requested information at your earliest possible convenience. Should you have any questions or require additional information in order to provide a letter of availability, please feel free to contact our office. Thank you for your assistance with this matter.

Sincerely,

David J. Tepper
Planner

CC:
Andrew DeMartin

Enclosures:
Site Plan
Fire Truck Access Path Plan
Construction Logistics Plan
Aerial Location Map
Previous Letters

K:\C2500-2549\CE2508 - Millbrook Apts\Community Service Letters\L 062416 to Alert Fire Co.doc

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Michael A. De Giglio, R.L.A.

June 24, 2016

Chief Joshua Forst
Vigilant Engine and Hook & Ladder Co., Inc.
83 Cutter Mill Road
Great Neck, NY 11021

Re: Request for Resource Availability
Redevelopment of Millbrook Apartments (240-250 Middle Neck Road)
Village of Great Neck, NY
CE 2508

Dear Chief Forst:

Cameron Engineering & Associates, LLP is conducting a study of the potential impacts of the proposed redevelopment of an existing apartment complex (Millbrook Apartments) located at 240-250 Middle Neck Road in the Village of Great Neck. We previously sent letters on March 19, 2015 and December 10, 2015 regarding this project. The project will involve the redevelopment of an existing 119-unit apartment complex. The existing complex is proposed to be modified by removing 18 units and adding an additional 101 units (net gain of 83 residential units). Upon completion, the proposed project would include a total of 202 residential units and 326 parking spaces.

In addition to submitting written requests for service availability, Mr. Andrew DeMartin has met with Vigilant Engine and Hook & Ladder Co., Inc. to discuss any potential concerns about the proposed redevelopment. Based on these conversations, the proposed project has been modified and mitigation measures have been developed to ensure adequate emergency services. Specifically, balconies have been removed from multiple buildings/access routes to ensure that a 49' fire truck could service the site. In addition, after reviewing the project phasing plan with the department, it was determined that on-site security will be provided during the construction phases to ensure adequate service and protection.

Please advise regarding your department's ability to provide ambulance service for the proposed redevelopment of the site.

Previous letters, including a proposed site plan, fire truck access path plan, construction logistics plan, and location map are attached for your reference. Please provide us with the requested information at your earliest possible convenience. Should you have any questions or require additional information in order to provide a letter of availability, please feel free to contact our office. Thank you for your assistance with this matter.

Sincerely,

David J. Tepper
Planner

CC:
Andrew DeMartin

Enclosures:
Site Plan
Fire Truck Access Path Plan
Construction Logistics Plan
Aerial Location Map
Previous Letters

K:\C2500-2549\CE2508 - Millbrook Apts\Community Service Letters\L 121015 to Vigilant.doc

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& ASSOCIATES, L.L.P.

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Michael A. De Giglio, R.L.A.

June 29, 2016

Gregory C. Graziano, Superintendent
Water Authority of Great Neck North
50 Watermill Lane
Great Neck, NY 11021

Re: Millbrook Apartments (244 Middle Neck Road) - Request for Water Availability
Village of Great Neck, NY
CE 2508

Dear Mr. Graziano:

This correspondence is forwarded requesting water availability from the Water Authority of Great Neck North for the above referenced residential development. Specifically, the project will involve the redevelopment of an existing 119-unit apartment complex located at 244 Middle Neck Road in the Village of Great Neck (Section: 2 Block: 354 Lot: 138). We previously sent a letter requesting water availability on March 24, 2015. The project will involve the redevelopment of an existing 119-unit apartment complex. The existing complex is proposed to be modified by removing 18 units and adding an additional 101 units (net gain of 83 residential units). Upon completion, the proposed project would include a total of 202 residential units and 326 parking spaces

As shown in the table below, the estimated average water demand generated by the existing uses is 27,900 gallons per day (gpd). The estimated future average water demand to be generated by the residential development is 47,600 gpd (see table below). This represents a net increase of 19,700 gpd above the existing apartment complex. The proposed service will utilize a minimum pipe size of four inches (4") for domestic service and a pipe size of six inches (6") for fire service.

Existing	Quantity	Rate (gpd/unit)	Gallons per day
1 br/studio	78 units	200	15,600
2 br	41 units	300	12,300
		Total Existing	**27,900**
Proposed	Quantity	Rate (gpd/unit)	Gallons per day
1 br	106 units	200	21,200
2 br	88 units	300	26,400
3 br	8 units	400	3,200
		Total Proposed	**47,600**
		Estimated Net Increase	**19,700**

Calculations based on rates specified in the Nassau County Department of Public Works Sewage Flow Chart.

Should you have any questions or require additional information in order to provide a letter of availability, please feel free to contact our office.

Sincerely,

David J. Tepper
Planner

Enclosures:
Site Plan (Five Copies)
Aerial/Location Map

K:\C2500-2549\CE2508 - Millbrook Apts\Community Service Letters\L 062916 to Great Neck Water Authority North.doc

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July 25, 2017

Chief James E. Neubert
Alert Engine, Hook, Ladder and Hose Co., No. 1, Inc.
555 Middle Neck Road
Great Neck, New York 11023

Re: Request for Resource Availability
Redevelopment of Millbrook Apartments (240-250 Middle Neck Road)
Village of Great Neck, NY
CE 2508

Dear Chief Neubert:

Cameron Engineering & Associates, LLP is conducting a study of the potential impacts of the proposed redevelopment of an existing apartment complex (Millbrook Apartments) located at 240-250 Middle Neck Road in the Village of Great Neck. We previously sent letters on March 19, 2015, December 10, 2015 and June 24, 2016 regarding this project. However, please note that since the last letter was sent, the project has been revised to reduce overall density – with fewer units and on-site parking spaces compared to previous plans.

The project will involve the redevelopment of an existing 119-unit apartment complex. The existing complex is proposed to be modified by removing 33 units and adding an additional 100 units (net gain of 67 residential units). Upon completion, the proposed project would include a total of 186 residential units and 302 parking spaces. A project location map, proposed site plan and fire truck access path plan are attached for your reference.

Please advise regarding your department's ability to provide fire service for the proposed redevelopment of the site at your earliest possible convenience. Should you have any questions or require additional information in order to provide a letter of availability, please feel free to contact our office. Thank you for your assistance with this matter.

Sincerely,

David J. Tepper, AICP
Planner

CC:
Paul J. Bloom, Harras Bloom & Archer, LLP

Enclosures:
Project Location Map
Site Plan
Fire Truck Access Path Plan

CAMERON ENGINEERING & ASSOCIATES, L.L.P.

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July 25, 2017

Chief Joshua Forst
Vigilant Engine and Hook & Ladder Co., Inc.
83 Cutter Mill Road
Great Neck, NY 11021

Re: Request for Resource Availability
Redevelopment of Millbrook Apartments (240-250 Middle Neck Road)
Village of Great Neck, NY
CE 2508

Dear Chief Forst:

Cameron Engineering & Associates, LLP is conducting a study of the potential impacts of the proposed redevelopment of an existing apartment complex (Millbrook Apartments) located at 240-250 Middle Neck Road in the Village of Great Neck. We previously sent letters on March 19, 2015, December 10, 2015 and June 24, 2016 regarding this project. However, please note that since the last letter was sent, the project has been revised to reduce overall density – with fewer units and on-site parking spaces compared to previous plans.

The project will involve the redevelopment of an existing 119-unit apartment complex. The existing complex is proposed to be modified by removing 33 units and adding an additional 100 units (net gain of 67 residential units). Upon completion, the proposed project would include a total of 186 residential units and 302 parking spaces. A project location map, proposed site plan and fire truck access path plan are attached for your reference.

Please advise regarding your department's ability to provide ambulance service for the proposed redevelopment of the site at your earliest possible convenience. Should you have any questions or require additional information in order to provide a letter of availability, please feel free to contact our office. Thank you for your assistance with this matter.

Sincerely,

David J. Tepper, AICP
Planner

CC:
Paul J. Bloom, Harras Bloom & Archer, LLP

Enclosures:
Project Location Map
Site Plan
Fire Truck Access Path Plan

CAMERON ENGINEERING & ASSOCIATES, L.L.P.

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Michael A. De Giglio, R.L.A.

July 25, 2017

Gregory C. Graziano, Superintendent
Water Authority of Great Neck North
50 Watermill Lane
Great Neck, NY 11021

Re: Millbrook Apartments (240-250 Middle Neck Road) - Request for Water Availability
Village of Great Neck, NY
CE 2508

Dear Mr. Graziano:

This correspondence is the third request for water availability from the Water Authority of Great Neck North for the above referenced residential development. Specifically, the project will involve the redevelopment of an existing 119-unit apartment complex located at 240-250 Middle Neck Road in the Village of Great Neck (Section: 2 Block: 354 Lot: 138).

We previously sent letters requesting water availability on March 24, 2015 and June 29, 2016 with no response. Since the last letter was sent, the overall density of the project has been reduced to include fewer residential units and fewer on-site parking spaces. The existing complex is proposed to be modified by removing 33 units and adding an additional 100 units (net gain of 67 residential units). Upon completion, the proposed project would include a total of 186 residential units and 302 parking spaces. A project location map and five copies of the proposed site plan are attached for your reference.

As shown in the table below, the estimated average water demand generated by the existing uses is 27,900 gallons per day (gpd). The estimated future average water demand to be generated by the residential development is 45,000 gpd (see table below). This represents a net increase of 17,100 gpd above the existing apartment complex. The proposed service will utilize a minimum pipe size of four inches (4") for domestic service and a pipe size of six inches (6") for fire service.

Existing	Quantity	Rate (gpd/unit)	Gallons per day
1 br/studio	78 units	200	15,600
2 br	41 units	300	12,300
		Total Existing	**27,900**
Proposed	Quantity	Rate (gpd/unit)	Gallons per day
1 br	112 units	200	22,400
2 br	70 units	300	21,000
3 br	4 units	400	1,600
		Total Proposed	**45,000**
		Estimated Net Increase	**17,100**

Calculations based on rates specified in the Nassau County Department of Public Works Sewage Flow Chart.

Should you have any questions or require additional information in order to provide a letter of availability, please feel free to contact our office.

Sincerely,

David J. Tepper, AICP
Planner

CC:
Paul J. Bloom, Harras Bloom & Archer, LLP

Enclosures:
Site Plan (Five Copies)
Aerial/Location Map

K:\C2500-2549\CE2508 - Millbrook Apts\Community Service Letters\L 072517 to Great Neck Water Authority North.doc

CAMERON ENGINEERING & ASSOCIATES, L.L.P.

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Associates
John E. Gursky
Andrew L. Narus, P.E.
Michael A. De Giglio, R.L.A.

July 25, 2017

Christopher D. Murphy, Superintendent
Great Neck Water Pollution Control District
236 East Shore Road
Great Neck, NY 11023

Re: Millbrook Apartments (240-250 Middle Neck Road) - Request for Sewer Availability
Village of Great Neck, NY
CE 2508

Dear Mr. Murphy:

This correspondence is the second request for sewer availability into the Great Neck Water Pollution Control District (GNWPCD) for the above referenced residential development. Specifically, the project will involve the redevelopment of an existing 119-unit apartment complex located at 240-250 Middle Neck Road in the Village of Great Neck (Section: 2 Block: 354 Lot: 138).

We previously sent a letter requesting sewer availability on March 24, 2015 with no response. Since the last letter was sent, the overall density of the project has been reduced to include fewer residential units and fewer on-site parking spaces. The existing complex is proposed to be modified by removing 33 units and adding an additional 100 units (net gain of 67 residential units). Upon completion, the proposed project would include a total of 186 residential units and 302 parking spaces. A project location map and a copy of the proposed site plan are attached for your reference

As shown in the table below, the estimated average sewage flow generated by the existing uses is 27,900 gallons per day (gpd). The estimated future average sewage flow to be generated by the residential development is approximately 45,000 gpd (see table below). This represents a net increase of 17,100 gpd above the existing apartment complex.

Existing	Quantity	gpd/unit	Gallons per day
1 br	78 units	200	15,600
2 br	41 units	300	12,300
		Total Existing	**27,900**
Proposed	Quantity	gpd/unit	Gallons per day
1 br	112 units	200	22,400
2 br	70 units	300	21,000
3 br	4 units	400	1,600
		Total Proposed	**45,000**
		Net Increase	**17,100**

Calculations based on rates specified in the Nassau County Department of Public Works Sewage Flow Chart.

Should you have any questions or require additional information in order to provide a letter of availability, please feel free to contact our office.

Very truly yours,

David J. Tepper, AICP
Planner

CC:
Paul J. Bloom, Harras Bloom & Archer, LLP

Enclosures:

Aerial/Location Map
Site Plan

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APPENDIX C

TRAFFIC STUDY

MULRYAN
ENGINEERING, P.C.

TRAFFIC ENGINEERING REPORT

THE MILLBROOK
APARTMENT COMPLEX
MIDDLE NECK ROAD

VILLAGE OF GREAT NECK

TOWN OF NORTH HEMPSTEAD
NASSAU COUNTY

PROJECT NO. M15-012
MARCH 2018

1225 FRANKLIN AVENUE, SUITE 325 – GARDEN CITY, NEW YORK 11530
TEL: (516) 616-0083 - FAX (516) 616-0086
WWW.MULRYANENG.COM

TABLE OF CONTENTS

TECHNICAL APPENDIX TABLE OF CONTENTS

EXECUTIVE SUMMARY

- Mulryan Engineering, P.C. has prepared a traffic engineering analysis of the roadway network surrounding the site of the proposed residential development located on the west side of Middle Neck Road between Clover Drive and Old Mill Road. The site is in the Village of Great Neck. The Village of Great Neck is located within the Town of North Hempstead in Nassau County, New York.
- The subject property is currently developed with a 119 apartment units and 134 parking spaces. The overall project site is 4.35 acres (189,480 square feet).
- The proposed project will improve the site with a total of 186 apartment units and 314 parking spaces. In accordance with the Village of Great Neck zoning requirements, the proposed development requires 314 parking spaces. The proposed site design meets the requirements of the code.
- A total of 101 new units will be constructed within three proposed buildings. A total of 34 existing units will be removed as part of the proposed development.
- The proposed site will maintain the existing site driveways. The site has one driveway to the north, one in the center of the property and one to the south. The central driveway is known as Millbrook Court.
- The north and south driveways will be reconfigured. The south driveway will allow entrance only traffic flow from Middle Neck Road. The north driveway will permit exit only traffic flow onto Middle Neck Road. The center driveway/Millbrook Court will maintain two way traffic flow.
- The site access design and parking configuration is illustrated on the site plan set prepared by Newman Design Architects, PLLC. The site access design requires the review and approval of the Village of Great Neck and the Nassau County Department of Public Works.
- It is recommended that "Do Not Block The Box" pavement markings and signage be installed at the North Site Access. No mitigation measures were found to be warranted at the surrounding study intersections. The Highway Capacity Analysis shows that the traffic generated by the proposed development will have no perceptible impact on the level of service at the surrounding study intersections. Based on our traffic engineering analysis contained within, the proposed development will have no adverse impact to the surrounding roadway network.

STUDY METHODOLOGY

The traffic engineering analysis prepared for this project serves as the basis for this report and the recommendations and conclusions contained within. This report is based on the recommended guidelines and practices outlined by the Institute of Transportation Engineers (ITE). This study identifies the changes in traffic movements along the adjacent roadway network which will occur as a result of the proposed development and identifies the potential impact of the future build condition on the adjacent street system. The report analyzes the following information:

- A review of the existing roadway and traffic conditions in the vicinity of the site including roadway geometry, traffic volumes, signal operations, and intersection capacities;

- A detailed review of the existing traffic volumes and travel patterns on the roadway network surrounding the site and a determination of the existing peak hour volumes during each of the time periods studied;

- Calculations of the projected ambient background traffic growth on the existing roadways;

- A review of the trip generation of other projects planned in proximity to the study area;

- Trip generation analysis of the volume of traffic expected to be generated by the proposed residential development;

- Highway capacity analysis of the existing and future traffic volumes considering the development of the site under future build conditions;

- An analysis of proposed driveway configuration, parking, and overall site layout in regards to access and internal circulation; and

- The results, findings and conclusions of our traffic engineering analysis of the existing roadway network and the future conditions based on the traffic characteristics of the proposed development of the subject site.

EXISTING CONDITIONS

EXISTING ROADWAY NETWORK

Figure No. 1 shows the roadway network and the area surrounding the subject site. The following provides a description of the key roadways located in proximity to the subject site.

Middle Neck Road provides two lanes in each direction and provides for on-street parking. Middle Neck Road is located to the east of the subject property. Middle Neck Road is under the jurisdiction of the Nassau County Department of Public Works.

Old Mill Road is located just north of the subject site. Old Mill Road connects to Bayview Avenue to the west. Bayview Avenue runs parallel to Middle Neck Road and is one of the key routes within the area. Bayview Avenue provides two lanes in each direction with turn lanes at key intersections. The cross section of Bayview Avenue changes to one lane in each direction between Cedar Drive and Old Mill Road.

Piccadilly Road is located opposite Old Mill Road at the intersection with Middle Neck Road. Piccadilly Road is a local roadway providing one lane in each direction.

Wooleys Lane provides one lanes in each direction. The intersection of Wooleys Lane and Middle Neck Road is controlled by a traffic signal located along the site frontage.

Clover Drive is under the jurisdiction of the Village of Great Neck Estates. Allenwood Road is a local roadway under the jurisdiction of the Town of North Hempstead.

The signalized intersections in this area are under the jurisdiction of the Nassau County Department of Public Works.

SURROUNDING LAND USES

The subject property is located between the Young Israel Synagogue to the south and an apartment complex to the north. Apartment buildings are also located on the east side of Middle Neck Road on either side of Wooleys Lane, opposite the subject site.

PUBLIC TRANSPORTATION

The area is served by the Long Island Railroad and two Nassau Inter-County Express (NICE) bus routes. Theses bus routes are the N57 Great Neck Loop and the N58 Great Neck Railroad Station-Kings Point. The N57 bus route travels on Middle Neck Road directly in front of the subject site. The N58 bus route travels on Steamboat Road directly in front of the subject site turning onto or off of Middle Neck Road.

The Nassau Inter-County Express (NICE) buses have a seating capacity of 45 including provisions for 2 wheelchairs and a standing capacity of 21 passengers. Each bus has a total capacity to accommodate 66 passengers.

In the morning 3 buses pass the site between 7 and 8 o'clock an additional 2 buses pass the site between 8 and 9:00 am. In the evening 3 buses pass the site between 5 and 6 o'clock an additional 2 buses pass the site between 6 and 7:00 pm.

The Great Neck train station is located along the Port Washington train line with service to Port Washington and Penn Station in Manhattan. The Great Neck train station is less than 2 miles from the subject site.

EMERGENCY SERVICES

Police Services: The Village of Great Neck is patrolled by the Nassau County Police Department 6th Precinct. Fire and Ambulance Services: The site is located between two volunteer Fire Stations, the Great Neck Vigilant Fire Company to the south and the Great Neck Alert Fire Department to the west.

Great Neck Vigilant Fire Company
83 Cuttermill Road
Great Neck, New York 11021

Great Neck Alert Fire Department
555 Middle Neck Road (Annex firehouse at 142 Steamboat Road)
Great Neck, New York 11023

North Shore Hospital is the closest hospital to the subject site. It is located on Community Drive in Manhasset.

ACCIDENT HISTORY

Motor vehicle accident history reports pertaining to the adjacent roadway network were obtained from the Nassau County Police Department. The reports document motor vehicle accidents that took place along the roadway network and at the study intersections. The Nassau County Police Department reports span a period of 39-month beginning in January 2012 and ending on April 1, 2015.

According to the Nassau County Police Department records, as of June 25, 2015, no accidents were reported at or in the vicinity of the following locations:

- Middle Neck Road at the North Site Access
- Middle Neck Road at the South Site Access

On Sunday, March 30, 2014 at 9:36 am, a motor vehicle accident occurred on Old Mill Road 100 feet west of Middle Neck Road. The accident involved a pedestrian fatality. Pedestrian confusion, unsafe speed and slippery pavement were listed as factors that contributed to the accident. No other fatalities were reported within the study area over the 39 month study period.

Tables Acc1 through Acc10 provide a detailed summary of the accidents that have occurred, from January 1, 2012 through April 1, 2015, at or in the vicinity of the following intersections:

- Middle Neck Road at Old Mill Road
- Middle Neck Road at Wooleys Lane
- Middle Neck Road at Millbrook Court
- Middle Neck Road at Clover Drive
- Middle Neck Road at Allenwood Road

Four accidents were reported at or in proximity to Millbrook Court. Apparent contributing factors in these accidents included following too closely, failure to yield the right-of-way, and backing unsafely. Three of the accidents occurred on Middle Neck Road and one occurred on Millbrook Court. No pedestrians were involved in these accidents.

The site access design will lower traffic volumes on Millbrook Court and restrict specific turning movements at both the north and south driveways. The north and south driveways will provide one way traffic flow upon completion of the project. Restricting turning movements will decrease the number of conflict points at the north and south driveways improving safety.

Mulryan Engineering, P.C. **Table No. ACC1**

Hamlet: Village of Great Neck
Project No. M15-012

Middle Neck Road and Old Mill Road/Piccadilly Road
Detailed Accident Statistics

	Accident Location	Total	Percentage
	At Intersection	12	46%
	North of Intersection	7	27%
	East of Intersection	0	---
	South of Intersection	4	15%
	West of Intersection	3	12%

	Severity	Total	Percentage
	Property Damage Only	20	74%
	Accident with Injuries	6	22%
	Accident with Fatalities	1	4%

Code 1:	Pedestrian Location	Total	Percentage
1.10	At Intersction	2	8%
1.20	Not at Intersection	0	---
1.30	Non-Pedestrian Accident	24	92%

Code 2:	Pedestrian Action	Total	Percentage
2.01	Crossing, With Signal	0	---
2.02	Crossing, Against Signal	0	---
2.03	Crossing, No Signal, Marked Crosswalk	2	100%
2.04	Crossing, No Signal or Crosswalk	0	---
2.05	Riding/Walking/Skating Alone Highway With Traffic	0	---
2.06	Riding/Walking/Skating Alone Highway Against Traffic	0	---
2.07	Emerging from in Front of/Behind Parked Vehicle	0	---
2.08	Going to/from Stopped School Bus	0	---
2.09	Getting On/Off Vehicle Other than School Bus	0	---
2.11	Working in Roadway	0	---
2.12	Playing in Roadway	0	---
2.13	Other Actions in Roadway	0	---
2.14	Not in Roadway (Indicate)	0	---

Code 3:	Traffic Control	Total	Percentage
3.01	None	12	46%
3.02	Traffic Signal	13	50%
3.03	Stop Sign	0	---
3.04	Flashing Light	0	---
3.05	Yield Sign	0	---
3.06	Officer/Guard	0	---
3.07	No Passing Zone	0	---
3.08	RR Crossing Sign	0	---
3.09	RR Crossing Flashing Light	0	---
3.10	RR Crossing Gate	0	---
3.11	Stopped School Bus-Red Lights Flashing	0	---
3.12	Construction Work Area	1	4%
3.13	Maintenance Work Area	0	---
3.14	Utility Work Area	0	---
3.15	Police/Fire Emergency	0	---
3.16	School Zone	0	---
3.20	Other	0	---

Code 4:	Light Conditions	Total	Percentage
4.01	Daylight	21	81%
4.02	Dawn	1	4%
4.03	Dusk	0	---
4.04	Dark-Road Lighted	4	15%
4.05	Dark-Road Unlighted	0	---

Code 5:	Roadway Character	Total	Percentage
5.01	Straight and Level	18	69%
5.02	Straight and Grade	4	15%
5.03	Straight at Hillcrest	0	---
5.04	Curve and Level	4	15%
5.05	Curve and Grade	0	---
5.06	Curve at Hillcrest	0	---

Code 6:	Roadway Surface Condition	Total	Percentage
6.01	Dry	15	58%
6.02	Wet	8	31%
6.03	Muddy	0	---
6.04	Snow/Ice	3	12%
6.05	Slush	0	---
6.06	Flooded	0	---
6.00	Other		

Middle Neck Road and Old Mill Road/Piccadilly Road
Detailed Accident Statistics

Code 7:	**Weather**	**Total**	**Percentage**
7.01	Clear	13	50%
7.02	Cloudy	5	19%
7.03	Rain	8	31%
7.04	Snow	0	---
7.05	Sleet/Hail/Freezing Rain	0	---
7.06	Fog/Smog/Smoke	0	---
7.00	Other	0	---

Code 19:	**Apparent Contributing Factors**	**Veh 1**	**Veh 2**	**Veh 3**	**Veh 4**	**Total**	**Percentage**
	Human	Code 19	Code 20	Code 21	Code 22		
19.02	Alcohol Involvement	0	0	0	0	0	---
19.03	Backing Unsafely	1	0	0	0	1	3%
19.04	Driver Inattention/Distraction	1	0	0	0	1	3%
19.05	Driver Inexperience	0	0	0	0	0	---
19.06	Drugs (illegal)	0	0	0	0	0	---
19.07	Failure to Yield Right-of-Way	5	1	0	0	6	16%
19.08	Fell Asleep	0	0	0	0	0	---
19.09	Following Too Closely	4	0	0	0	4	11%
19.10	Illness	0	0	0	0	0	---
19.11	Lost Consciousness	0	0	0	0	0	---
19.12	Passenger Distraction	0	0	0	0	0	---
19.13	Passing or Lane Usage Improper	3	1	1	0	5	14%
19.14	Pedestrian /Bicyclist/Other Pedestrian Error/Confusion	0	0	1	0	1	3%
19.15	Physical Disability	0	0	0	0	0	---
19.16	Prescription Medication	0	0	0	0	0	---
19.17	Traffic Control Disregarded	0	0	0	0	0	---
19.18	Turning Improperly	1	0	2	0	3	8%
19.19	Unsafe Speed	1	3	0	0	4	11%
19.20	Unsafe Lane Changing	3	0	0	0	3	8%
19.21	Fatigued/Drowsy	0	0	0	0	0	---
19.22	Cell Phone (hand-held)	0	0	0	0	0	---
19.23	Cell Phone (hands-free)	0	0	0	0	0	---
19.24	Other Electronic Device	0	0	0	0	0	---
19.25	Outside Car Distraction	0	0	0	0	0	---
19.26	Reaction to Other Uninvolved Vehicle	0	0	0	0	0	---
19.27	Failure to Keep Right	0	0	0	0	0	---
19.28	Aggressive Driving/Road Rage	0	0	0	0	0	---
	Vehicular						
19.41	Accelerator Defective	0	0	0	0	0	---
19.42	Brakes Defective	0	0	0	0	0	---
19.43	Headlights Defective	0	0	0	0	0	---
19.44	Other Lighting Defective	0	0	0	0	0	---
19.45	Oversized Vehicle	0	0	0	0	0	---
19.46	Steering Failure	0	1	0	0	1	3%
19.47	Tire Failure/Inadequate	0	0	0	0	0	---
19.48	Tow Hitch Defective	0	0	0	0	0	---
19.49	Windshield Inadequate	0	0	0	0	0	---
19.50	Driverless/Runaway Vehicle	0	0	0	0	0	---
19.60	Other Vehicular	1	0	0	0	1	3%
	Environmental						
19.61	Animal's Action	0	0	0	0	0	---
19.62	Glare	0	0	0	0	0	---
19.63	Lane Marking Improper/Inadequate	0	0	0	0	0	---
19.64	Obstruction/Debris	0	1	0	0	1	3%
19.65	Pavement Defective	0	0	0	0	0	---
19.66	Pavement Slippery	4	1	0	0	5	14%
19.67	Shoulder Defective/Improper	0	0	0	0	0	---
19.68	Traffic Control Device Improper/Non-Working	0	0	0	0	0	---
19.69	View Obstruction/Limited	1	0	0	0	1	3%

Code 23:	**Direction of Vehicle**	**Veh 1**	**Veh 2**	**Total**	**Percentage**
		Code 23	Code 24		
23.01	North	7	7	14	31%
23.02	North-East	1	0	1	2%
23.03	East	3	2	5	11%
23.04	South-East	0	1	1	2%
23.05	South	9	8	17	38%
23.06	South-West	3	0	3	7%
23.07	West	3	1	4	9%
23.08	North-West	0	0	0	---

Mulryan Engineering, P.C. **Table No. ACC1**

Hamlet: Village of Great Neck
Project No. M15-012

Middle Neck Road and Old Mill Road/Piccadilly Road
Detailed Accident Statistics

Code 25: Pre-Accident Vehicle Action	**Veh 1** Code 25	**Veh 2** Code 26	**Total**	**Percentage**
25.01 Going Straight Ahead	10	8	18	40%
25.02 Making Right Turn	2	2	4	9%
25.03 Making Left Turn	5	0	5	11%
25.04 Making U Turn	0	1	1	2%
25.05 Starting from Parking	0	0	0	---
25.06 Starting in Traffic	1	0	1	2%
25.07 Slowing or Stopping	3	3	6	13%
25.08 Stopped in Traffic	0	0	0	---
25.09 Entering Parked Position	0	1	1	2%
25.10 Parked	0	2	2	4%
25.11 Avoiding Object in Roadway	0	0	0	---
25.12 Changing Lanes	3	1	4	9%
25.13 Passing	1	0	1	2%
25.14 Merging	0	0	0	---
25.15 Backing	1	0	1	2%
25.16 Making Right Turn on Red	0	0	0	---
25.17 Making Left Turn on Red	0	1	1	2%
25.18 Police Pursuit	0	0	0	---
25.20 Other	0	0	0	---

Code 27: Location of First Event	**Total**	**Percentage**
27.01 On Roadway	23	88%
27.02 Off Roadway	3	12%

Code 28: Type of Accident -- Collision With	**First Event** Code 28	**Veh 1** Code 29	**Veh 2** Code 30	**Total**	**Percentage**
28.01 Other Motor Vehicle	19	0	0	19	59%
28.02 Pedestrian	2	1	0	3	9%
28.03 Bicyclist	0	0	0	0	---
28.04 Animal	0	0	0	0	---
28.05 Railroad Train	0	0	0	0	---
28.06 In-Line Skater	0	0	0	0	---
28.07 Deer	0	0	0	0	---
28.08 Other Pedestrian	0	0	0	0	---
28.10 Other Object (Not Fixed)	0	0	0	0	---
Collision with Fixed Object					
28.11 Light Support /Utility Pole	0	1	0	1	3%
28.12 Guide Rail - Not At End	0	0	0	0	---
28.13 Crash Cushion	0	0	0	0	---
28.14 Sign Post	1	0	0	1	3%
28.15 Tree	0	0	0	0	---
28.16 Building/Wall	0	1	0	1	3%
28.17 Curbing	4	1	0	5	16%
28.18 Fence	0	0	0	0	---
28.19 Bridge Structure	0	0	0	0	---
28.20 Culvert/Head Wall	0	0	0	0	---
28.21 Median - Not At End	0	0	0	0	---
28.22 Snow Embankment	0	0	0	0	---
28.23 Earth Embankment/Rock Cut/Ditch	0	0	0	0	---
28.24 Fire Hydrant	0	0	0	0	---
28.25 Guide Rail - At End	0	0	0	0	---
28.26 Median - End	0	1	0	1	3%
28.27 Barrier	0	0	0	0	---
28.30 Other Fixed Object	0	0	0	0	---
No Collision					
28.31 Overturned	0	0	0	0	---
28.32 Fire/Explosion	0	0	0	0	---
28.33 Submersion	0	0	0	0	---
28.34 Ran Off Roadway Only	0	0	0	0	---
28.40 Other	0	1	0	1	3%

Mulryan Engineering, P.C. **Table No. ACC2**

Hamlet: Village of Great Neck
Project No. M15-012

Middle Neck Road and Old Mill Road/Piccadilly Road
NCDPW Accident Records
Sunday, January 01, 2012
through
Wednesday, April 01, 2015

Number of Months: 39.0
Number of Years: 3.3
Total Number of Accidents: 26.0
Average Number of Accidents per Year: 8.7

Total Number of Accidents in 2012: 11.0
Total Number of Accidents in 2013: 4.0
Total Number of Accidents in 2014: 6.0
Total Number of Accidents in 2015 (January-March): 5.0

							NCPD Accident Codes																			
Accident_No.	**Date**	**Hr**	**Min**	**# of Veh**	**# of Inj**	**Fatal**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**Dist**	**Dir**
060-0378-2012	02/01/12	21	30	2	0	0	0	0	2	4	4	1	1	9	0	18	0	5	5	1	2	1	1	0	0	0	I
060-0552-2012	02/21/12	08	29	2	0	0	0	0	1	1	4	1	1	20	0	0	0	5	5	12	1	1	1	0	0	250	N
060-1069-2012	04/13/12	13	21	2	1	0	0	0	2	1	1	1	1	9	0	0	0	5	5	7	7	1	1	0	0	0	I
060-1952-2012	06/18/12	17	35	2	1	0	0	0	1	1	1	1	1	60	46	0	0	1	1	1	10	2	1	0	0	200	N
060-1964-2012	06/19/12	11	55	2	0	0	0	0	1	1	1	1	1	7	0	0	0	5	5	1	1	1	1	0	0	45	N
030-3909-2012	07/18/12	15	50	2	1	0	0	0	2	1	1	2	3	9	7	0	0	1	1	1	7	1	1	0	0	0	I
030-3910-2012	07/18/12	16	10	2	0	0	0	0	1	1	1	2	3	0	0	13	0	5	5	1	12	1	1	0	0	150	N
030-5360-2012	09/04/12	06	40	2	0	0	0	0	2	2	1	2	3	66	0	0	0	5	1	1	17	1	1	0	0	2	S
030-7343-2012	11/06/12	14	00	2	0	0	0	0	2	1	1	1	1	20	13	0	0	5	5	12	1	1	1	0	0	0	I
030-7347-2012	11/06/12	14	30	2	0	0	0	0	1	1	2	1	1	13	0	0	0	5	5	13	1	1	1	0	0	10	S
060-0670-2012	03/06/12	16	25	2	0	0	0	0	2	1	1	1	1	18	0	0	0	2	1	2	1	1	1	0	0	0	I
030-0785-2013	01/29/13	10	10	2	0	0	0	0	2	1	1	2	2	7	0	0	0	6	4	3	2	1	1	0	0	0	I
030-2641-2013	04/05/13	02	00	0	0	0	0	0	1	1	1	1	1	3	0	0	0	1	3	15	9	1	1	0	0	75	N
030-3759-2013	05/11/13	16	00	1	0	0	0	0	1	1	4	1	2	4	0	0	0	6	0	1	0	1	17	40	0	40	N
031-1080-2013	12/21/13	18	30	1	1	0	1	3	2	4	1	2	2	7	0	0	0	7	0	3	0	1	2	0	0	0	I
030-2549-2014	03/26/14	12	30	2	0	0	0	0	2	1	1	1	1	7	0	0	0	6	7	3	1	1	1	0	0	0	I
030-2651-2014	03/30/14	09	36	1	0	**1**	0	0	1	1	1	2	3	19	66	14	0	7	0	3	0	1	17	2	0	100	W
030-3632-2014	05/03/14	14	19	1	1	0	1	3	2	1	1	1	1	7	0	0	0	7	0	3	0	1	2	0	0	0	I
031-1692-2014	12/31/14	12	30	2	0	0	0	0	2	1	1	1	2	13	0	0	0	1	1	2	1	1	1	0	0	0	I
030-9318-2014	10/27/14	09	30	2	0	0	0	0	12	1	1	1	1	20	0	0	0	1	1	12	1	1	1	0	0	100	S
030-9823-2014	11/10/14	05	28	1	0	0	0	0	1	4	4	1	2	69	0	0	0	5	0	1	0	1	14	26	0	100	N
030-0523-2015	01/18/15	08	50	1	0	0	0	0	1	1	2	4	3	66	19	0	0	3	0	1	0	2	17	16	0	500	W
030-0527-2015	01/18/15	09	00	2	0	0	0	0	1	1	2	4	3	66	19	18	0	3	5	7	4	1	1	17	0	100	W
030-2286-2015	03/10/15	17	59	2	0	0	0	0	2	1	2	2	3	9	0	0	0	3	3	6	7	1	1	0	0	200	I
030-0531-2015	01/18/15	09	00	1	1	0	0	0	2	1	1	4	3	66	19	0	0	1	0	7	0	2	17	11	0	0	I
030-0948-2015	02/01/15	17	10	2	0	0	0	0	1	4	1	2	1	13	64	0	0	1	1	1	10	1	1	0	0	50	S

Mulryan Engineering, P.C. **Table No. ACC3**

Hamlet: Village of Great Neck
Project No. M15-012

Middle Neck Road and Wooleys Lane
Detailed Accident Statistics

Accident Location	Total	Percentage
At Intersection	6	50%
North of Intersection	3	25%
East of Intersection	1	8%
South of Intersection	2	17%
West of Intersection	0	---

Severity	Total	Percentage
Property Damage Only	12	100%
Accident with Injuries	0	---
Accident with Fatalities	0	---

Code 1: Pedestrian Location	Total	Percentage
1.10 At Intersction	0	---
1.20 Not at Intersection	0	---
1.30 Non-Pedestrian Accident	12	100%

Code 2: Pedestrian Action	Total	Percentage
2.01 Crossing, With Signal	0	---
2.02 Crossing, Against Signal	0	---
2.03 Crossing, No Signal, Marked Crosswalk	0	---
2.04 Crossing, No Signal or Crosswalk	0	---
2.05 Riding/Walking/Skating Alone Highway With Traffic	0	---
2.06 Riding/Walking/Skating Alone Highway Against Traffic	0	---
2.07 Emerging from in Front of/Behind Parked Vehicle	0	---
2.08 Going to/from Stopped School Bus	0	---
2.09 Getting On/Off Vehicle Other than School Bus	0	---
2.11 Working in Roadway	0	---
2.12 Playing in Roadway	0	---
2.13 Other Actions in Roadway	0	---
2.14 Not in Roadway (Indicate)	0	---

Code 3: Traffic Control	Total	Percentage
3.01 None	4	33%
3.02 Traffic Signal	8	67%
3.03 Stop Sign	0	---
3.04 Flashing Light	0	---
3.05 Yield Sign	0	---
3.06 Officer/Guard	0	---
3.07 No Passing Zone	0	---
3.08 RR Crossing Sign	0	---
3.09 RR Crossing Flashing Light	0	---
3.10 RR Crossing Gate	0	---
3.11 Stopped School Bus-Red Lights Flashing	0	---
3.12 Construction Work Area	0	---
3.13 Maintenance Work Area	0	---
3.14 Utility Work Area	0	---
3.15 Police/Fire Emergency	0	---
3.16 School Zone	0	---
3.20 Other	0	---

Code 4: Light Conditions	Total	Percentage
4.01 Daylight	5	42%
4.02 Dawn	0	---
4.03 Dusk	0	---
4.04 Dark-Road Lighted	7	58%
4.05 Dark-Road Unlighted	0	---

Code 5: Roadway Character	Total	Percentage
5.01 Straight and Level	8	67%
5.02 Straight and Grade	3	25%
5.03 Straight at Hillcrest	0	---
5.04 Curve and Level	0	---
5.05 Curve and Grade	1	8%
5.06 Curve at Hillcrest	0	---

Code 6: Roadway Surface Condition	Total	Percentage
6.01 Dry	7	58%
6.02 Wet	4	33%
6.03 Muddy	0	---
6.04 Snow/Ice	1	8%
6.05 Slush	0	---
6.06 Flooded	0	---
6.00 Other		

Middle Neck Road and Wooleys Lane
Detailed Accident Statistics

Code 7:	Weather	Total	Percentage
7.01	Clear	7	58%
7.02	Cloudy	0	---
7.03	Rain	4	33%
7.04	Snow	1	8%
7.05	Sleet/Hail/Freezing Rain	0	---
7.06	Fog/Smog/Smoke	0	---
7.00	Other	0	---

Code 19:	Apparent Contributing Factors	Veh 1	Veh 2	Veh 3	Veh 4	Total	Percentage
	Human	Code 19	Code 20	Code 21	Code 22		
19.02	Alcohol Involvement	1	0	0	0	1	7%
19.03	Backing Unsafely	0	0	0	0	0	---
19.04	Driver Inattention/Distraction	0	0	0	0	0	---
19.05	Driver Inexperience	0	0	0	0	0	---
19.06	Drugs (illegal)	0	0	0	0	0	---
19.07	Failure to Yield Right-of-Way	2	0	1	0	3	20%
19.08	Fell Asleep	0	0	0	0	0	---
19.09	Following Too Closely	2	2	0	0	4	27%
19.10	Illness	0	0	0	0	0	---
19.11	Lost Consciousness	0	0	0	0	0	---
19.12	Passenger Distraction	0	0	0	0	0	---
19.13	Passing or Lane Usage Improper	3	0	0	0	3	20%
19.14	Pedestrian /Bicyclist/Other Pedestrian Error/Confusion	0	0	0	0	0	---
19.15	Physical Disability	0	0	0	0	0	---
19.16	Prescription Medication	0	0	0	0	0	---
19.17	Traffic Control Disregarded	0	0	0	0	0	---
19.18	Turning Improperly	0	0	0	0	0	---
19.19	Unsafe Speed	0	0	0	0	0	---
19.20	Unsafe Lane Changing	1	0	0	0	1	7%
19.21	Fatigued/Drowsy	0	0	0	0	0	---
19.22	Cell Phone (hand-held)	0	0	0	0	0	---
19.23	Cell Phone (hands-free)	0	0	0	0	0	---
19.24	Other Electronic Device	0	0	0	0	0	---
19.25	Outside Car Distraction	0	0	0	0	0	---
19.26	Reaction to Other Uninvolved Vehicle	0	0	0	0	0	---
19.27	Failure to Keep Right	0	0	0	0	0	---
19.28	Aggressive Driving/Road Rage	0	0	0	0	0	---
	Vehicular						
19.41	Accelerator Defective	0	0	0	0	0	---
19.42	Brakes Defective	0	0	0	0	0	---
19.43	Headlights Defective	0	0	0	0	0	---
19.44	Other Lighting Defective	0	0	0	0	0	---
19.45	Oversized Vehicle	0	0	0	0	0	---
19.46	Steering Failure	0	0	0	0	0	---
19.47	Tire Failure/Inadequate	0	0	0	0	0	---
19.48	Tow Hitch Defective	0	0	0	0	0	---
19.49	Windshield Inadequate	0	0	0	0	0	---
19.50	Driverless/Runaway Vehicle	0	0	0	0	0	---
19.60	Other Vehicular	0	0	0	0	0	---
	Environmental						
19.61	Animal's Action	0	0	0	0	0	---
19.62	Glare	1	0	0	0	1	7%
19.63	Lane Marking Improper/Inadequate	0	0	0	0	0	---
19.64	Obstruction/Debris	0	0	0	0	0	---
19.65	Pavement Defective	0	0	0	0	0	---
19.66	Pavement Slippery	1	0	1	0	2	13%
19.67	Shoulder Defective/Improper	0	0	0	0	0	---
19.68	Traffic Control Device Improper/Non-Working	0	0	0	0	0	---
19.69	View Obstruction/Limited	0	0	0	0	0	---

Code 23:	Direction of Vehicle	Veh 1	Veh 2	Total	Percentage
		Code 23	Code 24		
23.01	North	5	4	9	39%
23.02	North-East	0	0	0	---
23.03	East	0	0	0	---
23.04	South-East	1	0	1	4%
23.05	South	2	3	5	22%
23.06	South-West	1	1	2	9%
23.07	West	2	2	4	17%
23.08	North-West	1	1	2	9%

Middle Neck Road and Wooleys Lane
Detailed Accident Statistics

Code 25: Pre-Accident Vehicle Action	**Veh 1** Code 25	**Veh 2** Code 26	**Total**	**Percentage**
25.01 Going Straight Ahead	4	5	9	39%
25.02 Making Right Turn	2	1	3	13%
25.03 Making Left Turn	1	0	1	4%
25.04 Making U Turn	0	0	0	---
25.05 Starting from Parking	0	0	0	---
25.06 Starting in Traffic	0	0	0	---
25.07 Slowing or Stopping	2	0	2	9%
25.08 Stopped in Traffic	0	2	2	9%
25.09 Entering Parked Position	0	0	0	---
25.10 Parked	1	3	4	17%
25.11 Avoiding Object in Roadway	0	0	0	---
25.12 Changing Lanes	1	0	1	4%
25.13 Passing	1	0	1	4%
25.14 Merging	0	0	0	---
25.15 Backing	0	0	0	---
25.16 Making Right Turn on Red	0	0	0	---
25.17 Making Left Turn on Red	0	0	0	---
25.18 Police Pursuit	0	0	0	---
25.20 Other	0	0	0	---

Code 27: Location of First Event	**Total**	**Percentage**
27.01 On Roadway	12	100%
27.02 Off Roadway	0	---

Code 28: Type of Accident -- Collision With	**First Event** Code 28	**Veh 1** Code 29	**Veh 2** Code 30	**Total**	**Percentage**
28.01 Other Motor Vehicle	11	0	0	11	85%
28.02 Pedestrian	0	0	0	0	---
28.03 Bicyclist	0	0	0	0	---
28.04 Animal	0	0	0	0	---
28.05 Railroad Train	0	0	0	0	---
28.06 In-Line Skater	0	0	0	0	---
28.07 Deer	0	0	0	0	---
28.08 Other Pedestrian	0	0	0	0	---
28.10 Other Object (Not Fixed)	0	0	0	0	---
Collision with Fixed Object					
28.11 Light Support /Utility Pole	0	0	0	0	---
28.12 Guide Rail - Not At End	0	0	0	0	---
28.13 Crash Cushion	0	0	0	0	---
28.14 Sign Post	0	1	0	1	8%
28.15 Tree	1	0	0	1	8%
28.16 Building/Wall	0	0	0	0	---
28.17 Curbing	0	0	0	0	---
28.18 Fence	0	0	0	0	---
28.19 Bridge Structure	0	0	0	0	---
28.20 Culvert/Head Wall	0	0	0	0	---
28.21 Median - Not At End	0	0	0	0	---
28.22 Snow Embankment	0	0	0	0	---
28.23 Earth Embankment/Rock Cut/Ditch	0	0	0	0	---
28.24 Fire Hydrant	0	0	0	0	---
28.25 Guide Rail - At End	0	0	0	0	---
28.26 Median - End	0	0	0	0	---
28.27 Barrier	0	0	0	0	---
28.30 Other Fixed Object	0	0	0	0	---
No Collision					
28.31 Overturned	0	0	0	0	---
28.32 Fire/Explosion	0	0	0	0	---
28.33 Submersion	0	0	0	0	---
28.34 Ran Off Roadway Only	0	0	0	0	---
28.40 Other	0	0	0	0	---

Mulryan Engineering, P.C. **Table No. ACC4**

Hamlet: Village of Great Neck
Project No. M15-012

Middle Neck Road and Wooleys Lane
NCDPW Accident Records
Sunday, January 01, 2012
through
Wednesday, April 01, 2015

Number of Months: 39.0
Number of Years: 3.3
Total Number of Accidents: 12.0
Average Number of Accidents per Year: 4.0

Total Number of Accidents in 2012: 6.0
Total Number of Accidents in 2013: 3.0
Total Number of Accidents in 2014: 2.0
Total Number of Accidents in 2015 (January-March): 1.0

							NCPD Accident Codes																			
Accident_No.	**Date**	**Hr**	**Min**	**# of Veh**	**# of Inj**	**Fatal**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**Dist**	**Dir**
060-0123-2012	01/12/12	18	33	2	0	0	0	0	2	4	1	2	3	9	0	0	0	7	7	1	8	1	1	0	0	30	E
060-0159-2012	01/16/12	18	25	2	0	0	0	0	2	4	1	1	1	20	0	0	0	6	6	12	1	1	1	0	0	0	I
060-0203-2012	01/19/12	09	16	2	0	0	0	0	2	1	5	1	1	62	9	0	0	5	5	7	1	1	1	0	0	10	N
060-0469-2012	02/12/12	15	00	2	0	0	0	0	1	1	1	1	1	0	0	7	0	1	5	10	1	1	1	0	0	0	I
060-0725-2012	03/12/12	19	55	1	0	0	0	0	2	4	1	1	1	7	0	0	0	1	0	2	0	1	15	14	0	15	N
030-3859-2012	07/16/12	12	00	2	0	0	0	0	2	1	1	1	1	13	0	0	0	5	5	1	10	1	1	0	0	0	I
030-4902-2013	06/13/13	20	13	2	0	0	0	0	1	4	2	2	3	2	0	0	0	1	1	1	10	1	1	0	0	50	S
030-6842-2013	08/14/13	15	05	3	0	0	0	0	1	1	1	1	1	13	0	0	0	1	1	1	10	1	1	0	0	50	N
031-0561-2013	12/08/13	21	20	2	0	0	0	0	2	4	2	2	3	7	0	66	0	4	1	3	1	1	1	0	0	0	I
030-0044-2014	01/02/14	21	00	2	0	0	0	0	2	4	2	4	4	66	9	0	0	7	7	7	8	1	1	0	0	0	I
030-8879-2014	10/14/14	23	15	2	0	0	0	0	1	4	1	2	3	13	0	0	0	1	1	13	1	1	1	0	0	100	S
030-0426-2015	01/15/15	14	20	2	0	0	0	0	2	1	1	1	1	9	0	0	0	8	8	2	2	1	1	0	0	0	I

Mulryan Engineering, P.C. **Table No. ACC5**

Hamlet: Village of Great Neck
Project No. M15-012

Middle Neck Road and Millbrook Court
Detailed Accident Statistics

	Accident Location	Total	Percentage
	At Intersection	2	50%
	North of Intersection	1	25%
	East of Intersection	0	---
	South of Intersection	0	---
	West of Intersection	1	25%

	Severity	Total	Percentage
	Property Damage Only	2	50%
	Accident with Injuries	2	50%
	Accident with Fatalities	0	---

Code 1:	Pedestrian Location	Total	Percentage
1.10	At Intersction	0	---
1.20	Not at Intersection	0	---
1.30	Non-Pedestrian Accident	4	100%

Code 2:	Pedestrian Action	Total	Percentage
2.01	Crossing, With Signal	0	---
2.02	Crossing, Against Signal	0	---
2.03	Crossing, No Signal, Marked Crosswalk	0	---
2.04	Crossing, No Signal or Crosswalk	0	---
2.05	Riding/Walking/Skating Alone Highway With Traffic	0	---
2.06	Riding/Walking/Skating Alone Highway Against Traffic	0	---
2.07	Emerging from in Front of/Behind Parked Vehicle	0	---
2.08	Going to/from Stopped School Bus	0	---
2.09	Getting On/Off Vehicle Other than School Bus	0	---
2.11	Working in Roadway	0	---
2.12	Playing in Roadway	0	---
2.13	Other Actions in Roadway	0	---
2.14	Not in Roadway (Indicate)	0	---

Code 3:	Traffic Control	Total	Percentage
3.01	None	3	75%
3.02	Traffic Signal	0	---
3.03	Stop Sign	1	25%
3.04	Flashing Light	0	---
3.05	Yield Sign	0	---
3.06	Officer/Guard	0	---
3.07	No Passing Zone	0	---
3.08	RR Crossing Sign	0	---
3.09	RR Crossing Flashing Light	0	---
3.10	RR Crossing Gate	0	---
3.11	Stopped School Bus-Red Lights Flashing	0	---
3.12	Construction Work Area	0	---
3.13	Maintenance Work Area	0	---
3.14	Utility Work Area	0	---
3.15	Police/Fire Emergency	0	---
3.16	School Zone	0	---
3.20	Other	0	---

Code 4:	Light Conditions	Total	Percentage
4.01	Daylight	3	75%
4.02	Dawn	0	---
4.03	Dusk	0	---
4.04	Dark-Road Lighted	0	---
4.05	Dark-Road Unlighted	1	25%

Code 5:	Roadway Character	Total	Percentage
5.01	Straight and Level	4	100%
5.02	Straight and Grade	0	---
5.03	Straight at Hillcrest	0	---
5.04	Curve and Level	0	---
5.05	Curve and Grade	0	---
5.06	Curve at Hillcrest	0	---

Code 6:	Roadway Surface Condition	Total	Percentage
6.01	Dry	3	75%
6.02	Wet	1	25%
6.03	Muddy	0	---
6.04	Snow/Ice	0	---
6.05	Slush	0	---
6.06	Flooded	0	---
6.00	Other		

Middle Neck Road and Millbrook Court
Detailed Accident Statistics

Code 7:	Weather	Total	Percentage
7.01	Clear	2	50%
7.02	Cloudy	2	50%
7.03	Rain	0	---
7.04	Snow	0	---
7.05	Sleet/Hail/Freezing Rain	0	---
7.06	Fog/Smog/Smoke	0	---
7.00	Other	0	---

Code 19:	Apparent Contributing Factors	Veh 1	Veh 2	Veh 3	Veh 4	Total	Percentage
	Human	Code 19	Code 20	Code 21	Code 22		
19.02	Alcohol Involvement	0	0	0	0	0	---
19.03	Backing Unsafely	1	0	0	0	1	20%
19.04	Driver Inattention/Distraction	0	0	0	0	0	---
19.05	Driver Inexperience	0	0	0	0	0	---
19.06	Drugs (illegal)	0	0	0	0	0	---
19.07	Failure to Yield Right-of-Way	1	1	0	0	2	40%
19.08	Fell Asleep	0	0	0	0	0	---
19.09	Following Too Closely	2	0	0	0	2	40%
19.10	Illness	0	0	0	0	0	---
19.11	Lost Consciousness	0	0	0	0	0	---
19.12	Passenger Distraction	0	0	0	0	0	---
19.13	Passing or Lane Usage Improper	0	0	0	0	0	---
19.14	Pedestrian /Bicyclist/Other Pedestrian Error/Confusion	0	0	0	0	0	---
19.15	Physical Disability	0	0	0	0	0	---
19.16	Prescription Medication	0	0	0	0	0	---
19.17	Traffic Control Disregarded	0	0	0	0	0	---
19.18	Turning Improperly	0	0	0	0	0	---
19.19	Unsafe Speed	0	0	0	0	0	---
19.20	Unsafe Lane Changing	0	0	0	0	0	---
19.21	Fatigued/Drowsy	0	0	0	0	0	---
19.22	Cell Phone (hand-held)	0	0	0	0	0	---
19.23	Cell Phone (hands-free)	0	0	0	0	0	---
19.24	Other Electronic Device	0	0	0	0	0	---
19.25	Outside Car Distraction	0	0	0	0	0	---
19.26	Reaction to Other Uninvolved Vehicle	0	0	0	0	0	---
19.27	Failure to Keep Right	0	0	0	0	0	---
19.28	Aggressive Driving/Road Rage	0	0	0	0	0	---
	Vehicular						
19.41	Accelerator Defective	0	0	0	0	0	---
19.42	Brakes Defective	0	0	0	0	0	---
19.43	Headlights Defective	0	0	0	0	0	---
19.44	Other Lighting Defective	0	0	0	0	0	---
19.45	Oversized Vehicle	0	0	0	0	0	---
19.46	Steering Failure	0	0	0	0	0	---
19.47	Tire Failure/Inadequate	0	0	0	0	0	---
19.48	Tow Hitch Defective	0	0	0	0	0	---
19.49	Windshield Inadequate	0	0	0	0	0	---
19.50	Driverless/Runaway Vehicle	0	0	0	0	0	---
19.60	Other Vehicular	0	0	0	0	0	---
	Environmental						
19.61	Animal's Action	0	0	0	0	0	---
19.62	Glare	0	0	0	0	0	---
19.63	Lane Marking Improper/Inadequate	0	0	0	0	0	---
19.64	Obstruction/Debris	0	0	0	0	0	---
19.65	Pavement Defective	0	0	0	0	0	---
19.66	Pavement Slippery	0	0	0	0	0	---
19.67	Shoulder Defective/Improper	0	0	0	0	0	---
19.68	Traffic Control Device Improper/Non-Working	0	0	0	0	0	---
19.69	View Obstruction/Limited	0	0	0	0	0	---

Code 23:	Direction of Vehicle	Veh 1	Veh 2	Total	Percentage
		Code 23	Code 24		
23.01	North	0	0	0	---
23.02	North-East	1	0	1	13%
23.03	East	1	1	2	25%
23.04	South-East	0	0	0	---
23.05	South	2	3	5	63%
23.06	South-West	0	0	0	---
23.07	West	0	0	0	---
23.08	North-West	0	0	0	---

Middle Neck Road and Millbrook Court
Detailed Accident Statistics

Code 25: Pre-Accident Vehicle Action	**Veh 1** Code 25	**Veh 2** Code 26	**Total**	**Percentage**
25.01 Going Straight Ahead	2	1	3	38%
25.02 Making Right Turn	0	0	0	---
25.03 Making Left Turn	1	0	1	13%
25.04 Making U Turn	0	0	0	---
25.05 Starting from Parking	0	0	0	---
25.06 Starting in Traffic	0	0	0	---
25.07 Slowing or Stopping	0	2	2	25%
25.08 Stopped in Traffic	0	0	0	---
25.09 Entering Parked Position	0	0	0	---
25.10 Parked	0	1	1	13%
25.11 Avoiding Object in Roadway	0	0	0	---
25.12 Changing Lanes	0	0	0	---
25.13 Passing	0	0	0	---
25.14 Merging	0	0	0	---
25.15 Backing	1	0	1	13%
25.16 Making Right Turn on Red	0	0	0	---
25.17 Making Left Turn on Red	0	0	0	---
25.18 Police Pursuit	0	0	0	---
25.20 Other	0	0	0	---

Code 27: Location of First Event	**Total**	**Percentage**
27.01 On Roadway	4	100%
27.02 Off Roadway	0	---

Code 28: Type of Accident -- Collision With	**First Event** Code 28	**Veh 1** Code 29	**Veh 2** Code 30	**Total**	**Percentage**
28.01 Other Motor Vehicle	4	0	0	4	100%
28.02 Pedestrian	0	0	0	0	---
28.03 Bicyclist	0	0	0	0	---
28.04 Animal	0	0	0	0	---
28.05 Railroad Train	0	0	0	0	---
28.06 In-Line Skater	0	0	0	0	---
28.07 Deer	0	0	0	0	---
28.08 Other Pedestrian	0	0	0	0	---
28.10 Other Object (Not Fixed)	0	0	0	0	---
Collision with Fixed Object					
28.11 Light Support /Utility Pole	0	0	0	0	---
28.12 Guide Rail - Not At End	0	0	0	0	---
28.13 Crash Cushion	0	0	0	0	---
28.14 Sign Post	0	0	0	0	---
28.15 Tree	0	0	0	0	---
28.16 Building/Wall	0	0	0	0	---
28.17 Curbing	0	0	0	0	---
28.18 Fence	0	0	0	0	---
28.19 Bridge Structure	0	0	0	0	---
28.20 Culvert/Head Wall	0	0	0	0	---
28.21 Median - Not At End	0	0	0	0	---
28.22 Snow Embankment	0	0	0	0	---
28.23 Earth Embankment/Rock Cut/Ditch	0	0	0	0	---
28.24 Fire Hydrant	0	0	0	0	---
28.25 Guide Rail - At End	0	0	0	0	---
28.26 Median - End	0	0	0	0	---
28.27 Barrier	0	0	0	0	---
28.30 Other Fixed Object	0	0	0	0	---
No Collision					
28.31 Overturned	0	0	0	0	---
28.32 Fire/Explosion	0	0	0	0	---
28.33 Submersion	0	0	0	0	---
28.34 Ran Off Roadway Only	0	0	0	0	---
28.40 Other	0	0	0	0	---

Mulryan Engineering, P.C. **Table No. ACC6**

Hamlet: Village of Great Neck
Project No. M15-012

Middle Neck Road and Millbrook Court
NCDPW Accident Records
Sunday, January 01, 2012
through
Wednesday, April 01, 2015

Number of Months: 39.0
Number of Years: 3.3
Total Number of Accidents: 4.0
Average Number of Accidents per Year: 1.3

Total Number of Accidents in 2012: 0.0
Total Number of Accidents in 2013: 2.0
Total Number of Accidents in 2014: 2.0
Total Number of Accidents in 2015 (January-March): 0.0

							NCPD Accident Codes																			
Accident_No.	**Date**	**Hr**	**Min**	**# of Veh**	**# of Inj**	**Fatal**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**Dist**	**Dir**
030-8632-2013	10/11/13	19	10	2	0	0	0	0	1	5	1	1	2	3	0	0	0	2	3	15	10	1	1	0	0	200	W
031-1228-2013	12/26/13	15	30	2	0	0	0	0	1	1	1	1	1	9	0	0	0	5	5	1	7	1	1	0	0	0	I
031-0167-2014	11/19/14	15	15	2	1	0	0	0	3	1	1	1	1	7	7	0	0	3	5	3	1	1	1	0	0	0	I
031-0954-2014	12/11/14	09	15	2	1	0	0	0	1	1	1	2	2	9	0	0	0	5	5	1	7	1	1	0	0	50	N

Mulryan Engineering, P.C. **Table No. ACC7**

Hamlet: Village of Great Neck
Project No. M15-012

Middle Neck Road and Clover Drive
Detailed Accident Statistics

	Accident Location	Total	Percentage
	At Intersection	0	---
	North of Intersection	1	100%
	East of Intersection	0	---
	South of Intersection	0	---
	West of Intersection	0	---

	Severity	Total	Percentage
	Property Damage Only	1	100%
	Accident with Injuries	0	---
	Accident with Fatalities	0	---

Code 1:	Pedestrian Location	Total	Percentage
1.10	At Intersction	0	---
1.20	Not at Intersection	0	---
1.30	Non-Pedestrian Accident	1	100%

Code 2:	Pedestrian Action	Total	Percentage
2.01	Crossing, With Signal	0	---
2.02	Crossing, Against Signal	0	---
2.03	Crossing, No Signal, Marked Crosswalk	0	---
2.04	Crossing, No Signal or Crosswalk	0	---
2.05	Riding/Walking/Skating Alone Highway With Traffic	0	---
2.06	Riding/Walking/Skating Alone Highway Against Traffic	0	---
2.07	Emerging from in Front of/Behind Parked Vehicle	0	---
2.08	Going to/from Stopped School Bus	0	---
2.09	Getting On/Off Vehicle Other than School Bus	0	---
2.11	Working in Roadway	0	---
2.12	Playing in Roadway	0	---
2.13	Other Actions in Roadway	0	---
2.14	Not in Roadway (Indicate)	0	---

Code 3:	Traffic Control	Total	Percentage
3.01	None	1	100%
3.02	Traffic Signal	0	---
3.03	Stop Sign	0	---
3.04	Flashing Light	0	---
3.05	Yield Sign	0	---
3.06	Officer/Guard	0	---
3.07	No Passing Zone	0	---
3.08	RR Crossing Sign	0	---
3.09	RR Crossing Flashing Light	0	---
3.10	RR Crossing Gate	0	---
3.11	Stopped School Bus-Red Lights Flashing	0	---
3.12	Construction Work Area	0	---
3.13	Maintenance Work Area	0	---
3.14	Utility Work Area	0	---
3.15	Police/Fire Emergency	0	---
3.16	School Zone	0	---
3.20	Other	0	---

Code 4:	Light Conditions	Total	Percentage
4.01	Daylight	1	100%
4.02	Dawn	0	---
4.03	Dusk	0	---
4.04	Dark-Road Lighted	0	---
4.05	Dark-Road Unlighted	0	---

Code 5:	Roadway Character	Total	Percentage
5.01	Straight and Level	1	100%
5.02	Straight and Grade	0	---
5.03	Straight at Hillcrest	0	---
5.04	Curve and Level	0	---
5.05	Curve and Grade	0	---
5.06	Curve at Hillcrest	0	---

Code 6:	Roadway Surface Condition	Total	Percentage
6.01	Dry	1	100%
6.02	Wet	0	---
6.03	Muddy	0	---
6.04	Snow/Ice	0	---
6.05	Slush	0	---
6.06	Flooded	0	---
6.00	Other		

Middle Neck Road and Clover Drive
Detailed Accident Statistics

Code 7:	Weather	Total	Percentage
7.01	Clear	1	100%
7.02	Cloudy	0	---
7.03	Rain	0	---
7.04	Snow	0	---
7.05	Sleet/Hail/Freezing Rain	0	---
7.06	Fog/Smog/Smoke	0	---
7.00	Other	0	---

Code 19:	Apparent Contributing Factors	Veh 1	Veh 2	Veh 3	Veh 4	Total	Percentage
	Human	Code 19	Code 20	Code 21	Code 22		
19.02	Alcohol Involvement	0	0	0	0	0	---
19.03	Backing Unsafely	0	0	0	0	0	---
19.04	Driver Inattention/Distraction	0	0	0	0	0	---
19.05	Driver Inexperience	0	0	0	0	0	---
19.06	Drugs (illegal)	0	0	0	0	0	---
19.07	Failure to Yield Right-of-Way	0	0	0	0	0	---
19.08	Fell Asleep	0	0	0	0	0	---
19.09	Following Too Closely	1	0	0	0	1	100%
19.10	Illness	0	0	0	0	0	---
19.11	Lost Consciousness	0	0	0	0	0	---
19.12	Passenger Distraction	0	0	0	0	0	---
19.13	Passing or Lane Usage Improper	0	0	0	0	0	---
19.14	Pedestrian /Bicyclist/Other Pedestrian Error/Confusion	0	0	0	0	0	---
19.15	Physical Disability	0	0	0	0	0	---
19.16	Prescription Medication	0	0	0	0	0	---
19.17	Traffic Control Disregarded	0	0	0	0	0	---
19.18	Turning Improperly	0	0	0	0	0	---
19.19	Unsafe Speed	0	0	0	0	0	---
19.20	Unsafe Lane Changing	0	0	0	0	0	---
19.21	Fatigued/Drowsy	0	0	0	0	0	---
19.22	Cell Phone (hand-held)	0	0	0	0	0	---
19.23	Cell Phone (hands-free)	0	0	0	0	0	---
19.24	Other Electronic Device	0	0	0	0	0	---
19.25	Outside Car Distraction	0	0	0	0	0	---
19.26	Reaction to Other Uninvolved Vehicle	0	0	0	0	0	---
19.27	Failure to Keep Right	0	0	0	0	0	---
19.28	Aggressive Driving/Road Rage	0	0	0	0	0	---
	Vehicular						
19.41	Accelerator Defective	0	0	0	0	0	---
19.42	Brakes Defective	0	0	0	0	0	---
19.43	Headlights Defective	0	0	0	0	0	---
19.44	Other Lighting Defective	0	0	0	0	0	---
19.45	Oversized Vehicle	0	0	0	0	0	---
19.46	Steering Failure	0	0	0	0	0	---
19.47	Tire Failure/Inadequate	0	0	0	0	0	---
19.48	Tow Hitch Defective	0	0	0	0	0	---
19.49	Windshield Inadequate	0	0	0	0	0	---
19.50	Driverless/Runaway Vehicle	0	0	0	0	0	---
19.60	Other Vehicular	0	0	0	0	0	---
	Environmental						
19.61	Animal's Action	0	0	0	0	0	---
19.62	Glare	0	0	0	0	0	---
19.63	Lane Marking Improper/Inadequate	0	0	0	0	0	---
19.64	Obstruction/Debris	0	0	0	0	0	---
19.65	Pavement Defective	0	0	0	0	0	---
19.66	Pavement Slippery	0	0	0	0	0	---
19.67	Shoulder Defective/Improper	0	0	0	0	0	---
19.68	Traffic Control Device Improper/Non-Working	0	0	0	0	0	---
19.69	View Obstruction/Limited	0	0	0	0	0	---

Code 23:	Direction of Vehicle	Veh 1	Veh 2	Total	Percentage
		Code 23	Code 24		
23.01	North	1	1	2	100%
23.02	North-East	0	0	0	---
23.03	East	0	0	0	---
23.04	South-East	0	0	0	---
23.05	South	0	0	0	---
23.06	South-West	0	0	0	---
23.07	West	0	0	0	---
23.08	North-West	0	0	0	---

Middle Neck Road and Clover Drive
Detailed Accident Statistics

Code 25: Pre-Accident Vehicle Action	**Veh 1** Code 25	**Veh 2** Code 26	**Total**	**Percentage**
25.01 Going Straight Ahead	1	1	2	100%
25.02 Making Right Turn	0	0	0	---
25.03 Making Left Turn	0	0	0	---
25.04 Making U Turn	0	0	0	---
25.05 Starting from Parking	0	0	0	---
25.06 Starting in Traffic	0	0	0	---
25.07 Slowing or Stopping	0	0	0	---
25.08 Stopped in Traffic	0	0	0	---
25.09 Entering Parked Position	0	0	0	---
25.10 Parked	0	0	0	---
25.11 Avoiding Object in Roadway	0	0	0	---
25.12 Changing Lanes	0	0	0	---
25.13 Passing	0	0	0	---
25.14 Merging	0	0	0	---
25.15 Backing	0	0	0	---
25.16 Making Right Turn on Red	0	0	0	---
25.17 Making Left Turn on Red	0	0	0	---
25.18 Police Pursuit	0	0	0	---
25.20 Other	0	0	0	---

Code 27: Location of First Event	**Total**	**Percentage**
27.01 On Roadway	1	100%
27.02 Off Roadway	0	---

Code 28: Type of Accident -- Collision With	**First Event** Code 28	**Veh 1** Code 29	**Veh 2** Code 30	**Total**	**Percentage**
28.01 Other Motor Vehicle	1	0	0	1	100%
28.02 Pedestrian	0	0	0	0	---
28.03 Bicyclist	0	0	0	0	---
28.04 Animal	0	0	0	0	---
28.05 Railroad Train	0	0	0	0	---
28.06 In-Line Skater	0	0	0	0	---
28.07 Deer	0	0	0	0	---
28.08 Other Pedestrian	0	0	0	0	---
28.10 Other Object (Not Fixed)	0	0	0	0	---
Collision with Fixed Object					
28.11 Light Support /Utility Pole	0	0	0	0	---
28.12 Guide Rail - Not At End	0	0	0	0	---
28.13 Crash Cushion	0	0	0	0	---
28.14 Sign Post	0	0	0	0	---
28.15 Tree	0	0	0	0	---
28.16 Building/Wall	0	0	0	0	---
28.17 Curbing	0	0	0	0	---
28.18 Fence	0	0	0	0	---
28.19 Bridge Structure	0	0	0	0	---
28.20 Culvert/Head Wall	0	0	0	0	---
28.21 Median - Not At End	0	0	0	0	---
28.22 Snow Embankment	0	0	0	0	---
28.23 Earth Embankment/Rock Cut/Ditch	0	0	0	0	---
28.24 Fire Hydrant	0	0	0	0	---
28.25 Guide Rail - At End	0	0	0	0	---
28.26 Median - End	0	0	0	0	---
28.27 Barrier	0	0	0	0	---
28.30 Other Fixed Object	0	0	0	0	---
No Collision					
28.31 Overturned	0	0	0	0	---
28.32 Fire/Explosion	0	0	0	0	---
28.33 Submersion	0	0	0	0	---
28.34 Ran Off Roadway Only	0	0	0	0	---
28.40 Other	0	0	0	0	---

Mulryan Engineering, P.C. **Table No. ACC8**

Hamlet: Village of Great Neck
Project No. M15-012

Middle Neck Road and Clover Drive
NCDPW Accident Records
Sunday, January 01, 2012
through
Wednesday, April 01, 2015

Number of Months: 39.0
Number of Years: 3.3
Total Number of Accidents: 1.0
Average Number of Accidents per Year: 0.3

Total Number of Accidents in 2012: 1.0
Total Number of Accidents in 2013: 0.0
Total Number of Accidents in 2014: 0.0
Total Number of Accidents in 2015 (January-March): 0.0

							NCPD Accident Codes																			
Accident_No.	**Date**	**Hr**	**Min**	**# of Veh**	**# of Inj**	**Fatal**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**Dist**	**Dir**
060-0948-2012	04/02/12	14	01	2	0	0	0	0	1	1	1	1	1	9	0	0	0	1	1	1	1	1	1	0	0	32	N

Mulryan Engineering, P.C. **Table No. ACC9**

Hamlet: Village of Great Neck
Project No. M15-012

Middle Neck Road and Allenwood Road
Detailed Accident Statistics

	Accident Location	Total	Percentage
	At Intersection	4	67%
	North of Intersection	1	17%
	East of Intersection	0	---
	South of Intersection	1	17%
	West of Intersection	0	---

	Severity	Total	Percentage
	Property Damage Only	5	83%
	Accident with Injuries	1	17%
	Accident with Fatalities	0	---

Code 1:	Pedestrian Location	Total	Percentage
1.10	At Intersction	0	---
1.20	Not at Intersection	0	---
1.30	Non-Pedestrian Accident	6	100%

Code 2:	Pedestrian Action	Total	Percentage
2.01	Crossing, With Signal	0	---
2.02	Crossing, Against Signal	0	---
2.03	Crossing, No Signal, Marked Crosswalk	0	---
2.04	Crossing, No Signal or Crosswalk	0	---
2.05	Riding/Walking/Skating Alone Highway With Traffic	0	---
2.06	Riding/Walking/Skating Alone Highway Against Traffic	0	---
2.07	Emerging from in Front of/Behind Parked Vehicle	0	---
2.08	Going to/from Stopped School Bus	0	---
2.09	Getting On/Off Vehicle Other than School Bus	0	---
2.11	Working in Roadway	0	---
2.12	Playing in Roadway	0	---
2.13	Other Actions in Roadway	0	---
2.14	Not in Roadway (Indicate)	0	---

Code 3:	Traffic Control	Total	Percentage
3.01	None	3	50%
3.02	Traffic Signal	3	50%
3.03	Stop Sign	0	---
3.04	Flashing Light	0	---
3.05	Yield Sign	0	---
3.06	Officer/Guard	0	---
3.07	No Passing Zone	0	---
3.08	RR Crossing Sign	0	---
3.09	RR Crossing Flashing Light	0	---
3.10	RR Crossing Gate	0	---
3.11	Stopped School Bus-Red Lights Flashing	0	---
3.12	Construction Work Area	0	---
3.13	Maintenance Work Area	0	---
3.14	Utility Work Area	0	---
3.15	Police/Fire Emergency	0	---
3.16	School Zone	0	---
3.20	Other	0	---

Code 4:	Light Conditions	Total	Percentage
4.01	Daylight	5	83%
4.02	Dawn	0	---
4.03	Dusk	1	17%
4.04	Dark-Road Lighted	0	---
4.05	Dark-Road Unlighted	0	---

Code 5:	Roadway Character	Total	Percentage
5.01	Straight and Level	6	100%
5.02	Straight and Grade	0	---
5.03	Straight at Hillcrest	0	---
5.04	Curve and Level	0	---
5.05	Curve and Grade	0	---
5.06	Curve at Hillcrest	0	---

Code 6:	Roadway Surface Condition	Total	Percentage
6.01	Dry	5	83%
6.02	Wet	1	17%
6.03	Muddy	0	---
6.04	Snow/Ice	0	---
6.05	Slush	0	---
6.06	Flooded	0	---
6.00	Other		

Middle Neck Road and Allenwood Road
Detailed Accident Statistics

Code 7:	**Weather**	**Total**	**Percentage**
7.01	Clear	3	50%
7.02	Cloudy	3	50%
7.03	Rain	0	---
7.04	Snow	0	---
7.05	Sleet/Hail/Freezing Rain	0	---
7.06	Fog/Smog/Smoke	0	---
7.00	Other	0	---

Code 19:	**Apparent Contributing Factors**	**Veh 1**	**Veh 2**	**Veh 3**	**Veh 4**	**Total**	**Percentage**
	Human	Code 19	Code 20	Code 21	Code 22		
19.02	Alcohol Involvement	0	0	0	0	0	---
19.03	Backing Unsafely	1	0	1	0	2	29%
19.04	Driver Inattention/Distraction	0	0	0	0	0	---
19.05	Driver Inexperience	0	0	0	0	0	---
19.06	Drugs (illegal)	0	0	0	0	0	---
19.07	Failure to Yield Right-of-Way	0	0	0	0	0	---
19.08	Fell Asleep	0	0	0	0	0	---
19.09	Following Too Closely	2	0	0	0	2	29%
19.10	Illness	0	0	0	0	0	---
19.11	Lost Consciousness	0	0	0	0	0	---
19.12	Passenger Distraction	0	0	0	0	0	---
19.13	Passing or Lane Usage Improper	0	0	0	0	0	---
19.14	Pedestrian /Bicyclist/Other Pedestrian Error/Confusion	0	0	0	0	0	---
19.15	Physical Disability	0	0	0	0	0	---
19.16	Prescription Medication	0	0	0	0	0	---
19.17	Traffic Control Disregarded	0	0	0	0	0	---
19.18	Turning Improperly	1	0	0	0	1	14%
19.19	Unsafe Speed	0	0	0	0	0	---
19.20	Unsafe Lane Changing	1	0	0	0	1	14%
19.21	Fatigued/Drowsy	0	0	0	0	0	---
19.22	Cell Phone (hand-held)	0	0	0	0	0	---
19.23	Cell Phone (hands-free)	0	0	0	0	0	---
19.24	Other Electronic Device	0	0	0	0	0	---
19.25	Outside Car Distraction	0	0	0	0	0	---
19.26	Reaction to Other Uninvolved Vehicle	0	0	0	0	0	---
19.27	Failure to Keep Right	0	0	0	0	0	---
19.28	Aggressive Driving/Road Rage	0	0	0	0	0	---
	Vehicular						
19.41	Accelerator Defective	0	0	0	0	0	---
19.42	Brakes Defective	0	0	0	0	0	---
19.43	Headlights Defective	0	0	0	0	0	---
19.44	Other Lighting Defective	0	0	0	0	0	---
19.45	Oversized Vehicle	1	0	0	0	1	14%
19.46	Steering Failure	0	0	0	0	0	---
19.47	Tire Failure/Inadequate	0	0	0	0	0	---
19.48	Tow Hitch Defective	0	0	0	0	0	---
19.49	Windshield Inadequate	0	0	0	0	0	---
19.50	Driverless/Runaway Vehicle	0	0	0	0	0	---
19.60	Other Vehicular	0	0	0	0	0	---
	Environmental						
19.61	Animal's Action	0	0	0	0	0	---
19.62	Glare	0	0	0	0	0	---
19.63	Lane Marking Improper/Inadequate	0	0	0	0	0	---
19.64	Obstruction/Debris	0	0	0	0	0	---
19.65	Pavement Defective	0	0	0	0	0	---
19.66	Pavement Slippery	0	0	0	0	0	---
19.67	Shoulder Defective/Improper	0	0	0	0	0	---
19.68	Traffic Control Device Improper/Non-Working	0	0	0	0	0	---
19.69	View Obstruction/Limited	0	0	0	0	0	---

Code 23:	**Direction of Vehicle**	**Veh 1**	**Veh 2**	**Total**	**Percentage**
		Code 23	Code 24		
23.01	North	3	2	5	45%
23.02	North-East	1	0	1	9%
23.03	East	0	0	0	---
23.04	South-East	0	0	0	---
23.05	South	2	3	5	45%
23.06	South-West	0	0	0	---
23.07	West	0	0	0	---
23.08	North-West	0	0	0	---

Middle Neck Road and Allenwood Road
Detailed Accident Statistics

Code 25: Pre-Accident Vehicle Action	**Veh 1** Code 25	**Veh 2** Code 26	**Total**	**Percentage**
25.01 Going Straight Ahead	2	1	3	27%
25.02 Making Right Turn	1	0	1	9%
25.03 Making Left Turn	0	0	0	---
25.04 Making U Turn	0	0	0	---
25.05 Starting from Parking	0	0	0	---
25.06 Starting in Traffic	0	0	0	---
25.07 Slowing or Stopping	0	1	1	9%
25.08 Stopped in Traffic	0	1	1	9%
25.09 Entering Parked Position	1	0	1	9%
25.10 Parked	0	1	1	9%
25.11 Avoiding Object in Roadway	0	0	0	---
25.12 Changing Lanes	1	0	1	9%
25.13 Passing	0	0	0	---
25.14 Merging	0	0	0	---
25.15 Backing	1	1	2	18%
25.16 Making Right Turn on Red	0	0	0	---
25.17 Making Left Turn on Red	0	0	0	---
25.18 Police Pursuit	0	0	0	---
25.20 Other	0	0	0	---

Code 27: Location of First Event	**Total**	**Percentage**
27.01 On Roadway	5	83%
27.02 Off Roadway	1	17%

Code 28: Type of Accident -- Collision With	**First Event** Code 28	**Veh 1** Code 29	**Veh 2** Code 30	**Total**	**Percentage**
28.01 Other Motor Vehicle	5	0	1	6	86%
28.02 Pedestrian	0	0	0	0	---
28.03 Bicyclist	0	0	0	0	---
28.04 Animal	0	0	0	0	---
28.05 Railroad Train	0	0	0	0	---
28.06 In-Line Skater	0	0	0	0	---
28.07 Deer	0	0	0	0	---
28.08 Other Pedestrian	0	0	0	0	---
28.10 Other Object (Not Fixed)	0	0	0	0	---
Collision with Fixed Object					
28.11 Light Support /Utility Pole	0	0	0	0	---
28.12 Guide Rail - Not At End	0	0	0	0	---
28.13 Crash Cushion	0	0	0	0	---
28.14 Sign Post	0	0	0	0	---
28.15 Tree	0	0	0	0	---
28.16 Building/Wall	1	0	0	1	14%
28.17 Curbing	0	0	0	0	---
28.18 Fence	0	0	0	0	---
28.19 Bridge Structure	0	0	0	0	---
28.20 Culvert/Head Wall	0	0	0	0	---
28.21 Median - Not At End	0	0	0	0	---
28.22 Snow Embankment	0	0	0	0	---
28.23 Earth Embankment/Rock Cut/Ditch	0	0	0	0	---
28.24 Fire Hydrant	0	0	0	0	---
28.25 Guide Rail - At End	0	0	0	0	---
28.26 Median - End	0	0	0	0	---
28.27 Barrier	0	0	0	0	---
28.30 Other Fixed Object	0	0	0	0	---
No Collision					
28.31 Overturned	0	0	0	0	---
28.32 Fire/Explosion	0	0	0	0	---
28.33 Submersion	0	0	0	0	---
28.34 Ran Off Roadway Only	0	0	0	0	---
28.40 Other	0	0	0	0	---

Mulryan Engineering, P.C. **Table No. ACC10**

Hamlet: Village of Great Neck
Project No. M15-012

Middle Neck Road and Allenwood Road
NCDPW Accident Records
Sunday, January 01, 2012
through
Wednesday, April 01, 2015

Number of Months: 39.0
Number of Years: 3.3
Total Number of Accidents: 6.0
Average Number of Accidents per Year: 2.0

Total Number of Accidents in 2012: 2.0
Total Number of Accidents in 2013: 2.0
Total Number of Accidents in 2014: 1.0
Total Number of Accidents in 2015 (January-March): 1.0

							NCPD Accident Codes																					
Accident_No.	**Date**	**Hr**	**Min**	**# of Veh**	**# of Inj**	**Fatal**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**Dist**	**Dir**
060-0750-2012	03/15/12	13	14	2	0	0	0	0	1	1	1	1	2	20	0	0	0	5	5	12	1	1	1	0	0	30	S
030-5684-2012	09/13/12	18	47	1	0	0	0	0	2	3	1	1	1	18	0	0	0	2	0	2	0	2	16	0	0	0	I
030-4426-2013	05/31/13	14	06	2	0	0	0	0	1	1	1	1	1	3	0	3	0	1	5	15	15	1	1	0	0	100	N
030-4569-2013	06/04/13	17	50	2	0	0	0	0	2	1	1	1	1	9	0	0	0	5	5	1	8	1	1	0	0	0	I
030-6468-2014	07/28/14	11	55	3	3	0	0	0	2	1	1	1	2	9	0	0	0	1	1	1	7	1	1	0	1	0	I
600-2454-2015	03/17/15	10	36	2	0	0	0	0	1	1	1	2	2	45	0	0	0	1	1	9	10	1	1	0	0	0	I

EXISTING TRAFFIC VOLUMES

Turning movement counts were collected during the weekday morning and evening peak hours at the study intersections. Counts were also collected on Saturday afternoon. The peak hours of commuter traffic on Middle Neck Road are consistent with the peak hours studied. The peak hour turning movement volumes are provided within the Technical Appendix. The turning movement data was collected during the following time periods:

- In the morning from 7:00 a.m. to 9:00 a.m.
- In the evening from 4:00 p.m. to 6:00 p.m.
- On Saturday from 8:00 a.m. to 2:00 p.m.

Counts were collected on Thursday, March 19th and Saturday March 28, 2015. The following is a list of the study intersections included in our analysis of the proposed project.

1. Middle Neck Road and Old Mill Road/Piccadilly Road
2. Middle Neck Road and the North Site Access
3. Middle Neck Road and Wooleys Lane
4. Middle Neck Road and the Millbrook Court
5. Middle Neck Road and the South Site Access
6. Middle Neck Road and Clover Drive
7. Middle Neck Road and Allenwood Road

A majority of the turning movement counts were collected using Miovision Scout Video Collection Units. Electronic Jamar hand-held Traffic Data Collectors were used to collect counts at the balance of the study intersections. The turning movement count data was processed using PETRAPro software.

The results of these traffic counts were analyzed to determine the distinct hour during each of the time periods surveyed when traffic experiences its highest level referred to as the "peak hour." The peak hour volume is used in our analysis to model the critical demand during each time period. The percent of heavy vehicles was calculated for each intersection during the peak hours.

PEDESTRIAN VOLUMES

Pedestrian counts were collected at each of the study intersections. These counts represent the number of pedestrians crossing the street. Pedestrian counts are collected in one of four categories:

Ped 1. Pedestrians travelling east or west crossing traffic on the north side of the intersection;
Ped 2. Pedestrians travelling north or south crossing traffic on the east side of the intersection;
Ped 3. Pedestrians travelling east or west crossing traffic on the south side of the intersection; and
Ped 4. Pedestrians travelling north or south crossing traffic on the west side of the intersection;

ADJUSTED TRAFFIC VOLUME FLOW RATE

The Highway Capacity Analysis uses the adjusted flow rate based on the peak hour volume and the peak hour factor at each location. The peak hour volume is divided by the peak hour factor to produce the critical 15 minute demand projected over the entire one hour period. The results of this analysis provide the level of service experienced during the busiest 15 minute period within the peak hour.

PERCENT HEAVY VEHICLE ADJUSTED

The turning movement counts have been adjusted to account for buses and trucks. A passenger car equivalent of 2.0 was applied to each bus and truck observed during the turning movement counts at the study intersections.

PEDESTRIAN ANALYSIS

The Highway Capacity Analysis prepared for the Saturday peak hour at the study intersections reflects the number of pedestrians crossing each approach. The volume of pedestrians in the area on Saturday is significantly higher than on the weekdays. The analysis groups pedestrian volumes with respect to specific movements. Turn movements at unsignalized intersections will conflict with pedestrians crossing in front of the vehicle as well as though crossing the approach the vehicle is turning onto. At signalized intersections though movements should not conflict with pedestrians as the pedestrians would be crossing against traffic. The pedestrian counts are included in the technical appendix.

NO BUILD CONDITIONS

AMBIENT TRAFFIC GROWTH

The volume of traffic using the roadway network changes each year based on population growth and development. An ambient growth rate is used to determine the future base traffic volumes. The ambient growth rate takes into account developments that will increase the volume of traffic at the study intersections prior to the completion of this project.

The subject property is located within Census Track 36059-3003.00. The following table provides census data for the area surrounding the subject site. The population data provides information on population changes that have occurred in the area over the past 20 years. This historical data is used to calculate the anticipated future growth rate.

Census Track	Area (in square-miles)	Population 2010	[1]Population Change		
			1990-2000	2000-2010	2010-2015
36059.3001.00	3.3418	5,152	0.50	0.15	0.04
36059.3003.00	0.6361	4,547	1.40	0.43	0.22
36059.3004.00	0.7214	5,199	0.30	0.02	0.05
36059.3005.00	1.2362	5,377	-0.20	-0.01	0.03
36059.3006.00	1.0803	6,503	0.10	0.09	0.10
Total/Average	7.0158	26,778	0.42	0.14	0.09

The existing traffic volumes at the study intersections were increased by a growth rate factor of 1.0 % compounded yearly. This rate was applied based on conversations with the Nassau County Department of Public Works Traffic Engineering Department. This rate exceeds the standard ambient growth forecasted for this area. The growth rate is applied to the existing volumes to generate the ambient no build traffic volumes. For the purposes of this analysis, the future no build and build conditions are anticipated to occur in 2020.

[1] Source: US Census/ESRI Demographic Update Methodology: 2010/2015

OTHER PLANNED PROJECTS

The following provides a list of projects that are currently being contemplated and may be developed in proximity to the site. The traffic generated by these projects is included in the analysis of the future no build condition for this project.

1. 100 Clover Drive; and
2. The Rose Apartment Complex

These projects are in close proximity to the subject site and are considered in addition to the ambient background growth rate. The ambient growth rate is used to incorporate traffic from other planned projects located further away from the subject site which may still influence the future traffic volumes at the study intersections.

FUTURE BUILD CONDITIONS

TRIP GENERATION

The development of the subject site will generate a certain number of vehicle trips throughout the day. The volume of trips generated by the site was calculated using the standard calculations compiled by the Institute of Transportation Engineers (ITE) in the 9th Edition Trip Generation, 2012. This is often referred to as the Trip Generation Manual and is considered the industry standard for traffic engineering studies.

The trip generation of the development was calculated using the ITE Land Use Code 220. The independent variable used in the calculation is the number of "dwelling units". This land use code represents Apartments. The volumes below represent the peak number of trips generated during a one hour time period.

ITE Land Use 220
67 Apartment Units – Net Change

Proposed	AM Peak	PM Peak	Saturday Peak
Entering	7	27	17
Exiting	27	15	17
Total	34	42	34

ITE Land Use 220
186 Apartment Units – Overall Proposed Development

Proposed	AM Peak	PM Peak	Saturday Peak
Entering	19	75	48
Exiting	76	40	48
Total	95	115	86

The existing and no building highway capacity analysis utilize actual turning movement counts at the site driveways. The build highway capacity analysis at the site driveways utilizes the trip generation based on the overall 186 proposed units.

SITE ACCESS

The proposed site will maintain the existing site driveways. The site has one driveway to the north, one in the center of the property and one to the south. The central driveway is known as Millbrook Court.

The north and south driveways will be reconfigured. The south driveway will allow entrance only traffic flow from Middle Neck Road. The north driveway will permit exit only traffic flow onto Middle Neck Road. The center driveway/Millbrook Court will maintain two way traffic flow.

The site access design and parking configuration is illustrated on the site plan set prepared by Newman Design Architects, PLLC. The project architect has also prepared plans showing fire truck access routes to various locations on site. The proposed development is subject to the review and approval of the Village of Great Neck, the local fire department and the Nassau County Fire Marshall.

MODAL SPLIT

According to the Census Bureau's Population Estimates Program 22.0% of commuters in the Village of Great Neck used public transportation. The overall 186 apartment units will generate a maximum of 76 additional trips (in any one direction trips in the opposite direction would be added to other buses and/or trains). Twenty two percent of these trips represent 16 to 17 commuters using public transportation during the peak hours. These numbers include transit trips generated by the existing 119 apartment units. The site is located along the N58 bus line which goes to the Great Neck train station. The bus passes the site numerous times during the morning and evening peak hours. The proposed project is not anticipated to impact the existing bus or train capacity.

PEDESTRIAN ACTIVITY

Based on the Census Bureau's Population Estimates Program, 5.0% of commuters in the Village of Great Neck walk to work. The site is anticipated to generate approximately 2 to 3 pedestrian trip during the commuter peak hours. The volume of pedestrian trips generated by the subject site is not anticipated to impact the existing level of service on the sidewalks or crosswalks in the surrounding community.

TRIP DISTRIBUTION

Trips generated by the development of the subject site are distributed throughout the roadway network and assigned to the study intersections. The percent distribution is applied to the trip generation to establish the number of trips assigned to specific turning movements at each of the study intersections. One hundred percent of the trip generation is distributed and assigned to the site access.

A portion of the total trip generation is distributed and assigned to each of the other study intersections. The volume of trips assigned to each intersection is based on the percentage of vehicles that are anticipated to use these intersections while traveling to and from the site. The distribution at the site driveway is based on the local roadway network.

The existing site driveway configuration will change as part of this redevelopment. The northern driveway will be converted to an exit only. The southern driveway will be converted to an entrance only. These one-way driveways are connected via an aisle or roadway wrapping around the western edge of the property. The central driveway, also known as, Millbrook Court will remain two way. Millbrook Court will however service approximately 50 percent less on-site parking spaces upon completion of the project.

The existing traffic generated by the site was redistributed to account for these changes. The existing traffic volumes at Millbrook Court were decreased by 50%. These trips were then assigned to the driveways to the north and south. The arrival and departure patterns are based on the existing driveway utilization during the peak hours.

PARKING STUDY

Our office conducted a parking study of the subject site and surrounding area. Parking observations were conducted on Tuesday, May 12, 2015 between the hours of 10:00 pm and 11:30 pm. These hours reflect peak demand associated with residential uses. In addition to the parking provided on the subject site parking counts were conducted on Middle Neck Road from Old Mill Road to Clover Drive (on the west) and from Piccadilly Road to Allenwood Road (on the east).

The complex currently provides 62 semi private garages. These potential parking spaces are not included in the available parking shown on the parking tables provided in the technical appendix.

The results of our study show that limited on street parking is available in proximity to the subject site in the overnight hours. A minimum of 18 parking spaces in total were available on site in the north and south parking lots. The parking spaces along Millbrook Court were found to be 100% occupied during our observations.

PARKING GENERATION

The development of the subject site will generate a certain number of parked vehicles. The number of parked vehicles generated by the proposed development was based on the standard calculations compiled by the Institute of Transportation Engineers (ITE) in the 4th Edition Parking Generation, 2010. This is often referred to as the Parking Generation Manual and is considered the industry standard for traffic engineering studies.

The parking generation of the proposed development was calculated using the ITE Land Use Code 221. The independent variable used in the calculation is the "dwelling units". This land use code represents Low/Mid-Rise Apartments. The ITE defines Low/Mid-Rise Apartments as those with 4 or fewer floors. High-Rise Apartments are defined, by ITE, as having five or more floors.

Based on the ITE parking generation data, the existing complex consisting of a total of 119 apartment units is anticipated to generate 147 parked vehicles during peak demand. Of these vehicles approximately 13 would need to park offsite.

Based on the ITE parking generation data, the proposed complex consisting of a total of 186 apartment units is anticipated to generate 230 parked vehicles during peak demand. Peak parking demand for residential developments occurs during the overnight hours between 10:00 pm and 5:00 am.

The site plans prepared, by NDA Architects, for the proposed project provides for a total of 314 parking spaces.

The existing apartment complex provides approximately 1.13 parking spaces for each apartment unit (134 parking spaces/119 units). Upon completion of the project the site will provide 1.69 parking spaces per unit (314 parking spaces/186 units). The proposed site provides ample parking to accommodate the anticipated demand. The redevelopment of the site is anticipated to decrease on street parking demand in proximity to the site. Based on the statistics compiled by the ITE, the proposed site will have a peak occupancy rate of approximately 75%.

According to the Census Bureau's Population Estimates Program 87.5% of households in the Village of Great Neck have 2 or fewer vehicles and 47.5% have 1 or no vehicles. The average household has 1.57 vehicles. Vehicle ownership is a primary component of residential parking demand.

Based on the ITE and Census data the proposed project supplies ample parking to accommodate the anticipated demand.

TANDEM PARKING

Twenty-two of the 314 on-site parking spaces provided will be in tandem with another parking space. Tandem parking is subject to the review and approval of the Board of Trustees as per the following section of the Village Code:

> Section 575-155 Parking in residence districts B (1)(d) Tandem parking for residential units, with the condition that all parking spaces that are in tandem with each other shall be assigned to the same unit, shall be subject to the approval of the Board of Trustees.

The tandem spaces will be located within the proposed parking garage associated with the north building. The proposed north building provides a total of 59 units. Twenty-two of these units will be assigned tandem parking spaces.

Tandem parking has been incorporated into other projects in the Village such as the Versailles apartment complex located directly to the north of the subject site. The tandem parking utilized by the Versailles apartment complex received approval by Board of Trustees.

CONSTRUCTION

A. Pappajohn Company is the general contractor for this project. Site Logistics Plans have been prepared detailing the various phases of construction. These plans and information provided by the developer are the basis of the information provided within this section of the report.

PROJECT SCHEDULE

The construction of the project is anticipated to be completed within 23 months (approximately 2 years). The project will be completed in two phases. Each phase of the project will take approximately one year.

Existing Conditions: **119 units** **134 parking spaces**

Phase No. 1

Demolition of 6 existing units
Construction of rear drive aisle
Excavation of Millbrook Court
Construction of South and West Parking Garages
Construction of 8 surface parking spaces
Construction of 42 new units (south and west building)
Replacement of Millbrook Court

Phase No. 1 Conditions: **155 units** **252 parking spaces**

Phase No. 2

Demolition of 28 existing units
Construction of North Parking Garage
Construction of 6 surface parking spaces
Construction of 59 new units (north building)

Phase No. 2 Conditions: **186 units** **314 parking spaces**

LEVEL OF SERVICE TABLES

The following provides the results of the highway capacity analysis prepared for this project in terms of level of service and delay experienced at the study intersections, under the Existing, No Build and Build Conditions. The delay provided for signalized intersections represents the overall average intersection delay in seconds. The delay provided for stop controlled intersections represents the control delay on the critical approach in seconds. The technical appendix includes the highway capacity analysis output files detailing the level of service and delay at each of the study intersections.

The "Existing Condition" provides an analysis of the critical 15 minute period during the peak hour observed at the study intersections. The "No Build Condition" takes into account the background traffic growth and other planned projects that will increase the traffic volumes at the study intersections. To determine the future volume of traffic on the roadway network upon completion of the proposed project; the "Build Condition" considers the trip generation, trip distribution and no build traffic volumes.

The Build analysis evaluates the cumulative impacts of the ambient background growth rate, the other planned projects in proximity to the subject site and the trips generated by the proposed development.

Mulryan Engineering, P.C. **LOS Table 1A**

Hamlet: Village of Great Neck
Project No. M15-012

Intersection	Old Mill Road at Middle Neck Road
Control Type	Traffic Signal
Time Period	AM Peak Hour

Condition	EXISTING											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	0.23	---	0.61	---	0.37	---	0.31	0.35	0.35	0.41	---	0.45
Delay (sec)	13.4	---	15.9	---	14.3	---	11.6	6.7	6.6	7.2	---	7.8
LOS	B	---	B	---	B	---	B	A	A	A	---	A
Approach Delay (sec)		15.0			14.3			7.5			7.5	
Approach LOS		B			B			A			A	
Overall Delay (sec)	9.1											
Overall LOS	A											

Condition	NO BUILD											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	0.24	---	0.63	---	0.39	---	0.34	0.37	0.37	0.44	---	0.48
Delay (sec)	13.3	---	16.0	---	14.5	---	12.9	6.9	6.9	7.5	---	8.2
LOS	B	---	B	---	B	---	B	A	A	A	---	A
Approach Delay (sec)		15.0			14.5			7.9			7.8	
Approach LOS		B			B			A			A	
Overall Delay (sec)	9.4											
Overall LOS	A											

Condition	BUILD											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	0.24	---	0.63	---	0.39	---	0.34	0.37	0.38	0.44	---	0.48
Delay (sec)	13.3	---	16.0	---	14.5	---	13.0	7.0	6.9	7.6	---	8.2
LOS	B	---	B	---	B	---	B	A	A	A	---	A
Approach Delay (sec)		15.1			14.5			8.0			7.9	
Approach LOS		B			B			A			A	
Overall Delay (sec)	9.5											
Overall LOS	A											

Condition	NO BUILD TO BUILD COMPARISON											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	0.00	---	0.00	---	0.00	---	0.00	0.00	0.01	0.00	---	0.00
Delay (sec)	0.0	---	0.0	---	0.0	---	0.1	0.1	0.0	0.1	---	0.0
LOS	---	---	---	---	---	---	---	---	---	---	---	---
Approach Delay (sec)		0.1			0.0			0.1			0.1	
Approach LOS		---			---			---			---	
Overall Delay (sec)	0.1											
Overall LOS	---											

Mulryan Engineering, P.C. **LOS Table 2A**

Hamlet: Village of Great Neck
Project No. M15-012

Intersection	North Site Entrance at Middle Neck Road
Control Type	Stop Signs posted on Side Street Approaches
Time Period	AM Peak Hour

Condition	EXISTING											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	---	0.05	---	---	---	---	0.00	---	---	---	---	---
Delay (sec)	---	12.9	---	---	---	---	0.0	---	---	---	---	---
LOS	---	B	---	---	---	---	A	---	---	---	---	---
Approach Delay (sec)		12.9			---			0.0			---	
Approach LOS		B			---			A			---	
Overall Delay (sec)	0.2											
Overall LOS	A											

Condition	NO BUILD											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	---	0.05	---	---	---	---	0.00	---	---	---	---	---
Delay (sec)	---	13.4	---	---	---	---	0.0	---	---	---	---	---
LOS	---	B	---	---	---	---	A	---	---	---	---	---
Approach Delay (sec)		13.4			---			0.0			---	
Approach LOS		B			---			A			---	
Overall Delay (sec)	0.2											
Overall LOS	A											

Condition	BUILD											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	---	0.21	---	---	---	---	---	---	---	---	---	---
Delay (sec)	---	17.9	---	---	---	---	---	---	---	---	---	---
LOS	---	C	---	---	---	---	---	---	---	---	---	---
Approach Delay (sec)		17.9			---			---			---	
Approach LOS		C			---			---			---	
Overall Delay (sec)	1.0											
Overall LOS	A											

Condition	NO BUILD TO BUILD COMPARISON											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	---	0.17	---	---	---	---	---	---	---	---	---	---
Delay (sec)	---	4.5	---	---	---	---	---	---	---	---	---	---
LOS	---	Impact	---	---	---	---	---	---	---	---	---	---
Approach Delay (sec)		4.5			---			---			---	
Approach LOS		Impact			---			---			---	
Overall Delay (sec)	0.8											
Overall LOS	---											

Note:
Build condition on the northbound approach improves as the driveway will become exit only.

Mulryan Engineering, P.C. **LOS Table 3A**

Hamlet: Village of Great Neck
Project No. M15-012

Intersection	Wooleys Lane at Middle Neck Road
Control Type	Traffic Signal
Time Period	AM Peak Hour

Condition	EXISTING											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	---	---	---	---	0.24	---	---	0.34	---	---	0.59	---
Delay (sec)	---	---	---	---	20.2	---	---	4.4	---	---	6.5	---
LOS	---	---	---	---	C	---	---	A	---	---	A	---
Approach Delay (sec)		---			20.2			4.4			6.5	
Approach LOS		---			C			A			A	
Overall Delay (sec)	6.7											
Overall LOS	A											

Condition	NO BUILD											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	---	---	---	---	0.25	---	---	0.36	---	---	0.63	---
Delay (sec)	---	---	---	---	20.2	---	---	4.5	---	---	7.0	---
LOS	---	---	---	---	C	---	---	A	---	---	A	---
Approach Delay (sec)		---			20.2			4.5			7.0	
Approach LOS		---			C			A			A	
Overall Delay (sec)	7.0											
Overall LOS	A											

Condition	BUILD											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	---	---	---	---	0.25	---	---	0.36	---	---	0.65	---
Delay (sec)	---	---	---	---	19.7	---	---	4.1	---	---	5.4	---
LOS	---	---	---	---	B	---	---	A	---	---	A	---
Approach Delay (sec)		---			20.2			4.5			7.2	
Approach LOS		---			C			A			A	
Overall Delay (sec)	7.1											
Overall LOS	A											

Condition	NO BUILD TO BUILD COMPARISON											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	---	---	---	---	0.00	---	---	0.00	---	---	0.02	---
Delay (sec)	---	---	---	---	-0.5	---	---	-0.4	---	---	-1.6	---
LOS	---	---	---	---	Impact	---	---	---	---	---	---	---
Approach Delay (sec)		---			0.0			0.0			0.2	
Approach LOS		---			---			---			---	
Overall Delay (sec)	0.1											
Overall LOS	---											

Mulryan Engineering, P.C. **LOS Table 4A**

Hamlet: Village of Great Neck
Project No. M15-012

Intersection	Millbrook Court at Middle Neck Road
Control Type	Stop Signs posted on Side Street Approaches
Time Period	AM Peak Hour

Condition	EXISTING											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	---	0.07	---	---	---	---	0.01	---	---	---	---	---
Delay (sec)	---	17.6	---	---	---	---	10.0	---	---	---	---	---
LOS	---	C	---	---	---	---	A	---	---	---	---	---
Approach Delay (sec)		17.6			---			0.2			---	
Approach LOS		C			---			A			---	
Overall Delay (sec)	0.3											
Overall LOS	A											

Condition	NO BUILD											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	---	0.07	---	---	---	---	0.01	---	---	---	---	---
Delay (sec)	---	18.5	---	---	---	---	10.2	---	---	---	---	---
LOS	---	C	---	---	---	---	B	---	---	---	---	---
Approach Delay (sec)		18.5			---			0.1			---	
Approach LOS		C			---			A			---	
Overall Delay (sec)	0.3											
Overall LOS	A											

Condition	BUILD											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	---	0.04	---	---	---	---	0.01	---	---	---	---	---
Delay (sec)	---	18.5	---	---	---	---	10.3	---	---	---	---	---
LOS	---	C	---	---	---	---	B	---	---	---	---	---
Approach Delay (sec)		18.5			---			0.1			---	
Approach LOS		C			---			A			---	
Overall Delay (sec)	0.2											
Overall LOS	A											

Condition	NO BUILD TO BUILD COMPARISON											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	---	-0.04	---	---	---	---	-0.01	---	---	---	---	---
Delay (sec)	---	0.0	---	---	---	---	0.10	---	---	---	---	---
LOS	---	---	---	---	---	---	---	---	---	---	---	---
Approach Delay (sec)		0.0			---			0.0			---	
Approach LOS		---			---			---			---	
Overall Delay (sec)	-0.1											
Overall LOS	---											

Mulryan Engineering, P.C. **LOS Table 5A**

Hamlet: Village of Great Neck
Project No. M15-012

Intersection	South Site Access at Middle Neck Road
Control Type	Stop Signs posted on Side Street Approaches
Time Period	AM Peak Hour

Condition	EXISTING											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	---	0.02	---	---	---	---	---	---	---	---	---	---
Delay (sec)	---	15.0	---	---	---	---	---	---	---	---	---	---
LOS	---	B	---	---	---	---	---	---	---	---	---	---
Approach Delay (sec)		15.0			---			---			---	
Approach LOS		B			---			---			---	
Overall Delay (sec)	0.1											
Overall LOS	A											

Condition	NO BUILD											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	---	0.02	---	---	---	---	---	---	---	---	---	---
Delay (sec)	---	15.7	---	---	---	---	---	---	---	---	---	---
LOS	---	C	---	---	---	---	---	---	---	---	---	---
Approach Delay (sec)		15.7			---			---			---	
Approach LOS		C			---			---			---	
Overall Delay (sec)	0.1											
Overall LOS	A											

Condition	BUILD											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	---	---	---	---	---	---	0.01	---	---	---	---	---
Delay (sec)	---	---	---	---	---	---	10.6	---	---	---	---	---
LOS	---	---	---	---	---	---	B	---	---	---	---	---
Approach Delay (sec)		---			---			10.6			---	
Approach LOS		---			---			B			---	
Overall Delay (sec)	0.1											
Overall LOS	A											

Condition	NO BUILD TO BUILD COMPARISON											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	---	---	---	---	---	---	---	---	---	---	---	---
Delay (sec)	---	---	---	---	---	---	---	---	---	---	---	---
LOS	---	---	---	---	---	---	---	---	---	---	---	---
Approach Delay (sec)		---			---			---			---	
Approach LOS		---			---			---			---	
Overall Delay (sec)	0.0											
Overall LOS	---											

Note:
Build condition: the driveway will become entrance only.

Mulryan Engineering, P.C. **LOS Table 6A**

Hamlet: Village of Great Neck
Project No. M15-012

Intersection	Clover Drive at Middle Neck Road
Control Type	Stop Signs posted on Side Street Approaches
Time Period	AM Peak Hour

Condition	EXISTING											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	---	0.33	---	---	---	---	0.09	---	---	---	---	---
Delay (sec)	---	38.3	---	---	---	---	10.6	---	---	---	---	---
LOS	---	E	---	---	---	---	B	---	---	---	---	---
Approach Delay (sec)		38.3			---			0.6			---	
Approach LOS		E			---			A			---	
Overall Delay (sec)	1.8											
Overall LOS	A											

Condition	NO BUILD											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	---	0.35	---	---	---	---	0.09	---	---	---	---	---
Delay (sec)	---	41.6	---	---	---	---	10.9	---	---	---	---	---
LOS	---	E	---	---	---	---	B	---	---	---	---	---
Approach Delay (sec)		41.6			---			0.7			---	
Approach LOS		E			---			A			---	
Overall Delay (sec)	1.8											
Overall LOS	A											

Condition	BUILD											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	---	0.36	---	---	---	---	0.09	---	---	---	---	---
Delay (sec)	---	43.5	---	---	---	---	11.0	---	---	---	---	---
LOS	---	E	---	---	---	---	B	---	---	---	---	---
Approach Delay (sec)		43.5			---			0.7			---	
Approach LOS		E			---			A			---	
Overall Delay (sec)	1.8											
Overall LOS	A											

Condition	NO BUILD TO BUILD COMPARISON											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	---	0.01	---	---	---	---	0.00	---	---	---	---	---
Delay (sec)	---	1.9	---	---	---	---	0.10	---	---	---	---	---
LOS	---	---	---	---	---	---	---	---	---	---	---	---
Approach Delay (sec)		1.9			---			0.0			---	
Approach LOS		---			---			---			---	
Overall Delay (sec)	0.0											
Overall LOS	---											

Note:
No build condition includes the closure of a commercial driveway on Clover Drive to the west of Middle Neck Road.

Mulryan Engineering, P.C. **LOS Table 7A**

Hamlet: Village of Great Neck
Project No. M15-012

Intersection	Allenwood Road at Middle Neck Road
Control Type	Traffic Signal
Time Period	AM Peak Hour

Condition	EXISTING											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	---	---	---	---	0.38	---	---	0.36	---	---	0.48	---
Delay (sec)	---	---	---	---	16.9	---	---	5.3	---	---	6.2	---
LOS	---	---	---	---	B	---	---	A	---	---	A	---
Approach Delay (sec)		---			16.9			5.3			6.2	
Approach LOS		---			B			A			A	
Overall Delay (sec)	6.7											
Overall LOS	A											

Condition	NO BUILD											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	---	0.01	---	---	0.16	---	---	0.44	---	---	0.57	---
Delay (sec)	---	23.9	---	---	18.7	---	---	8.1	---	---	9.3	---
LOS	---	C	---	---	B	---	---	A	---	---	A	---
Approach Delay (sec)		23.9			18.7			8.1			9.3	
Approach LOS		C			B			A			A	
Overall Delay (sec)	9.6											
Overall LOS	A											

Condition	BUILD											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	---	0.01	---	---	0.16	---	---	0.44	---	---	0.58	---
Delay (sec)	---	23.9	---	---	18.7	---	---	8.1	---	---	9.5	---
LOS	---	C	---	---	B	---	---	A	---	---	A	---
Approach Delay (sec)		23.9			18.7			8.1			9.5	
Approach LOS		C			B			A			A	
Overall Delay (sec)	9.7											
Overall LOS	A											

Condition	NO BUILD TO BUILD COMPARISON											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	---	0.00	---	---	0.00	---	---	0.00	---	---	0.01	---
Delay (sec)	---	0.0	---	---	0.0	---	---	0.0	---	---	0.2	---
LOS	---	---	---	---	---	---	---	---	---	---	---	---
Approach Delay (sec)		0.0			0.0			0.0			0.2	
Approach LOS		---			---			---			---	
Overall Delay (sec)	0.1											
Overall LOS	---											

Note:
No build condition changes compared to existing condition due to the addition of an eastbound approach controlled by the traffic signal.

Mulryan Engineering, P.C. **LOS Table 1P**

Hamlet: Village of Great Neck
Project No. M15-012

Intersection	Old Mill Road at Middle Neck Road
Control Type	Traffic Signal
Time Period	PM Peak Hour

Condition	EXISTING											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	0.21	---	0.36	---	0.20	---	0.20	0.35	0.35	0.29	---	0.32
Delay (sec)	13.3	---	14.0	---	13.3	---	8.3	6.5	6.5	6.1	---	6.4
LOS	B	---	B	---	B	---	A	A	A	A	---	A
Approach Delay (sec)		13.7			13.3			6.8			6.2	
Approach LOS		B			B			A			A	
Overall Delay (sec)	7.8											
Overall LOS	A											

Condition	NO BUILD											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	0.21	---	0.39	---	0.21	---	0.22	0.37	0.37	0.31	---	0.34
Delay (sec)	13.3	---	14.2	---	13.3	---	8.7	6.7	6.7	6.2	---	6.6
LOS	B	---	B	---	B	---	A	A	A	A	---	A
Approach Delay (sec)		13.8			13.3			7.0			6.4	
Approach LOS		B			B			A			A	
Overall Delay (sec)	8.0											
Overall LOS	A											

Condition	BUILD											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	0.21	---	0.39	---	0.21	---	0.22	0.37	0.37	0.31	---	0.34
Delay (sec)	13.3	---	14.2	---	13.3	---	8.8	6.7	6.7	6.3	---	6.6
LOS	B	---	B	---	B	---	A	A	A	A	---	A
Approach Delay (sec)		13.8			13.3			7.0			6.4	
Approach LOS		B			B			A			A	
Overall Delay (sec)	8.0											
Overall LOS	A											

Condition	NO BUILD TO BUILD COMPARISON											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	0.00	---	0.00	---	0.00	---	0.00	0.00	0.00	0.00	---	0.00
Delay (sec)	0.0	---	0.0	---	0.0	---	0.1	0.0	0.0	0.1	---	0.0
LOS	---	---	---	---	---	---	---	---	---	---	---	---
Approach Delay (sec)		0.0			0.0			0.0			0.0	
Approach LOS		---			---			---			---	
Overall Delay (sec)	0.0											
Overall LOS	---											

Mulryan Engineering, P.C. **LOS Table 2P**

Hamlet: Village of Great Neck
Project No. M15-012

Intersection	North Site Entrance at Middle Neck Road
Control Type	Stop Signs posted on Side Street Approaches
Time Period	PM Peak Hour

Condition	EXISTING											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	---	0.01	---	---	---	---	0.00	---	---	---	---	---
Delay (sec)	---	13.8	---	---	---	---	8.8	---	---	---	---	---
LOS	---	B	---	---	---	---	A	---	---	---	---	---
Approach Delay (sec)		13.8			---			13.8			---	
Approach LOS		B			---			B			---	
Overall Delay (sec)	0.0											
Overall LOS	A											

Condition	NO BUILD											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	---	0.01	---	---	---	---	0.00	---	---	---	---	---
Delay (sec)	---	14.4	---	---	---	---	9.0	---	---	---	---	---
LOS	---	B	---	---	---	---	A	---	---	---	---	---
Approach Delay (sec)		14.4			---			9.0			---	
Approach LOS		B			---			A			---	
Overall Delay (sec)	0.0											
Overall LOS	A											

Condition	BUILD											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	---	0.11	---	---	---	---	---	---	---	---	---	---
Delay (sec)	---	15.5	---	---	---	---	---	---	---	---	---	---
LOS	---	C	---	---	---	---	---	---	---	---	---	---
Approach Delay (sec)		15.5			---			---			---	
Approach LOS		C			---			---			---	
Overall Delay (sec)	0.4											
Overall LOS	A											

Condition	NO BUILD TO BUILD COMPARISON											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	---	0.10	---	---	---	---	---	---	---	---	---	---
Delay (sec)	---	1.1	---	---	---	---	---	---	---	---	---	---
LOS	---	Impact	---	---	---	---	---	---	---	---	---	---
Approach Delay (sec)		1.1			---			---			---	
Approach LOS		Impact			---			---			---	
Overall Delay (sec)	0.4											
Overall LOS	---											

Note:
Build condition on the northbound approach improves as the driveway will become exit only.

Mulryan Engineering, P.C. **LOS Table 3P**

Hamlet: Village of Great Neck
Project No. M15-012

Intersection	Wooleys Lane at Middle Neck Road
Control Type	Traffic Signal
Time Period	PM Peak Hour

Condition	EXISTING											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	---	---	---	---	0.23	---	---	0.31	---	---	0.32	---
Delay (sec)	---	---	---	---	22.1	---	---	3.5	---	---	3.6	---
LOS	---	---	---	---	C	---	---	A	---	---	A	---
Approach Delay (sec)		---			22.1			3.5			3.6	
Approach LOS		---			C			A			A	
Overall Delay (sec)	4.7											
Overall LOS	A											

Condition	NO BUILD											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	---	---	---	---	0.19	---	---	0.35	---	---	0.36	---
Delay (sec)	---	---	---	---	20.4	---	---	4.3	---	---	4.5	---
LOS	---	---	---	---	C	---	---	A	---	---	A	---
Approach Delay (sec)		---			20.4			4.3			4.5	
Approach LOS		---			C			A			A	
Overall Delay (sec)	5.4											
Overall LOS	A											

Condition	BUILD											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	---	---	---	---	0.19	---	---	0.35	---	---	0.37	---
Delay (sec)	---	---	---	---	20.4	---	---	4.3	---	---	4.5	---
LOS	---	---	---	---	C	---	---	A	---	---	A	---
Approach Delay (sec)		---			20.4			4.3			4.5	
Approach LOS		---			C			A			A	
Overall Delay (sec)	5.4											
Overall LOS	A											

Condition	NO BUILD TO BUILD COMPARISON											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	---	---	---	---	0.00	---	---	0.00	---	---	0.01	---
Delay (sec)	---	---	---	---	0.0	---	---	0.0	---	---	0.0	---
LOS	---	---	---	---	---	---	---	---	---	---	---	---
Approach Delay (sec)		---			0.0			0.0			0.0	
Approach LOS		---			---			---			---	
Overall Delay (sec)	0.0											
Overall LOS	---											

Mulryan Engineering, P.C. **LOS Table 4P**

Hamlet: Village of Great Neck
Project No. M15-012

Intersection	Millbrook Court at Middle Neck Road
Control Type	Stop Signs posted on Side Street Approaches
Time Period	PM Peak Hour

Condition	EXISTING											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	---	0.01	---	---	---	---	0.00	---	---	---	---	---
Delay (sec)	---	14.4	---	---	---	---	8.8	---	---	---	---	---
LOS	---	B	---	---	---	---	A	---	---	---	---	---
Approach Delay (sec)		14.4			---			8.8			---	
Approach LOS		B			---			A			---	
Overall Delay (sec)	0.1											
Overall LOS	A											

Condition	NO BUILD											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	---	0.01	---	---	---	---	0.00	---	---	---	---	---
Delay (sec)	---	15.0	---	---	---	---	8.9	---	---	---	---	---
LOS	---	B	---	---	---	---	A	---	---	---	---	---
Approach Delay (sec)		15.0			---			8.9			---	
Approach LOS		B			---			A			---	
Overall Delay (sec)	0.1											
Overall LOS	A											

Condition	BUILD											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	---	0.01	---	---	---	---	0.00	---	---	---	---	---
Delay (sec)	---	14.4	---	---	---	---	9.0	---	---	---	---	---
LOS	---	B	---	---	---	---	A	---	---	---	---	---
Approach Delay (sec)		14.4			---			9.0			---	
Approach LOS		B			---			A			---	
Overall Delay (sec)	0.0											
Overall LOS	A											

Condition	NO BUILD TO BUILD COMPARISON											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	---	-0.01	---	---	---	---	0.00	---	---	---	---	---
Delay (sec)	---	-0.6	---	---	---	---	0.10	---	---	---	---	---
LOS	---	---	---	---	---	---	---	---	---	---	---	---
Approach Delay (sec)		-0.6			---			0.1			---	
Approach LOS		---			---			---			---	
Overall Delay (sec)	-0.1											
Overall LOS	---											

Mulryan Engineering, P.C. **LOS Table 5P**

Hamlet: Village of Great Neck
Project No. M15-012

Intersection	South Site Access at Middle Neck Road
Control Type	Stop Signs posted on Side Street Approaches
Time Period	PM Peak Hour

Condition	EXISTING											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	---	---	---	---	---	---	0.00	---	---	---	---	---
Delay (sec)	---	---	---	---	---	---	8.9	---	---	---	---	---
LOS	---	---	---	---	---	---	A	---	---	---	---	---
Approach Delay (sec)		---			---			8.9			---	
Approach LOS		---			---			A			---	
Overall Delay (sec)	0.0											
Overall LOS	A											

Condition	NO BUILD											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	---	---	---	---	---	---	0.00	---	---	---	---	---
Delay (sec)	---	---	---	---	---	---	9.0	---	---	---	---	---
LOS	---	---	---	---	---	---	A	---	---	---	---	---
Approach Delay (sec)		---			---			9.0			---	
Approach LOS		---			---			A			---	
Overall Delay (sec)	0.0											
Overall LOS	A											

Condition	BUILD											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	---	---	---	---	---	---	0.05	---	---	---	---	---
Delay (sec)	---	---	---	---	---	---	9.5	---	---	---	---	---
LOS	---	---	---	---	---	---	A	---	---	---	---	---
Approach Delay (sec)		---			---			9.5			---	
Approach LOS		---			---			A			---	
Overall Delay (sec)	0.5											
Overall LOS	A											

Condition	NO BUILD TO BUILD COMPARISON											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	---	---	---	---	---	---	0.05	---	---	---	---	---
Delay (sec)	---	---	---	---	---	---	0.50	---	---	---	---	---
LOS	---	---	---	---	---	---	---	---	---	---	---	---
Approach Delay (sec)		---			---			0.5			---	
Approach LOS		---			---			---			---	
Overall Delay (sec)	0.5											
Overall LOS	---											

Note:
Build condition: the driveway will become entrance only.

Mulryan Engineering, P.C. **LOS Table 6P**

Hamlet: Village of Great Neck
Project No. M15-012

Intersection	Clover Drive at Middle Neck Road
Control Type	Stop Signs posted on Side Street Approaches
Time Period	PM Peak Hour

Condition	EXISTING											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	---	0.05	---	---	---	---	0.03	---	---	---	---	---
Delay (sec)	---	14.5	---	---	---	---	9.1	---	---	---	---	---
LOS	---	B	---	---	---	---	A	---	---	---	---	---
Approach Delay (sec)		14.5			---			9.1			---	
Approach LOS		B			---			A			---	
Overall Delay (sec)	0.4											
Overall LOS	A											

Condition	NO BUILD											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	---	0.04	---	---	---	---	0.03	---	---	---	---	---
Delay (sec)	---	13.6	---	---	---	---	9.3	---	---	---	---	---
LOS	---	B	---	---	---	---	A	---	---	---	---	---
Approach Delay (sec)		13.6			---			9.3			---	
Approach LOS		B			---			A			---	
Overall Delay (sec)	0.4											
Overall LOS	A											

Condition	BUILD											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	---	0.04	---	---	---	---	0.03	---	---	---	---	---
Delay (sec)	---	13.7	---	---	---	---	9.3	---	---	---	---	---
LOS	---	B	---	---	---	---	A	---	---	---	---	---
Approach Delay (sec)		13.7			---			9.3			---	
Approach LOS		B			---			A			---	
Overall Delay (sec)	0.4											
Overall LOS	A											

Condition	NO BUILD TO BUILD COMPARISON											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	---	0.00	---	---	---	---	0.00	---	---	---	---	---
Delay (sec)	---	0.1	---	---	---	---	0.00	---	---	---	---	---
LOS	---	---	---	---	---	---	---	---	---	---	---	---
Approach Delay (sec)		0.1			---			0.0			---	
Approach LOS		---			---			---			---	
Overall Delay (sec)	0.0											
Overall LOS	---											

Note:
No build condition includes the closure of a commercial driveway on Clover Drive to the west of Middle Neck Road.

Mulryan Engineering, P.C. **LOS Table 7P**

Hamlet: Village of Great Neck
Project No. M15-012

Intersection	Allenwood Road at Middle Neck Road
Control Type	Traffic Signal
Time Period	PM Peak Hour

Condition	EXISTING											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	---	---	---	---	0.35	---	---	0.36	---	---	0.29	---
Delay (sec)	---	---	---	---	21.6	---	---	3.4	---	---	3.1	---
LOS	---	---	---	---	C	---	---	A	---	---	A	---
Approach Delay (sec)		---			21.6			3.4			3.1	
Approach LOS		---			C			A			A	
Overall Delay (sec)	4.0											
Overall LOS	A											

Condition	NO BUILD											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	---	0.01	---	---	0.04	---	---	0.45	---	---	0.34	---
Delay (sec)	---	24.8	---	---	22.3	---	---	6.0	---	---	5.3	---
LOS	---	C	---	---	C	---	---	A	---	---	A	---
Approach Delay (sec)		24.8			22.3			6.0			5.3	
Approach LOS		C			C			A			A	
Overall Delay (sec)	6.5											
Overall LOS	A											

Condition	BUILD											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	---	0.01	---	---	0.03	---	---	0.46	---	---	0.35	---
Delay (sec)	---	24.9	---	---	22.4	---	---	6.0	---	---	5.3	---
LOS	---	C	---	---	C	---	---	A	---	---	A	---
Approach Delay (sec)		24.9			22.4			6.0			5.3	
Approach LOS		C			C			A			A	
Overall Delay (sec)	6.5											
Overall LOS	A											

Condition	NO BUILD TO BUILD COMPARISON											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	---	0.00	---	---	-0.01	---	---	0.01	---	---	0.01	---
Delay (sec)	---	0.1	---	---	0.1	---	---	0.0	---	---	0.0	---
LOS	---	---	---	---	---	---	---	---	---	---	---	---
Approach Delay (sec)		0.1			0.1			0.0			0.0	
Approach LOS		---			---			---			---	
Overall Delay (sec)	0.0											
Overall LOS	---											

Note:
No build condition changes compared to existing condition due to the addition of an eastbound approach controlled by the traffic signal.

Mulryan Engineering, P.C. **LOS Table 1S**

Hamlet: Village of Great Neck
Project No. M15-012

Intersection	Old Mill Road at Middle Neck Road
Control Type	Traffic Signal
Time Period	Saturday Peak Hour

Condition	EXISTING											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	0.09	---	0.16	---	0.04	---	0.12	0.25	0.26	0.27	---	0.30
Delay (sec)	10.2	---	10.5	---	9.9	---	12.5	10.4	10.5	10.6	---	11.0
LOS	B	---	B	---	A	---	B	B	B	B	---	B
Approach Delay (sec)		10.4			9.9			10.7			10.8	
Approach LOS		B			A			B			B	
Overall Delay (sec)	10.7											
Overall LOS	B											

Condition	NO BUILD											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	0.09	---	0.17	---	0.04	---	0.13	0.27	0.27	0.29	---	0.32
Delay (sec)	10.2	---	10.6	---	9.9	---	12.8	10.6	10.6	10.8	---	11.2
LOS	B	---	B	---	A	---	B	B	B	B	---	B
Approach Delay (sec)		10.4			9.9			10.9			11.0	
Approach LOS		B			A			B			B	
Overall Delay (sec)	10.8											
Overall LOS	B											

Condition	BUILD											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	0.09	---	0.18	---	0.04	---	0.13	0.27	0.27	0.29	---	0.33
Delay (sec)	10.2	---	10.6	---	9.9	---	13.0	10.6	10.7	10.8	---	11.3
LOS	B	---	B	---	A	---	B	B	B	B	---	B
Approach Delay (sec)		10.4			9.9			10.9			11.1	
Approach LOS		B			A			B			B	
Overall Delay (sec)	10.9											
Overall LOS	B											

Condition	NO BUILD TO BUILD COMPARISON											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	0.00	---	0.01	---	0.00	---	0.00	0.00	0.00	0.00	---	0.01
Delay (sec)	0.0	---	0.0	---	0.0	---	0.2	0.0	0.1	0.0	---	0.1
LOS	---	---	---	---	---	---	---	---	---	---	---	---
Approach Delay (sec)		0.0			0.0			0.0			0.1	
Approach LOS		---			---			---			---	
Overall Delay (sec)	0.1											
Overall LOS	---											

Mulryan Engineering, P.C. **LOS Table 2S**

Hamlet: Village of Great Neck
Project No. M15-012

Intersection	North Site Entrance at Middle Neck Road
Control Type	Stop Signs posted on Side Street Approaches
Time Period	Saturday Peak Hour

Condition	EXISTING											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	---	0.02	---	---	---	---	---	---	---	---	---	---
Delay (sec)	---	17.2	---	---	---	---	---	---	---	---	---	---
LOS	---	C	---	---	---	---	---	---	---	---	---	---
Approach Delay (sec)		17.2			---			---			---	
Approach LOS		C			---			---			---	
Overall Delay (sec)	0.1											
Overall LOS	A											

Condition	NO BUILD											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	---	0.03	---	---	---	---	---	---	---	---	---	---
Delay (sec)	---	17.5	---	---	---	---	---	---	---	---	---	---
LOS	---	C	---	---	---	---	---	---	---	---	---	---
Approach Delay (sec)		17.5			---			---			---	
Approach LOS		C			---			---			---	
Overall Delay (sec)	0.1											
Overall LOS	A											

Condition	BUILD											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	---	0.22	---	---	---	---	---	---	---	---	---	---
Delay (sec)	---	25.4	---	---	---	---	---	---	---	---	---	---
LOS	---	D	---	---	---	---	---	---	---	---	---	---
Approach Delay (sec)		25.4			---			---			---	
Approach LOS		D			---			---			---	
Overall Delay (sec)	1.2											
Overall LOS	A											

Condition	NO BUILD TO BUILD COMPARISON											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	---	0.19	---	---	---	---	---	---	---	---	---	---
Delay (sec)	---	7.9	---	---	---	---	---	---	---	---	---	---
LOS	---	Impact	---	---	---	---	---	---	---	---	---	---
Approach Delay (sec)		7.9			---			---			---	
Approach LOS		Impact			---			---			---	
Overall Delay (sec)	1.1											
Overall LOS	---											

Mulryan Engineering, P.C. **LOS Table 3S**

Hamlet: Village of Great Neck
Project No. M15-012

Intersection	Wooleys Lane at Middle Neck Road
Control Type	Traffic Signal
Time Period	Saturday Peak Hour

Condition	EXISTING											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	---	---	---	---	0.26	---	---	0.17	---	---	0.23	---
Delay (sec)	---	---	---	---	25.0	---	---	2.3	---	---	2.5	---
LOS	---	---	---	---	C	---	---	A	---	---	A	---
Approach Delay (sec)		---			25.0			2.3			2.5	
Approach LOS		---			C			A			A	
Overall Delay (sec)	3.7											
Overall LOS	A											

Condition	NO BUILD											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	---	---	---	---	0.27	---	---	0.18	---	---	0.24	---
Delay (sec)	---	---	---	---	24.9	---	---	2.4	---	---	2.6	---
LOS	---	---	---	---	C	---	---	A	---	---	A	---
Approach Delay (sec)		---			24.9			2.4			2.6	
Approach LOS		---			C			A			A	
Overall Delay (sec)	3.7											
Overall LOS	A											

Condition	BUILD											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	---	---	---	---	0.27	---	---	0.18	---	---	0.25	---
Delay (sec)	---	---	---	---	24.9	---	---	2.4	---	---	2.6	---
LOS	---	---	---	---	C	---	---	A	---	---	A	---
Approach Delay (sec)		---			24.9			2.4			2.6	
Approach LOS		---			C			A			A	
Overall Delay (sec)	3.7											
Overall LOS	A											

Condition	NO BUILD TO BUILD COMPARISON											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	---	---	---	---	0.00	---	---	0.00	---	---	0.01	---
Delay (sec)	---	---	---	---	0.0	---	---	0.0	---	---	0.0	---
LOS	---	---	---	---	---	---	---	---	---	---	---	---
Approach Delay (sec)		---			0.0			0.0			0.0	
Approach LOS		---			---			---			---	
Overall Delay (sec)	0.0											
Overall LOS	---											

Mulryan Engineering, P.C. **LOS Table 4S**

Hamlet: Village of Great Neck
Project No. M15-012

Intersection	Millbrook Court at Middle Neck Road
Control Type	Stop Signs posted on Side Street Approaches
Time Period	Saturday Peak Hour

Condition	EXISTING											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	---	0.05	---	---	---	---	---	---	---	---	---	---
Delay (sec)	---	21.8	---	---	---	---	---	---	---	---	---	---
LOS	---	C	---	---	---	---	---	---	---	---	---	---
Approach Delay (sec)		21.8			---			---			---	
Approach LOS		C			---			---			---	
Overall Delay (sec)	0.3											
Overall LOS	A											

Condition	NO BUILD											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	---	0.06	---	---	---	---	---	---	---	---	---	---
Delay (sec)	---	22.9	---	---	---	---	---	---	---	---	---	---
LOS	---	C	---	---	---	---	---	---	---	---	---	---
Approach Delay (sec)		22.9			---			---			---	
Approach LOS		C			---			---			---	
Overall Delay (sec)	0.3											
Overall LOS	A											

Condition	BUILD											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	---	0.03	---	---	---	---	---	---	---	---	---	---
Delay (sec)	---	22.8	---	---	---	---	---	---	---	---	---	---
LOS	---	C	---	---	---	---	---	---	---	---	---	---
Approach Delay (sec)		22.8			---			---			---	
Approach LOS		C			---			---			---	
Overall Delay (sec)	0.2											
Overall LOS	A											

Condition	NO BUILD TO BUILD COMPARISON											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	---	-0.02	---	---	---	---	---	---	---	---	---	---
Delay (sec)	---	-0.1	---	---	---	---	---	---	---	---	---	---
LOS	---	---	---	---	---	---	---	---	---	---	---	---
Approach Delay (sec)		-0.1			---			---			---	
Approach LOS		---			---			---			---	
Overall Delay (sec)	-0.1											
Overall LOS	---											

Mulryan Engineering, P.C. **LOS Table 5S**

Hamlet: Village of Great Neck
Project No. M15-012

Intersection	South Site Access at Middle Neck Road
Control Type	Stop Signs posted on Side Street Approaches
Time Period	Saturday Peak Hour

Condition	EXISTING											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	0.01	---	---	---	---	---	0.00	---	---	---	---	---
Delay (sec)	22.4	---	---	---	---	---	9.9	---	---	---	---	---
LOS	C	---	---	---	---	---	A	---	---	---	---	---
Approach Delay (sec)		22.4			---			9.9			---	
Approach LOS		C			---			A			---	
Overall Delay (sec)	0.0											
Overall LOS	A											

Condition	NO BUILD											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	0.01	---	---	---	---	---	0.00	---	---	---	---	---
Delay (sec)	23.3	---	---	---	---	---	10.0	---	---	---	---	---
LOS	C	---	---	---	---	---	A	---	---	---	---	---
Approach Delay (sec)		23.3			---			10.0			---	
Approach LOS		C			---			A			---	
Overall Delay (sec)	0.0											
Overall LOS	A											

Condition	BUILD											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	---	---	---	---	---	---	0.00	---	---	---	---	---
Delay (sec)	---	---	---	---	---	---	10.2	---	---	---	---	---
LOS	---	---	---	---	---	---	B	---	---	---	---	---
Approach Delay (sec)		---			---			10.2			---	
Approach LOS		---			---			B			---	
Overall Delay (sec)	0.0											
Overall LOS	A											

Condition	NO BUILD TO BUILD COMPARISON											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	---	---	---	---	---	---	0.00	---	---	---	---	---
Delay (sec)	---	---	---	---	---	---	0.20	---	---	---	---	---
LOS	---	---	---	---	---	---	---	---	---	---	---	---
Approach Delay (sec)		---			---			0.2			---	
Approach LOS		---			---			---			---	
Overall Delay (sec)	0.0											
Overall LOS	---											

Note:
Build condition: the driveway will become entrance only.

Mulryan Engineering, P.C. **LOS Table 6S**

Hamlet: Village of Great Neck
Project No. M15-012

Intersection	Clover Drive at Middle Neck Road
Control Type	Stop Signs posted on Side Street Approaches
Time Period	Saturday Peak Hour

Condition	EXISTING											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	---	0.19	---	---	---	---	0.01	---	---	---	---	---
Delay (sec)	---	22.3	---	---	---	---	9.8	---	---	---	---	---
LOS	---	C	---	---	---	---	A	---	---	---	---	---
Approach Delay (sec)		22.3			---			9.8			---	
Approach LOS		C			---			A			---	
Overall Delay (sec)	1.2											
Overall LOS	A											

Condition	NO BUILD											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	---	0.17	---	---	---	---	0.01	---	---	---	---	---
Delay (sec)	---	22.3	---	---	---	---	9.9	---	---	---	---	---
LOS	---	C	---	---	---	---	A	---	---	---	---	---
Approach Delay (sec)		22.3			---			9.9			---	
Approach LOS		C			---			A			---	
Overall Delay (sec)	1.0											
Overall LOS	A											

Condition	BUILD											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	---	0.17	---	---	---	---	0.01	---	---	---	---	---
Delay (sec)	---	22.5	---	---	---	---	9.9	---	---	---	---	---
LOS	---	C	---	---	---	---	A	---	---	---	---	---
Approach Delay (sec)		22.5			---			9.9			---	
Approach LOS		C			---			A			---	
Overall Delay (sec)	1.0											
Overall LOS	A											

Condition	NO BUILD TO BUILD COMPARISON											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	---	0.00	---	---	---	---	0.00	---	---	---	---	---
Delay (sec)	---	0.2	---	---	---	---	0.00	---	---	---	---	---
LOS	---	---	---	---	---	---	---	---	---	---	---	---
Approach Delay (sec)		0.2			---			0.0			---	
Approach LOS		---			---			---			---	
Overall Delay (sec)	0.0											
Overall LOS	---											

Note:
No build condition includes the closure of a commercial driveway on Clover Drive to the west of Middle Neck Road.

Mulryan Engineering, P.C. **LOS Table 7S**

Hamlet: Village of Great Neck
Project No. M15-012

Intersection	Allenwood Road at Middle Neck Road
Control Type	Traffic Signal
Time Period	Saturday Peak Hour

Condition	EXISTING											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	---	---	---	---	0.58	---	---	0.19	---	---	0.23	---
Delay (sec)	---	---	---	---	34.5	---	---	2.2	---	---	2.3	---
LOS	---	---	---	---	C	---	---	A	---	---	A	---
Approach Delay (sec)		---			34.5			2.2			2.3	
Approach LOS		---			C			A			A	
Overall Delay (sec)	3.6											
Overall LOS	A											

Condition	NO BUILD											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	---	0.01	---	---	0.03	---	---	0.25	---	---	0.28	---
Delay (sec)	---	24.9	---	---	24.1	---	---	4.1	---	---	4.2	---
LOS	---	C	---	---	C	---	---	A	---	---	A	---
Approach Delay (sec)		24.9			24.1			4.1			4.2	
Approach LOS		C			C			A			A	
Overall Delay (sec)	5.0											
Overall LOS	A											

Condition	BUILD											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	---	0.01	---	---	0.03	---	---	0.25	---	---	0.28	---
Delay (sec)	---	24.9	---	---	24.1	---	---	4.1	---	---	4.2	---
LOS	---	C	---	---	C	---	---	A	---	---	A	---
Approach Delay (sec)		24.9			24.1			4.1			4.2	
Approach LOS		C			C			A			A	
Overall Delay (sec)	5.0											
Overall LOS	A											

Condition	NO BUILD TO BUILD COMPARISON											
Direction	Eastbound			Westbound			Northbound			Southbound		
Movement	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
V/C Ratio	---	0.00	---	---	0.00	---	---	0.00	---	---	0.00	---
Delay (sec)	---	0.0	---	---	0.0	---	---	0.0	---	---	0.0	---
LOS	---	---	---	---	---	---	---	---	---	---	---	---
Approach Delay (sec)		0.0			0.0			0.0			0.0	
Approach LOS		---			---			---			---	
Overall Delay (sec)	0.0											
Overall LOS	---											

Note:
No build condition changes compared to existing condition due to the addition of an eastbound approach controlled by the traffic signal.

POTENTIAL LEVEL OF SERVICE IMPACTS BUILD CONDITIONS

01. Middle Neck Road and Old Mill Road/Piccadilly Road ____ No Impact
02. Middle Neck Road and the North Site Access ____ Potential Impact
03. Middle Neck Road and Wooleys Lane ____ No Impact
04. Middle Neck Road and the Millbrook Court ____ No Impact
05. Middle Neck Road and the South Site Access ____ No Impact
06. Middle Neck Road and Clover Drive ____ No Impact
07. Middle Neck Road and Allenwood Road ____ No Impact

FINDINGS

The highway capacity analysis of the study intersections shows that the development of this property will have no perceptible impact to the level of service on the surrounding roadway network, with the exception of the North Site Access.

MITIGATION

As part of the redevelopment of this project the North Site Access will become the main exit for the complex. The southbound stop line on Middle Neck Road, at the intersection with Wooleys Lane, is located approximately 65 feet south of the driveway. Approximately six vehicles can queue at the signal (within the two southbound lanes) before blocking the site driveway. It is recommended that "Do Not Block The Box" pavement markings and signage be installed at this location. Similar pavement markings were previously installed on Middle Neck Road at the intersection of Cedar Drive, in the Village of Great Neck Estates.

Middle Neck Road generally consists of 2 northbound and 2 southbound travel lanes with parking or shoulder area on the east and west sides. The cross section from curb to curb is approximately 60 feet. The through lanes are approximately 11 feet wide and the parking areas are approximately 8 feet wide.

Some areas of Middle Neck Road (north of Old Mill Road) also provide a raised median island, running along the center.

Middle Neck Road, within the Village of Great Neck, provides northbound left turn lanes at two intersections (Redbrook Road/Grassfield Road and Old Mill Road).

Parking is provided on the west side of Middle Neck Road south of Redbrook Road/Grassfield Road. The lack of parking on the east side of Middle Neck Road in this area allows for the northbound left turn storage lane.

No parking is permitted on either side of Middle Neck Road south of Old Mill Road. The lack of parking within this area of Middle Neck Road allows for the northbound left turn storage lane.

At other intersections on Middle Neck Road, throughout the Village of Great Neck, no turning lanes are provided. Vehicles turning left must wait in the through lane potentially blocking through traffic.

As part of the redevelopment of this project the South Site Access will become the main entrance for the complex. This driveway is anticipated to operate in a similar fashion to the other unsingalized intersections located on Middle Neck Road in proximity to the subject site.

The introduction of a northbound left turn lane at the South Site Access would require the elimination of numerous on street parking spaces. The analysis indicates that less than one vehicle every two minutes will enter the site via a northbound left turn during peak demand. The highway capacity analysis indicates that mitigation is not required at this location.

CONCLUSIONS

In summary, the subject property is currently developed with a 119 apartment units and 134 parking spaces. The overall project site is 4.35 acres (189,480 square feet).

The proposed project will improve the site with a total of 186 unit apartment and 314 parking spaces. The proposed project will result in a net increase of 67 new apartment units.

In accordance with the Village of Great Neck zoning requirements, the proposed development requires 314 parking spaces. The proposed site design meets the requirements of the code.

Twenty-two of the 314 on-site parking spaces provided will be in tandem with another parking space. Tandem parking is subject to the review and approval of the Board of Trustees.

The proposed site will maintain the existing site driveways. The site has one driveway to the north, one in the center of the property and one to the south. The central driveway is known as Millbrook Court.

The north and south driveways will be reconfigured. The south driveway will allow entrance only traffic flow from Middle Neck Road. The north driveway will permit exit only traffic flow onto Middle Neck Road. The center driveway/Millbrook Court will maintain two way traffic flow.

The site access design and parking configuration is illustrated on the site plan set prepared by Newman Design Architects, PLLC. The site access design is subject to the review and approval of the Village of Great Neck Estates and the Nassau County Department of Public Works.

It is recommended that “Do Not Block The Box” pavement markings and signage be installed at the North Site Access. No mitigation measures were found to be warranted at the surrounding study intersections. The Highway Capacity Analysis shows that the traffic generated by the proposed development will have no perceptible impact on the level of service at the surrounding study intersections. Based on our traffic engineering analysis contained within, the proposed development will have no adverse impact to the surrounding roadway network.

TECHNICAL APPENDIX

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FIGURE No. 1
PROJECT No. M15-012
VILLAGE OF GREAT NECK
LOCATION MAP

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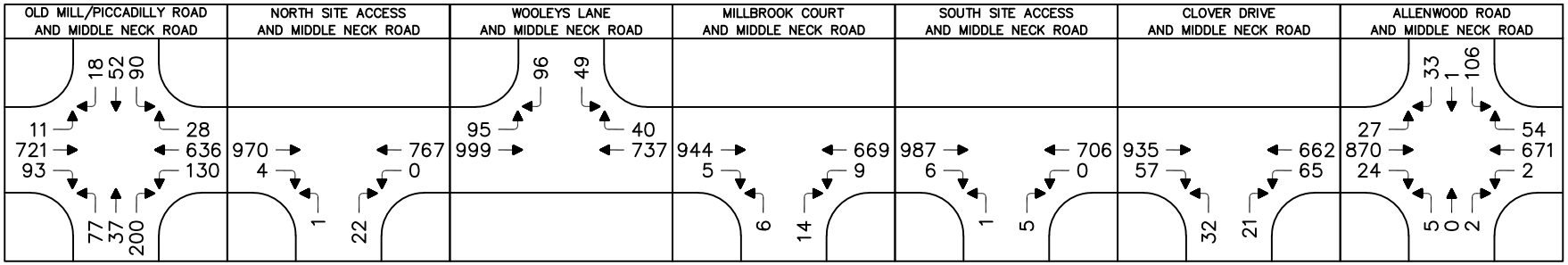
FIGURE No. 2
PROJECT No. M15-012
VILLAGE OF GREAT NECK
MORNING PEAK HOUR
EXISTING



EXISTING VOLUMES SHOWN REFLECT: 1. THE PASSENGER CAR EQUIVALENT VALUES FOR TRUCKS AND BUSES AND 2. ADJUSTED FLOW RATE

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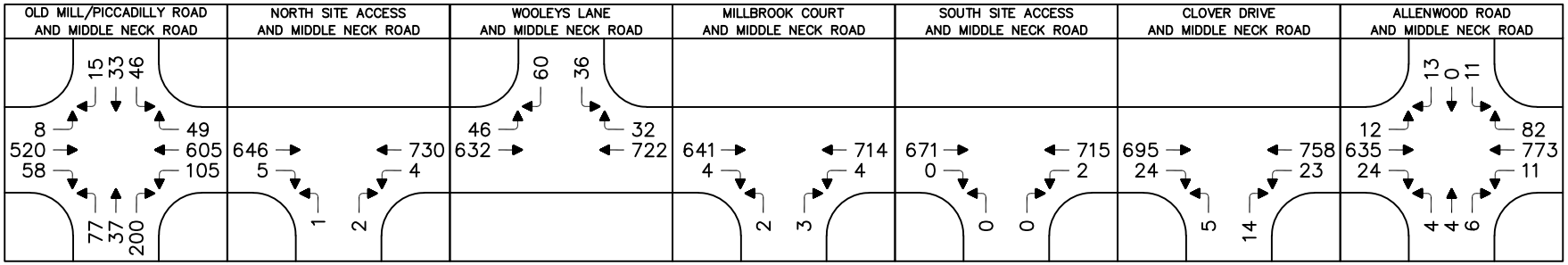
FIGURE No. 3
PROJECT No. M15-012
VILLAGE OF GREAT NECK
EVENING PEAK HOUR
EXISTING



EXISTING VOLUMES SHOWN REFLECT: 1. THE PASSENGER CAR EQUIVALENT VALUES FOR TRUCKS AND BUSES AND 2. ADJUSTED FLOW RATE

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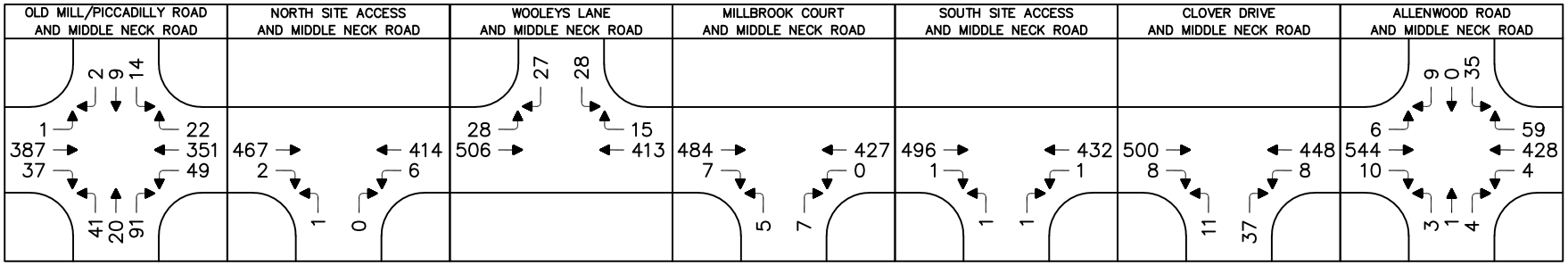
ENGINEERING, P.C.

FIGURE No. 4
PROJECT No. M15-012
VILLAGE OF GREAT NECK
SATURDAY PEAK HOUR
EXISTING



EXISTING VOLUMES SHOWN REFLECT: 1. THE PASSENGER CAR EQUIVALENT VALUES FOR TRUCKS AND BUSES AND 2. ADJUSTED FLOW RATE

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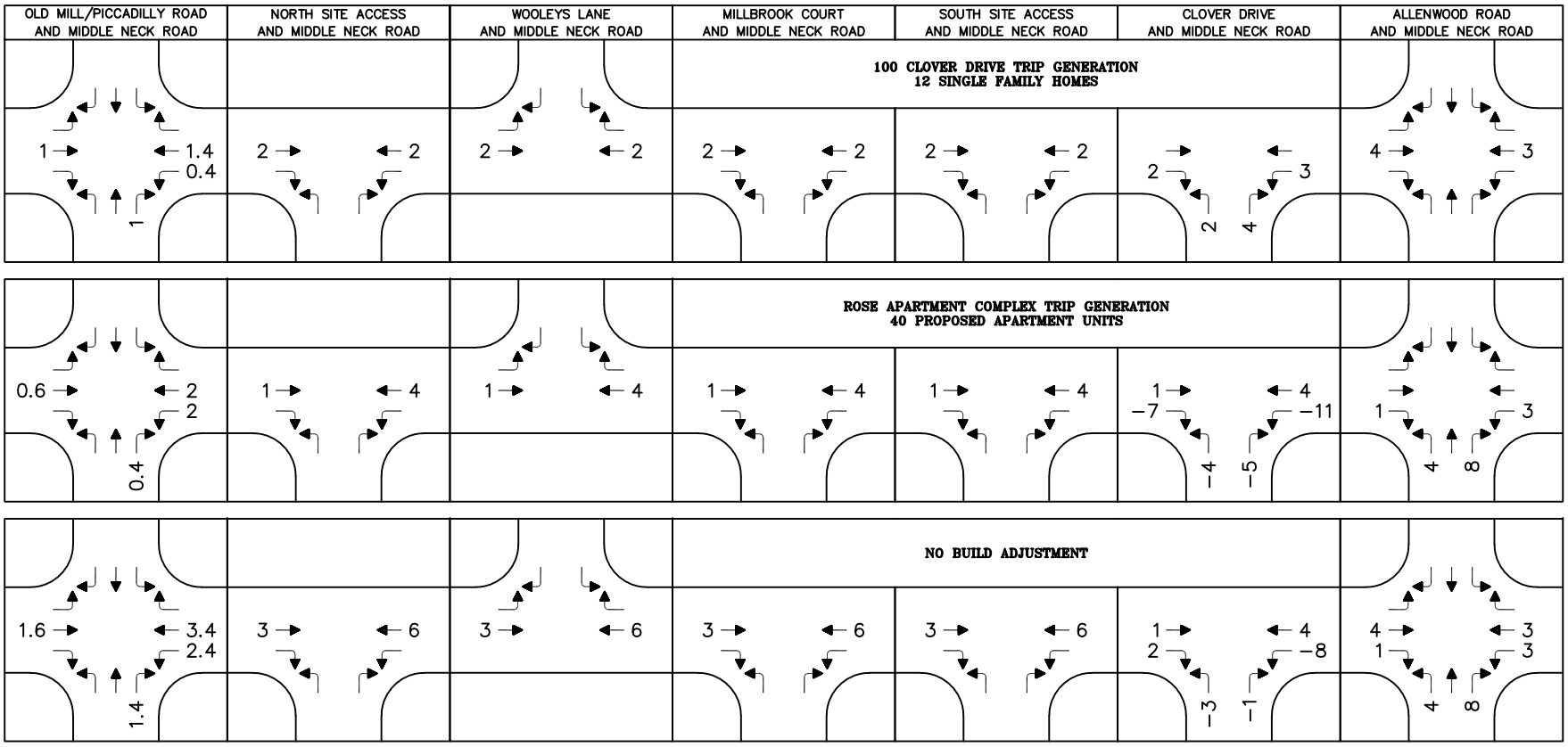
FIGURE No. 5
PROJECT No. M15-012
VILLAGE OF GREAT NECK
MORNING PEAK HOUR
TRIP GENERATION - OTHER PLANNED PROJECTS



NEGATIVE NUMBERS REFLECT DRIVEWAY CLOSURE ON CLOVER DRIVE. DECIMAL VALUES SHOWN TO ACCOUNT FOR ROUNDING.

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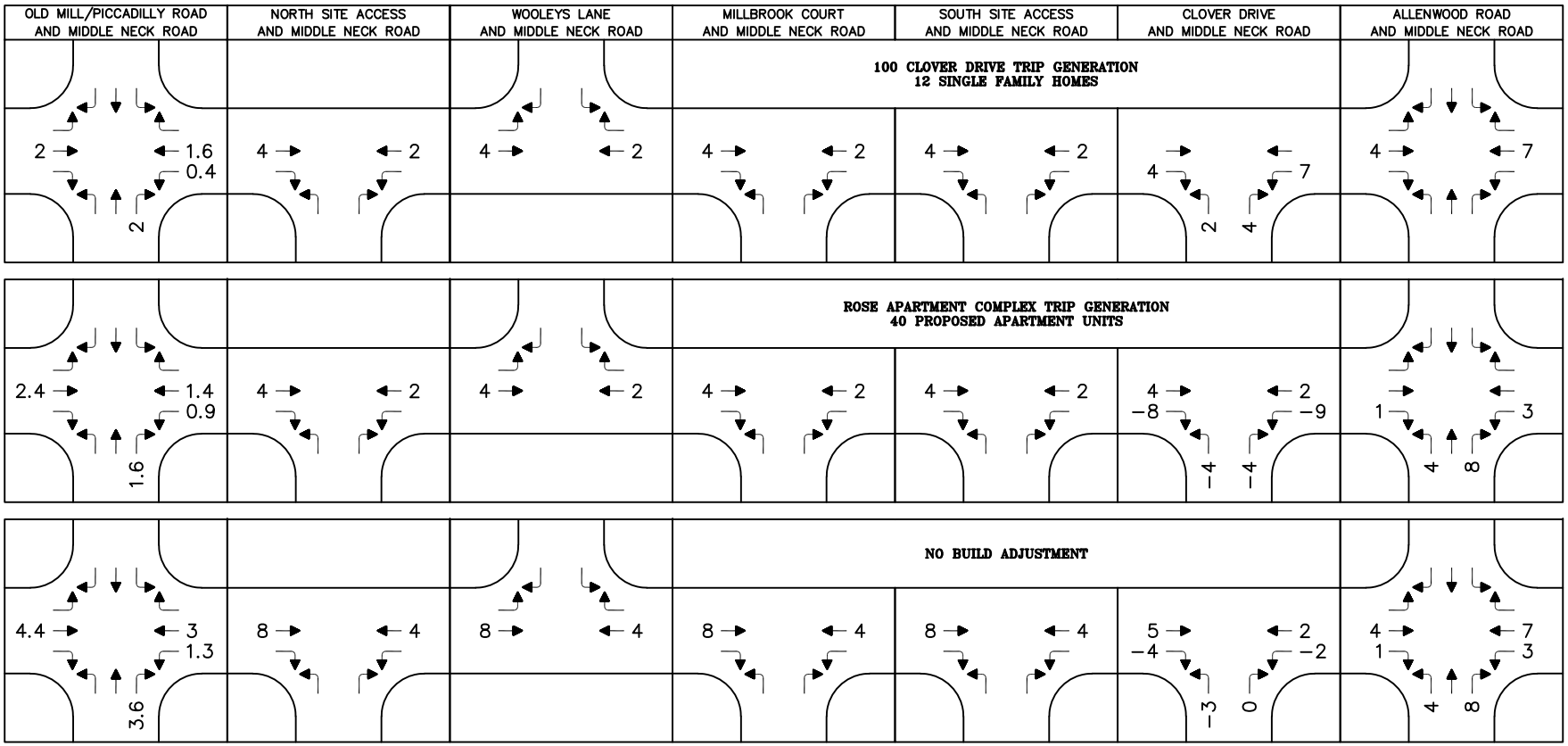
FIGURE No. 6
PROJECT No. M15-012
VILLAGE OF GREAT NECK
EVENING PEAK HOUR
TRIP GENERATION - OTHER PLANNED PROJECTS



NEGATIVE NUMBERS REFLECT DRIVEWAY CLOSURE ON CLOVER DRIVE. DECIMAL VALUES SHOWN TO ACCOUNT FOR ROUNDING.

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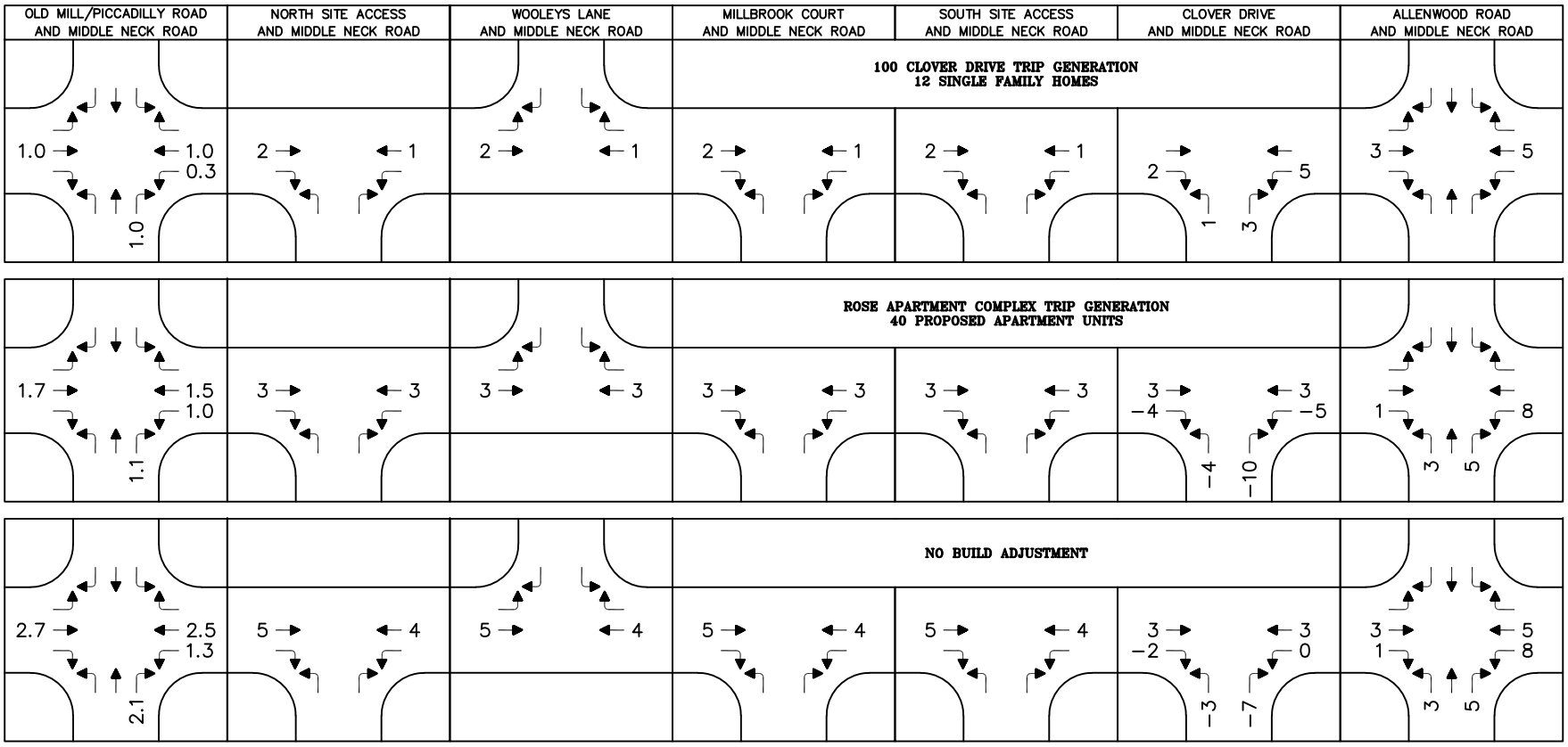
FIGURE No. 7
PROJECT No. M15-012
VILLAGE OF GREAT NECK
SATURDAY PEAK HOUR
TRIP GENERATION - OTHER PLANNED PROJECTS



NEGATIVE NUMBERS REFLECT DRIVEWAY CLOSURE ON CLOVER DRIVE. DECIMAL VALUES SHOWN TO ACCOUNT FOR ROUNDING.

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FIGURE No. 8
PROJECT No. M15-012
VILLAGE OF GREAT NECK
MORNING PEAK HOUR
NO BUILD

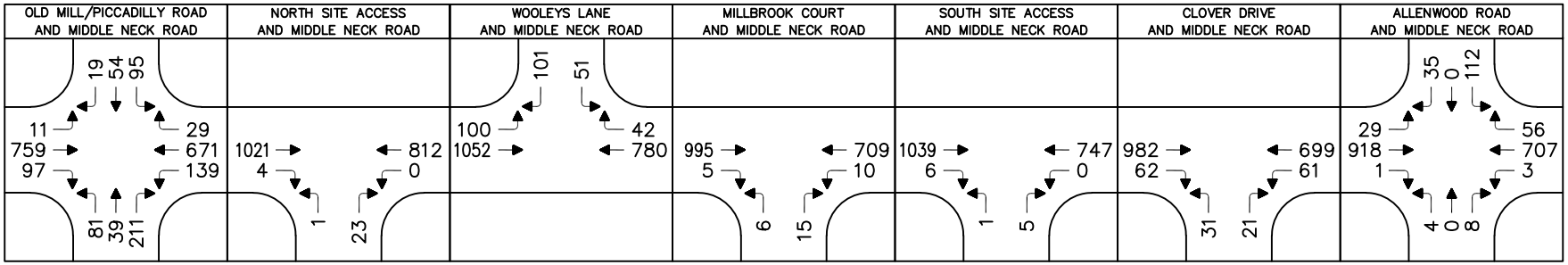

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FIGURE No. 9
PROJECT No. M15-012
VILLAGE OF GREAT NECK
EVENING PEAK HOUR
NO BUILD

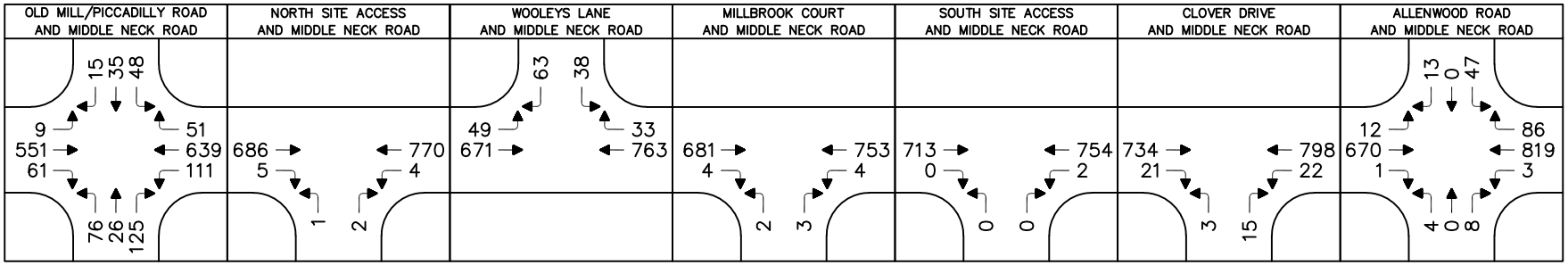

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FIGURE No. 10
PROJECT No. M15-012
VILLAGE OF GREAT NECK
SATURDAY PEAK HOUR
NO BUILD

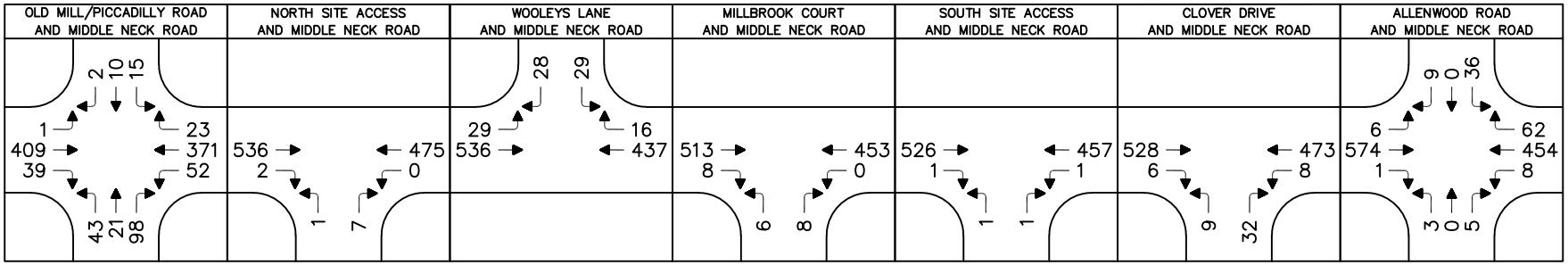

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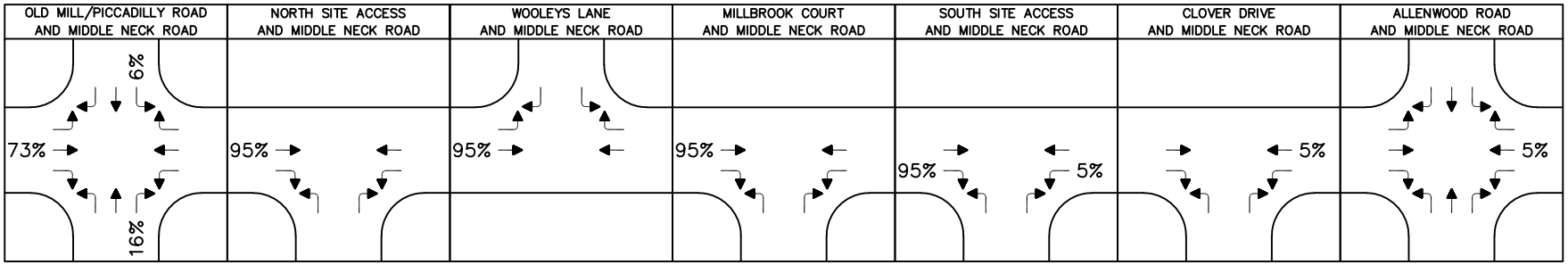
FIGURE No. 11
PROJECT No. M15-012
VILLAGE OF GREAT NECK
MORNING PEAK HOUR
SITE GENERATED TRAFFIC DISTRIBUTION

ENTERING TRAFFIC



EXITING TRAFFIC

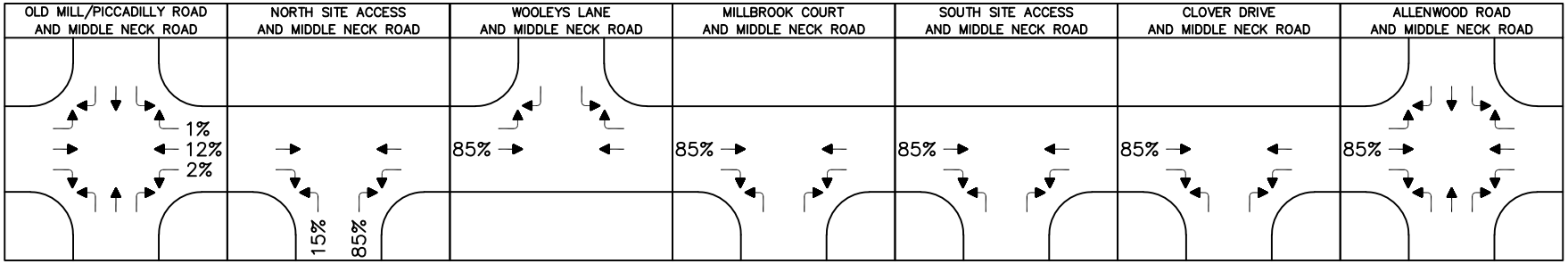


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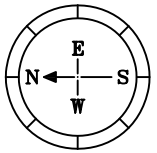
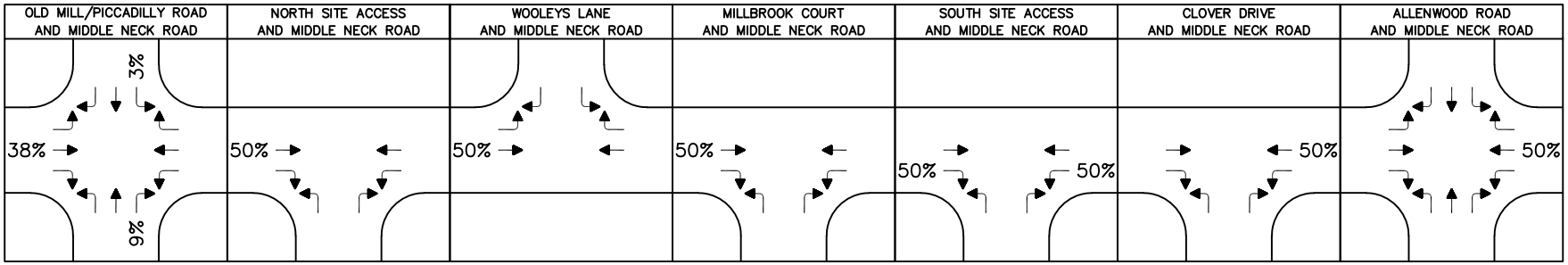
FIGURE No. 12
PROJECT No. M15-012
VILLAGE OF GREAT NECK
EVENING PEAK HOUR
SITE GENERATED TRAFFIC DISTRIBUTION



ENTERING TRAFFIC



EXITING TRAFFIC

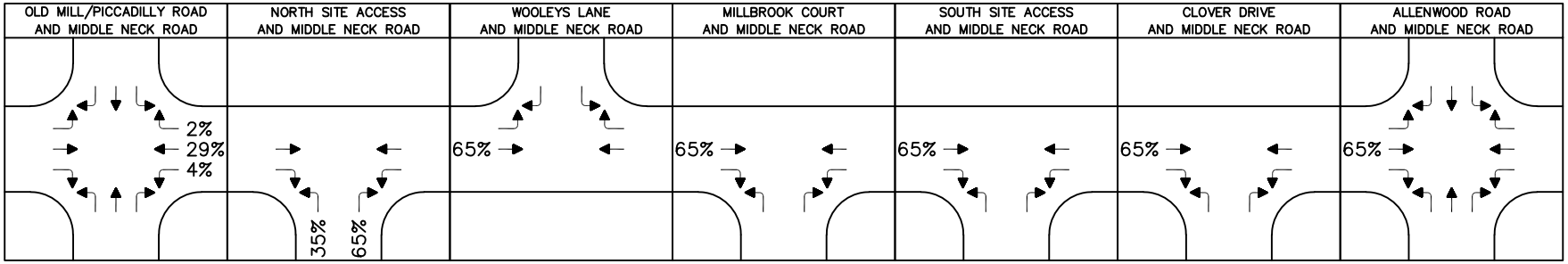


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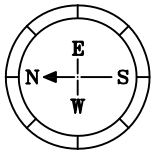
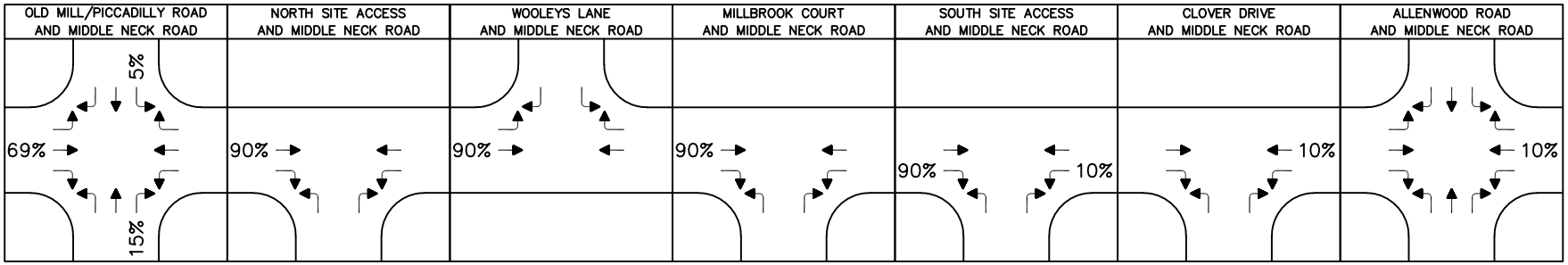
FIGURE No. 13
PROJECT No. M15-012
VILLAGE OF GREAT NECK
SATURDAY PEAK HOUR
SITE GENERATED TRAFFIC DISTRIBUTION



ENTERING TRAFFIC



EXITING TRAFFIC

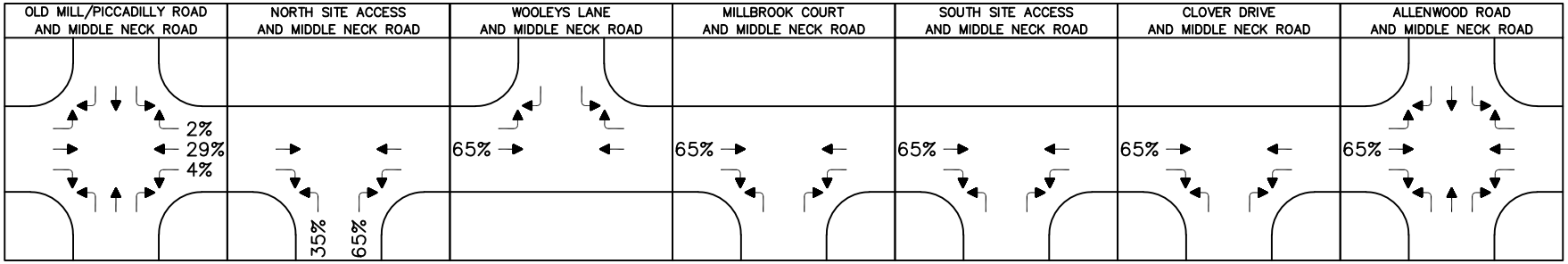


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FIGURE No. 14
PROJECT No. M15-012
VILLAGE OF GREAT NECK
MORNING PEAK HOUR
BUILD

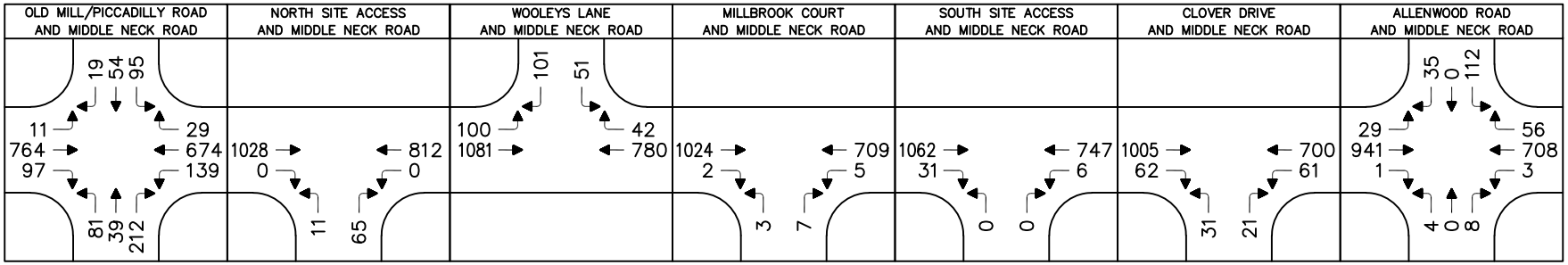

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FIGURE No. 15
PROJECT No. M15-012
VILLAGE OF GREAT NECK
EVENING PEAK HOUR
BUILD

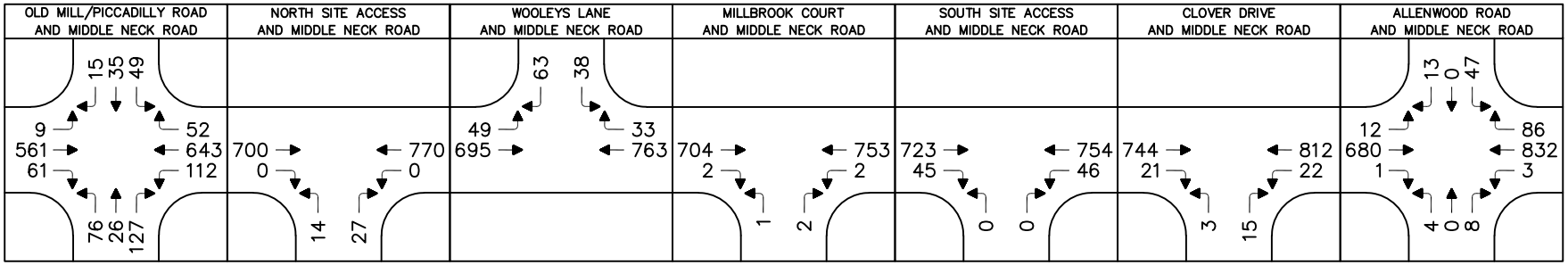

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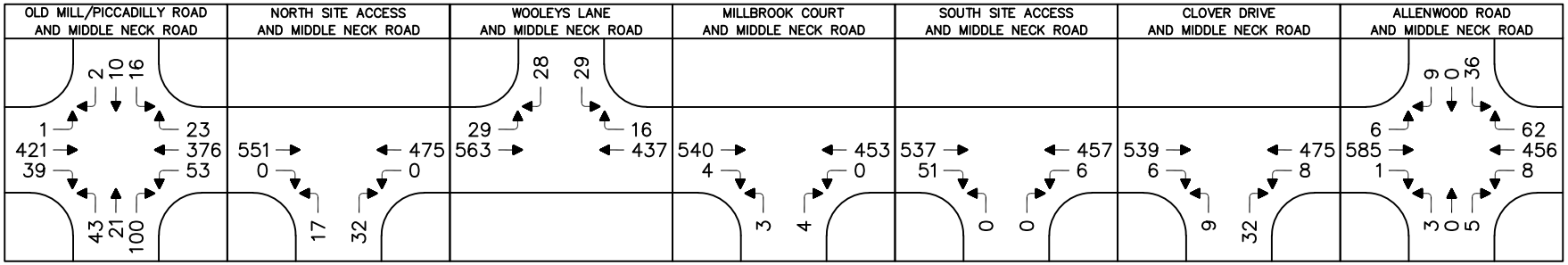
FIGURE No. 16
PROJECT No. M15-012
VILLAGE OF GREAT NECK
SATURDAY PEAK HOUR
BUILD



SECTION NO. 02 .....INTERSECTION TURNING MOVEMENT COUNTS

Mulryan Engineering, P.C. **Study Intersection No. 1**

Hamlet: Village of Great Neck
Project No. M15-012

Old Mill/Piccadilly Road at Middle Neck Road		Southbound				Westbound				Northbound				Eastbound				Vehicle
		U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	Total
AM Turning Movement Counts	7:00 AM	0	3	71	2	0	1	8	12	0	11	79	15	0	18	5	2	227
	7:15 AM	0	7	82	0	0	1	7	25	0	6	76	9	0	19	2	8	242
	7:30 AM	0	19	130	1	0	5	10	14	0	5	125	30	0	40	5	8	392
	7:45 AM	0	22	150	2	0	5	14	21	0	2	182	37	0	58	8	22	523
	8:00 AM	0	22	196	3	0	3	13	24	0	6	114	19	0	44	10	21	475
	8:15 AM	0	14	123	3	0	2	6	16	0	10	107	22	0	24	8	13	348
	8:30 AM	0	16	138	2	0	3	9	23	0	13	114	22	0	32	9	11	392
	8:45 AM	0	12	155	1	0	3	12	23	0	16	106	33	0	30	11	15	417
7:00 AM to	8:00 AM	0	51	433	5	0	12	39	72	0	24	462	91	0	135	20	40	1384
7:15 AM to	8:15 AM	0	70	558	6	0	14	44	84	0	19	497	95	0	161	25	59	1632
7:30 AM to	8:30 AM	0	77	599	9	0	15	43	75	0	23	528	108	0	166	31	64	1738
7:45 AM to	8:45 AM	0	74	607	10	0	13	42	84	0	31	517	100	0	158	35	67	1738
8:00 AM to	9:00 AM	0	64	612	9	0	11	40	86	0	45	441	96	0	130	38	60	1632
Midday Turning Movement Counts	12:00 PM	0	9	110	3	0	3	3	4	0	12	113	15	0	29	1	15	317
	12:15 PM	0	12	118	1	0	1	3	11	0	2	116	17	0	19	2	13	315
	12:30 PM	0	13	117	0	0	2	4	6	0	9	103	17	0	20	4	27	322
	12:45 PM	0	17	118	1	0	1	11	6	0	5	118	16	0	19	1	19	332
	1:00 PM	0	14	126	3	0	1	4	10	0	8	134	16	0	27	3	18	364
	1:15 PM	0	15	119	2	0	2	8	5	0	10	128	15	0	24	4	21	353
	1:30 PM	0	7	129	1	0	2	1	4	0	9	143	10	0	18	2	12	338
	1:45 PM	0	21	113	6	0	3	2	7	0	3	139	20	0	15	3	21	353
12:00 PM to	1:00 PM	0	51	463	5	0	7	21	27	0	28	450	65	0	87	8	74	1286
12:15 PM to	1:15 PM	0	56	479	5	0	5	22	33	0	24	471	66	0	85	10	77	1333
12:30 PM to	1:30 PM	0	59	480	6	0	6	27	27	0	32	483	64	0	90	12	85	1371
12:45 PM to	1:45 PM	0	53	492	7	0	6	24	25	0	32	523	57	0	88	10	70	1387
1:00 PM to	2:00 PM	0	57	487	12	0	8	15	26	0	30	544	61	0	84	12	72	1408
PM Turning Movement Counts	4:00 PM	0	18	123	4	0	5	6	18	0	20	143	27	0	28	11	13	416
	4:15 PM	0	15	126	4	0	2	5	10	0	9	121	19	0	26	6	23	366
	4:30 PM	0	18	122	4	0	1	6	13	0	10	125	27	0	41	8	25	400
	4:45 PM	0	11	120	3	0	4	6	12	0	11	150	16	0	21	3	15	372
	5:00 PM	0	14	123	3	0	4	4	11	0	10	148	15	0	26	4	21	383
	5:15 PM	0	17	137	1	0	5	10	8	0	15	143	28	0	19	6	17	406
	5:30 PM	0	15	122	1	0	4	9	12	0	9	130	26	0	36	8	17	389
	5:45 PM	0	10	119	3	0	1	9	13	0	13	162	32	0	30	6	15	413
4:00 PM to	5:00 PM	0	62	491	15	0	12	23	53	0	50	539	89	0	116	28	76	1554
4:15 PM to	5:15 PM	0	58	491	14	0	11	21	46	0	40	544	77	0	114	21	84	1521
4:30 PM to	5:30 PM	0	60	502	11	0	14	26	44	0	46	566	86	0	107	21	78	1561
4:45 PM to	5:45 PM	0	57	502	8	0	17	29	43	0	45	571	85	0	102	21	70	1550
5:00 PM to	6:00 PM	0	56	501	8	0	14	32	44	0	47	583	101	0	111	24	70	1591
Saturday Turning Movement Counts	12:00 PM	0	7	99	1	0	2	4	7	0	7	102	7	0	11	1	6	254
	12:15 PM	0	8	84	3	0	1	1	4	0	6	73	7	0	17	3	8	215
	12:30 PM	0	7	101	1	0	0	1	3	0	9	82	9	0	22	6	7	248
	12:45 PM	0	12	95	0	0	0	2	3	0	8	89	9	0	22	4	11	255
	1:00 PM	0	14	96	0	0	2	2	4	0	1	88	13	0	22	4	10	256
	1:15 PM	0	3	82	0	0	0	4	4	0	3	80	16	0	22	5	12	231
	1:30 PM	0	7	78	1	0	0	4	4	0	4	76	9	0	16	7	6	212
	1:45 PM	0	11	86	1	0	2	0	8	0	5	73	13	0	26	1	11	237
12:00 PM to	1:00 PM	0	34	379	5	0	3	8	17	0	30	346	32	0	72	14	32	972
12:15 PM to	1:15 PM	0	41	376	4	0	3	6	14	0	24	332	38	0	83	17	36	974
12:30 PM to	1:30 PM	0	36	374	1	0	2	9	14	0	21	339	47	0	88	19	40	990
12:45 PM to	1:45 PM	0	36	351	1	0	2	12	15	0	16	333	47	0	82	20	39	954
1:00 PM to	2:00 PM	0	35	342	2	0	4	10	20	0	13	317	51	0	86	17	39	936
Peak Hour	**PHF**	**Start Time**																
AM	0.831	7:30 AM	0	77	599	9	0	15	43	75	0	23	528	108	0	166	31	64	1738
Midday	0.967	1:00 PM	0	57	487	12	0	8	15	26	0	30	544	61	0	84	12	72	1408
PM	0.963	5:00 PM	0	56	501	8	0	14	32	44	0	47	583	101	0	111	24	70	1591
Saturday	0.967	12:30 PM	0	36	374	1	0	2	9	14	0	21	339	47	0	88	19	40	990

Mulryan Engineering, P.C. **Study Intersection No. 2**

Hamlet: Village of Great Neck
Project No. M15-012

North Site Access at Middle Neck Road			Southbound				Westbound				Northbound				Eastbound				Vehicle
			U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	Total
AM Turning Movement Counts		7:00 AM	0	0	93	0	0	0	0	0	0	0	86	0	0	1	0	0	180
		7:15 AM	0	1	105	0	0	0	0	0	0	0	84	1	0	1	0	1	193
		7:30 AM	0	1	165	0	0	0	0	0	0	0	157	0	0	5	0	0	328
		7:45 AM	0	2	223	0	0	0	0	0	0	0	209	0	0	7	0	0	441
		8:00 AM	0	0	257	0	0	0	0	0	0	0	127	0	0	4	0	1	389
		8:15 AM	0	0	150	0	0	0	0	0	0	0	136	0	0	2	0	0	288
		8:30 AM	0	1	182	0	0	0	0	0	0	0	132	3	0	2	0	0	320
		8:45 AM	0	3	192	0	0	0	0	0	0	0	153	1	0	4	0	1	354
7:00 AM	to	8:00 AM	0	4	586	0	0	0	0	0	0	0	536	1	0	14	0	1	1142
7:15 AM	to	8:15 AM	0	4	750	0	0	0	0	0	0	0	577	1	0	17	0	2	1351
7:30 AM	to	8:30 AM	0	3	795	0	0	0	0	0	0	0	629	0	0	18	0	1	1446
7:45 AM	to	8:45 AM	0	3	812	0	0	0	0	0	0	0	604	3	0	15	0	1	1438
8:00 AM	to	9:00 AM	0	4	781	0	0	0	0	0	0	0	548	4	0	12	0	2	1351
Midday Turning Movement Counts		12:00 PM	0	0	137	0	0	0	0	0	0	0	129	1	0	0	0	0	267
		12:15 PM	0	3	139	0	0	0	0	0	0	0	132	1	0	1	0	0	276
		12:30 PM	0	0	137	0	0	0	0	0	0	0	119	1	0	0	0	1	258
		12:45 PM	0	0	142	0	0	0	0	0	0	0	147	1	0	2	0	1	293
		1:00 PM	0	1	149	0	0	0	0	0	0	0	142	0	0	3	0	0	295
		1:15 PM	0	0	145	0	0	0	0	0	0	0	148	1	0	0	0	0	294
		1:30 PM	0	0	144	0	0	0	0	0	0	0	160	0	0	3	0	0	307
		1:45 PM	0	2	133	0	0	0	0	0	0	0	154	0	0	0	0	1	290
12:00 PM	to	1:00 PM	0	3	555	0	0	0	0	0	0	0	527	4	0	3	0	2	1094
12:15 PM	to	1:15 PM	0	4	567	0	0	0	0	0	0	0	540	3	0	6	0	2	1122
12:30 PM	to	1:30 PM	0	1	573	0	0	0	0	0	0	0	556	3	0	5	0	2	1140
12:45 PM	to	1:45 PM	0	1	580	0	0	0	0	0	0	0	597	2	0	8	0	1	1189
1:00 PM	to	2:00 PM	0	3	571	0	0	0	0	0	0	0	604	1	0	6	0	1	1186
PM Turning Movement Counts		4:00 PM	0	3	156	0	0	0	0	0	0	0	172	3	0	1	0	0	335
		4:15 PM	0	2	149	0	0	0	0	0	0	0	143	2	0	3	0	0	299
		4:30 PM	0	3	155	0	0	0	0	0	0	0	150	0	0	1	0	0	309
		4:45 PM	0	1	146	0	0	0	0	0	0	0	186	1	0	3	0	0	337
		5:00 PM	0	2	151	0	0	0	0	0	0	0	163	0	0	0	0	0	316
		5:15 PM	0	3	159	0	0	0	0	0	0	0	181	2	0	1	0	1	347
		5:30 PM	0	0	161	0	0	0	0	0	0	0	166	1	0	1	0	0	329
		5:45 PM	0	0	151	0	0	0	0	0	0	0	193	1	0	0	0	0	345
4:00 PM	to	5:00 PM	0	9	606	0	0	0	0	0	0	0	651	6	0	8	0	0	1280
4:15 PM	to	5:15 PM	0	8	601	0	0	0	0	0	0	0	642	3	0	7	0	0	1261
4:30 PM	to	5:30 PM	0	9	611	0	0	0	0	0	0	0	680	3	0	5	0	1	1309
4:45 PM	to	5:45 PM	0	6	617	0	0	0	0	0	0	0	696	4	0	5	0	1	1329
5:00 PM	to	6:00 PM	0	5	622	0	0	0	0	0	0	0	703	4	0	2	0	1	1337
Saturday Turning Movement Counts		12:00 PM	0	0	105	0	0	0	0	0	0	0	94	0	0	0	0	0	199
		12:15 PM	0	0	110	0	0	0	0	0	0	0	87	0	0	3	0	1	201
		12:30 PM	0	0	119	0	0	0	0	0	0	0	95	0	0	1	0	0	215
		12:45 PM	0	2	111	0	0	0	0	0	0	0	119	0	0	1	0	0	233
		1:00 PM	0	0	127	0	0	0	0	0	0	0	113	0	0	1	0	0	241
		1:15 PM	0	1	103	0	0	0	0	0	0	0	86	1	0	2	0	0	193
		1:30 PM	0	0	107	0	0	0	0	0	0	0	82	0	0	1	0	0	190
		1:45 PM	0	1	88	0	0	0	0	0	0	0	118	0	0	0	0	0	207
12:00 PM	to	1:00 PM	0	2	445	0	0	0	0	0	0	0	395	0	0	5	0	1	848
12:15 PM	to	1:15 PM	0	2	467	0	0	0	0	0	0	0	414	0	0	6	0	1	890
12:30 PM	to	1:30 PM	0	3	460	0	0	0	0	0	0	0	413	1	0	5	0	0	882
12:45 PM	to	1:45 PM	0	3	448	0	0	0	0	0	0	0	400	1	0	5	0	0	857
1:00 PM	to	2:00 PM	0	2	425	0	0	0	0	0	0	0	399	1	0	4	0	0	831
Peak Hour	**PHF**	**Start Time**																	
AM	0.820	7:30 AM	0	3	795	0	0	0	0	0	0	0	629	0	0	18	0	1	1446
Midday	0.968	12:45 PM	0	1	580	0	0	0	0	0	0	0	597	2	0	8	0	1	1189
PM	0.963	5:00 PM	0	5	622	0	0	0	0	0	0	0	703	4	0	2	0	1	1337
Saturday	0.923	12:15 PM	0	2	467	0	0	0	0	0	0	0	414	0	0	6	0	1	890

Mulryan Engineering, P.C. **Study Intersection No. 3**

Hamlet: Village of Great Neck
Project No. M15-012

Wooleys Lane at Middle Neck Road			Southbound				Westbound				Northbound				Eastbound				Vehicle
			U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	Total
AM Turning Movement Counts		7:00 AM	0	0	86	15	0	7	0	9	0	5	98	0	0	0	0	0	220
		7:15 AM	0	0	113	13	0	13	0	19	0	5	90	0	0	0	0	0	253
		7:30 AM	0	0	181	12	0	25	0	9	0	3	141	0	0	0	0	0	371
		7:45 AM	0	0	226	28	0	34	0	14	0	19	183	0	0	0	0	0	504
		8:00 AM	0	0	239	24	0	8	0	8	0	4	124	0	0	0	0	0	407
		8:15 AM	0	0	153	12	0	10	0	8	0	6	142	0	0	0	0	0	331
		8:30 AM	0	0	188	8	0	9	0	12	0	5	136	0	0	0	0	0	358
		8:45 AM	0	0	194	11	0	21	0	16	0	4	146	0	0	0	0	0	392
7:00 AM	to	8:00 AM	0	0	606	68	0	79	0	51	0	32	512	0	0	0	0	0	1348
7:15 AM	to	8:15 AM	0	0	759	77	0	80	0	50	0	31	538	0	0	0	0	0	1535
7:30 AM	to	8:30 AM	0	0	799	76	0	77	0	39	0	32	590	0	0	0	0	0	1613
7:45 AM	to	8:45 AM	0	0	806	72	0	61	0	42	0	34	585	0	0	0	0	0	1600
8:00 AM	to	9:00 AM	0	0	774	55	0	48	0	44	0	19	548	0	0	0	0	0	1488
Midday Turning Movement Counts		12:00 PM	0	0	138	7	0	10	0	4	0	3	125	0	0	0	0	0	287
		12:15 PM	0	0	138	11	0	10	0	7	0	10	131	0	0	0	0	0	307
		12:30 PM	0	0	150	6	0	11	0	5	0	6	107	0	0	0	0	0	285
		12:45 PM	0	0	138	10	0	2	0	4	0	7	152	0	0	0	0	0	313
		1:00 PM	0	0	160	6	0	7	0	5	0	19	141	0	0	0	0	0	338
		1:15 PM	0	0	138	9	0	8	0	9	0	4	151	0	0	0	0	0	319
		1:30 PM	0	0	152	8	0	11	0	3	0	3	150	0	0	0	0	0	327
		1:45 PM	0	0	124	8	0	7	0	6	0	4	154	0	0	0	0	0	303
12:00 PM	to	1:00 PM	0	0	564	34	0	33	0	20	0	26	515	0	0	0	0	0	1192
12:15 PM	to	1:15 PM	0	0	586	33	0	30	0	21	0	42	531	0	0	0	0	0	1243
12:30 PM	to	1:30 PM	0	0	586	31	0	28	0	23	0	36	551	0	0	0	0	0	1255
12:45 PM	to	1:45 PM	0	0	588	33	0	28	0	21	0	33	594	0	0	0	0	0	1297
1:00 PM	to	2:00 PM	0	0	574	31	0	33	0	23	0	30	596	0	0	0	0	0	1287
PM Turning Movement Counts		4:00 PM	0	0	156	17	0	20	0	7	0	3	171	0	0	0	0	0	374
		4:15 PM	0	0	155	12	0	7	0	5	0	6	140	0	0	0	0	0	325
		4:30 PM	0	0	155	8	0	9	0	9	0	9	148	0	0	0	0	0	338
		4:45 PM	0	0	140	14	0	15	0	6	0	8	182	0	0	0	0	0	365
		5:00 PM	0	0	145	10	0	11	0	11	0	7	152	0	0	0	0	0	336
		5:15 PM	0	0	150	11	0	25	0	5	0	11	174	0	0	0	0	0	376
		5:30 PM	0	0	164	11	0	11	0	7	0	5	159	0	0	0	0	0	357
		5:45 PM	0	0	141	12	0	10	0	11	0	7	201	0	0	0	0	0	382
4:00 PM	to	5:00 PM	0	0	606	51	0	51	0	27	0	26	641	0	0	0	0	0	1402
4:15 PM	to	5:15 PM	0	0	595	44	0	42	0	31	0	30	622	0	0	0	0	0	1364
4:30 PM	to	5:30 PM	0	0	590	43	0	60	0	31	0	35	656	0	0	0	0	0	1415
4:45 PM	to	5:45 PM	0	0	599	46	0	62	0	29	0	31	667	0	0	0	0	0	1434
5:00 PM	to	6:00 PM	0	0	600	44	0	57	0	34	0	30	686	0	0	0	0	0	1451
Saturday Turning Movement Counts		12:00 PM	0	0	112	2	0	6	0	4	0	2	106	0	0	0	0	0	232
		12:15 PM	0	0	110	4	0	6	0	6	0	1	77	0	0	0	0	0	204
		12:30 PM	0	0	115	8	0	10	0	6	0	2	95	0	0	0	0	0	236
		12:45 PM	0	0	113	6	0	7	0	9	0	3	101	0	0	0	0	0	239
		1:00 PM	0	0	133	4	0	4	0	5	0	4	104	0	0	0	0	0	254
		1:15 PM	0	0	112	8	0	4	0	6	0	5	86	0	0	0	0	0	221
		1:30 PM	0	0	97	8	0	8	0	4	0	5	82	0	0	0	0	0	204
		1:45 PM	0	0	117	8	0	5	0	4	0	2	83	0	0	0	0	0	219
12:00 PM	to	1:00 PM	0	0	450	20	0	29	0	25	0	8	379	0	0	0	0	0	911
12:15 PM	to	1:15 PM	0	0	471	22	0	27	0	26	0	10	377	0	0	0	0	0	933
12:30 PM	to	1:30 PM	0	0	473	26	0	25	0	26	0	14	386	0	0	0	0	0	950
12:45 PM	to	1:45 PM	0	0	455	26	0	23	0	24	0	17	373	0	0	0	0	0	918
1:00 PM	to	2:00 PM	0	0	459	28	0	21	0	19	0	16	355	0	0	0	0	0	898
Peak Hour	**PHF**	**Start Time**																	
AM	0.800	7:30 AM	0	0	799	76	0	77	0	39	0	32	590	0	0	0	0	0	1613
Midday	0.959	12:45 PM	0	0	588	33	0	28	0	21	0	33	594	0	0	0	0	0	1297
PM	0.950	5:00 PM	0	0	600	44	0	57	0	34	0	30	686	0	0	0	0	0	1451
Saturday	0.935	12:30 PM	0	0	473	26	0	25	0	26	0	14	386	0	0	0	0	0	950

Mulryan Engineering, P.C. **Study Intersection No. 4**

Hamlet: Village of Great Neck
Project No. M15-012

Millbrook Court at Middle Neck Road		Southbound				Westbound				Northbound				Eastbound				Vehicle
		U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	Total
AM Turning Movement Counts	7:00 AM	0	0	93	0	0	0	0	0	0	0	83	0	0	0	0	0	176
	7:15 AM	0	1	118	0	0	0	0	0	0	0	81	1	0	1	0	0	202
	7:30 AM	0	1	171	0	0	0	0	0	0	0	143	2	0	2	0	0	319
	7:45 AM	0	2	220	0	0	0	0	0	0	0	179	4	0	4	0	3	412
	8:00 AM	0	0	237	0	0	0	0	0	0	0	118	0	0	2	0	0	357
	8:15 AM	0	1	146	0	0	0	0	0	0	0	137	2	0	2	0	1	289
	8:30 AM	0	1	193	0	0	0	0	0	0	0	130	2	0	4	0	1	331
	8:45 AM	0	2	196	0	0	0	0	0	0	0	139	2	0	2	0	3	344
7:00 AM to	8:00 AM	0	4	602	0	0	0	0	0	0	0	486	7	0	7	0	3	1109
7:15 AM to	8:15 AM	0	4	746	0	0	0	0	0	0	0	521	7	0	9	0	3	1290
7:30 AM to	8:30 AM	0	4	774	0	0	0	0	0	0	0	577	8	0	10	0	4	1377
7:45 AM to	8:45 AM	0	4	796	0	0	0	0	0	0	0	564	8	0	12	0	5	1389
8:00 AM to	9:00 AM	0	4	772	0	0	0	0	0	0	0	524	6	0	10	0	5	1321
Midday Turning Movement Counts	12:00 PM	0	0	142	0	0	0	0	0	0	0	121	2	0	0	0	1	266
	12:15 PM	0	0	142	0	0	0	0	0	0	0	134	1	0	0	0	0	277
	12:30 PM	0	0	149	0	0	0	0	0	0	0	115	1	0	2	0	0	267
	12:45 PM	0	1	145	0	0	0	0	0	0	0	152	0	0	0	0	0	298
	1:00 PM	0	1	149	0	0	0	0	0	0	0	147	0	0	0	0	0	297
	1:15 PM	0	0	147	0	0	0	0	0	0	0	153	0	0	3	0	0	303
	1:30 PM	0	2	140	0	0	0	0	0	0	0	144	5	0	4	0	2	297
	1:45 PM	0	0	132	0	0	0	0	0	0	0	152	2	0	2	0	1	289
12:00 PM to	1:00 PM	0	1	578	0	0	0	0	0	0	0	522	4	0	2	0	1	1108
12:15 PM to	1:15 PM	0	2	585	0	0	0	0	0	0	0	548	2	0	2	0	0	1139
12:30 PM to	1:30 PM	0	2	590	0	0	0	0	0	0	0	567	1	0	5	0	0	1165
12:45 PM to	1:45 PM	0	4	581	0	0	0	0	0	0	0	596	5	0	7	0	2	1195
1:00 PM to	2:00 PM	0	3	568	0	0	0	0	0	0	0	596	7	0	9	0	3	1186
PM Turning Movement Counts	4:00 PM	0	2	144	0	0	0	0	0	0	0	162	0	0	0	0	3	311
	4:15 PM	0	2	141	0	0	0	0	0	0	0	143	1	0	0	0	2	289
	4:30 PM	0	1	152	0	0	0	0	0	0	0	149	1	0	1	0	3	307
	4:45 PM	0	3	138	0	0	0	0	0	0	0	180	3	0	1	0	0	325
	5:00 PM	0	0	150	0	0	0	0	0	0	0	151	0	0	1	0	1	303
	5:15 PM	0	2	152	0	0	0	0	0	0	0	176	1	0	0	0	1	332
	5:30 PM	0	0	160	0	0	0	0	0	0	0	157	1	0	1	0	0	319
	5:45 PM	0	2	145	0	0	0	0	0	0	0	192	2	0	1	0	0	342
4:00 PM to	5:00 PM	0	8	575	0	0	0	0	0	0	0	634	5	0	2	0	8	1232
4:15 PM to	5:15 PM	0	6	581	0	0	0	0	0	0	0	623	5	0	3	0	6	1224
4:30 PM to	5:30 PM	0	6	592	0	0	0	0	0	0	0	656	5	0	3	0	5	1267
4:45 PM to	5:45 PM	0	5	600	0	0	0	0	0	0	0	664	5	0	3	0	2	1279
5:00 PM to	6:00 PM	0	4	607	0	0	0	0	0	0	0	676	4	0	3	0	2	1296
Saturday Turning Movement Counts	12:00 PM	0	0	110	0	0	0	0	0	0	0	91	0	0	1	0	1	203
	12:15 PM	0	6	96	0	0	0	0	0	0	0	83	0	0	6	0	2	193
	12:30 PM	0	1	123	0	0	0	0	0	0	0	93	0	0	1	0	2	220
	12:45 PM	0	0	108	0	0	0	0	0	0	0	115	0	0	0	0	1	224
	1:00 PM	0	0	125	0	0	0	0	0	0	0	108	0	0	0	0	0	233
	1:15 PM	0	1	100	0	0	0	0	0	0	0	87	3	0	2	0	0	193
	1:30 PM	0	2	107	0	0	0	0	0	0	0	83	1	0	3	0	0	196
	1:45 PM	0	0	91	0	0	0	0	0	0	0	114	2	0	1	0	0	208
12:00 PM to	1:00 PM	0	7	437	0	0	0	0	0	0	0	382	0	0	8	0	6	840
12:15 PM to	1:15 PM	0	7	452	0	0	0	0	0	0	0	399	0	0	7	0	5	870
12:30 PM to	1:30 PM	0	2	456	0	0	0	0	0	0	0	403	3	0	3	0	3	870
12:45 PM to	1:45 PM	0	3	440	0	0	0	0	0	0	0	393	4	0	5	0	1	846
1:00 PM to	2:00 PM	0	3	423	0	0	0	0	0	0	0	392	6	0	6	0	0	830
Peak Hour	**PHF**	**Start Time**																
AM	0.843	7:45 AM	0	4	796	0	0	0	0	0	0	0	564	8	0	12	0	5	1389
Midday	0.986	12:45 PM	0	4	581	0	0	0	0	0	0	0	596	5	0	7	0	2	1195
PM	0.947	5:00 PM	0	4	607	0	0	0	0	0	0	0	676	4	0	3	0	2	1296
Saturday	0.933	12:15 PM	0	7	452	0	0	0	0	0	0	0	399	0	0	7	0	5	870

Mulryan Engineering, P.C. **Study Intersection No. 5**

Hamlet: Village of Great Neck
Project No. M15-012

South Site Access at Middle Neck Road			Southbound				Westbound				Northbound				Eastbound				Vehicle
			U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	Total
AM Turning Movement Counts		7:00 AM	0	0	101	0	0	0	0	0	0	0	100	0	0	0	0	0	201
		7:15 AM	0	0	133	0	0	0	0	0	0	0	87	0	0	0	0	0	220
		7:30 AM	0	0	185	0	0	0	0	0	0	0	147	0	0	3	0	0	335
		7:45 AM	0	2	235	0	0	0	0	0	0	0	187	0	0	2	0	0	426
		8:00 AM	0	3	248	0	0	0	0	0	0	0	123	0	0	0	0	1	375
		8:15 AM	0	0	154	0	0	0	0	0	0	0	150	0	0	2	0	0	306
		8:30 AM	0	0	202	0	0	0	0	0	0	0	140	0	0	0	0	0	342
		8:45 AM	0	0	203	0	0	0	0	0	0	0	149	0	0	1	0	0	353
7:00 AM	to	8:00 AM	0	2	654	0	0	0	0	0	0	0	521	0	0	5	0	0	1182
7:15 AM	to	8:15 AM	0	5	801	0	0	0	0	0	0	0	544	0	0	5	0	1	1356
7:30 AM	to	8:30 AM	0	5	822	0	0	0	0	0	0	0	607	0	0	7	0	1	1442
7:45 AM	to	8:45 AM	0	5	839	0	0	0	0	0	0	0	600	0	0	4	0	1	1449
8:00 AM	to	9:00 AM	0	3	807	0	0	0	0	0	0	0	562	0	0	3	0	1	1376
Midday Turning Movement Counts		12:00 PM	0	0	143	0	0	0	0	0	0	0	128	1	0	0	0	0	272
		12:15 PM	0	0	141	0	0	0	0	0	0	0	136	0	0	0	0	0	277
		12:30 PM	0	1	150	0	0	0	0	0	0	0	118	1	0	2	0	0	272
		12:45 PM	0	0	146	0	0	0	0	0	0	0	156	0	0	0	0	0	302
		1:00 PM	0	0	154	0	0	0	0	0	0	0	152	0	0	0	0	1	307
		1:15 PM	0	0	156	0	0	0	0	0	0	0	160	0	0	0	0	0	316
		1:30 PM	0	0	148	0	0	0	0	0	0	0	154	0	0	0	0	0	302
		1:45 PM	0	0	139	0	0	0	0	0	0	0	163	0	0	1	0	0	303
12:00 PM	to	1:00 PM	0	1	580	0	0	0	0	0	0	0	538	2	0	2	0	0	1123
12:15 PM	to	1:15 PM	0	1	591	0	0	0	0	0	0	0	562	1	0	2	0	1	1158
12:30 PM	to	1:30 PM	0	1	606	0	0	0	0	0	0	0	586	1	0	2	0	1	1197
12:45 PM	to	1:45 PM	0	0	604	0	0	0	0	0	0	0	622	0	0	0	0	1	1227
1:00 PM	to	2:00 PM	0	0	597	0	0	0	0	0	0	0	629	0	0	1	0	1	1228
PM Turning Movement Counts		4:00 PM	0	1	160	0	0	0	0	0	0	0	176	0	0	1	0	0	338
		4:15 PM	0	1	156	0	0	0	0	0	0	0	150	1	0	1	0	0	309
		4:30 PM	0	1	167	0	0	0	0	0	0	0	152	0	0	0	0	0	320
		4:45 PM	0	0	142	0	0	0	0	0	0	0	192	0	0	1	0	0	335
		5:00 PM	0	0	162	0	0	0	0	0	0	0	150	1	0	0	0	0	313
		5:15 PM	0	0	157	0	0	0	0	0	0	0	181	0	0	0	0	0	338
		5:30 PM	0	0	165	0	0	0	0	0	0	0	154	0	0	0	0	0	319
		5:45 PM	0	0	153	0	0	0	0	0	0	0	193	1	0	0	0	0	347
4:00 PM	to	5:00 PM	0	3	625	0	0	0	0	0	0	0	670	1	0	3	0	0	1302
4:15 PM	to	5:15 PM	0	2	627	0	0	0	0	0	0	0	644	2	0	2	0	0	1277
4:30 PM	to	5:30 PM	0	1	628	0	0	0	0	0	0	0	675	1	0	1	0	0	1306
4:45 PM	to	5:45 PM	0	0	626	0	0	0	0	0	0	0	677	1	0	1	0	0	1305
5:00 PM	to	6:00 PM	0	0	637	0	0	0	0	0	0	0	678	2	0	0	0	0	1317
Saturday Turning Movement Counts		12:00 PM	0	2	98	0	0	0	0	0	0	0	87	0	0	2	0	0	189
		12:15 PM	0	0	107	0	0	0	0	0	0	0	75	0	0	2	0	0	184
		12:30 PM	0	0	119	0	0	0	0	0	0	0	95	0	0	0	0	0	214
		12:45 PM	0	0	102	0	0	0	0	0	0	0	98	1	0	1	0	1	203
		1:00 PM	0	0	126	0	0	0	0	0	0	0	107	0	0	0	0	0	233
		1:15 PM	0	1	99	0	0	0	0	0	0	0	88	0	0	0	0	0	188
		1:30 PM	0	0	112	0	0	0	0	0	0	0	86	0	0	0	0	0	198
		1:45 PM	0	0	93	0	0	0	0	0	0	0	114	0	0	0	0	0	207
12:00 PM	to	1:00 PM	0	2	426	0	0	0	0	0	0	0	355	1	0	5	0	1	790
12:15 PM	to	1:15 PM	0	0	454	0	0	0	0	0	0	0	375	1	0	3	0	1	834
12:30 PM	to	1:30 PM	0	1	446	0	0	0	0	0	0	0	388	1	0	1	0	1	838
12:45 PM	to	1:45 PM	0	1	439	0	0	0	0	0	0	0	379	1	0	1	0	1	822
1:00 PM	to	2:00 PM	0	1	430	0	0	0	0	0	0	0	395	0	0	0	0	0	826
Peak Hour	**PHF**	**Start Time**																	
AM	0.850	7:45 AM	0	5	839	0	0	0	0	0	0	0	600	0	0	4	0	1	1449
Midday	0.972	1:00 PM	0	0	597	0	0	0	0	0	0	0	629	0	0	1	0	1	1228
PM	0.949	5:00 PM	0	0	637	0	0	0	0	0	0	0	678	2	0	0	0	0	1317
Saturday	0.899	12:30 PM	0	1	446	0	0	0	0	0	0	0	388	1	0	1	0	1	838

Mulryan Engineering, P.C. **Study Intersection No. 6**

Hamlet: Village of Great Neck
Project No. M15-012

Clover Drive at Middle Neck Road		Southbound				Westbound				Northbound				Eastbound				Vehicle
		U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	Total
AM Turning Movement Counts	7:00 AM	0	1	100	0	0	0	0	0	0	0	101	8	0	1	0	1	212
	7:15 AM	0	1	133	0	0	0	0	0	0	0	86	6	0	3	0	2	231
	7:30 AM	0	3	185	0	0	0	0	0	0	0	147	12	0	3	0	5	355
	7:45 AM	0	14	218	0	0	0	0	0	0	0	189	10	0	4	0	8	443
	8:00 AM	0	5	256	0	0	0	0	0	0	0	119	13	0	2	0	5	400
	8:15 AM	0	9	157	0	0	0	0	0	0	0	140	16	0	4	0	3	329
	8:30 AM	0	22	185	0	0	0	0	0	0	0	130	18	0	8	0	12	375
	8:45 AM	0	15	201	0	0	0	0	0	0	0	130	30	0	1	0	12	389
7:00 AM to	8:00 AM	0	19	636	0	0	0	0	0	0	0	523	36	0	11	0	16	1241
7:15 AM to	8:15 AM	0	23	792	0	0	0	0	0	0	0	541	41	0	12	0	20	1429
7:30 AM to	8:30 AM	0	31	816	0	0	0	0	0	0	0	595	51	0	13	0	21	1527
7:45 AM to	8:45 AM	0	50	816	0	0	0	0	0	0	0	578	57	0	18	0	28	1547
8:00 AM to	9:00 AM	0	51	799	0	0	0	0	0	0	0	519	77	0	15	0	32	1493
Midday Turning Movement Counts	12:00 PM	0	3	139	0	0	0	0	0	0	0	129	3	0	2	0	4	280
	12:15 PM	0	3	140	0	0	0	0	0	0	0	132	4	0	6	0	6	291
	12:30 PM	0	4	150	0	0	0	0	0	0	0	117	10	0	3	0	4	288
	12:45 PM	0	5	140	0	0	0	0	0	0	0	155	6	0	15	0	5	326
	1:00 PM	0	5	156	0	0	0	0	0	0	0	152	5	0	43	0	5	366
	1:15 PM	0	3	152	0	0	0	0	0	0	0	156	6	0	4	0	5	326
	1:30 PM	0	5	146	0	0	0	0	0	0	0	158	1	0	4	0	3	317
	1:45 PM	0	10	127	0	0	0	0	0	0	0	160	3	0	8	0	3	311
12:00 PM to	1:00 PM	0	15	569	0	0	0	0	0	0	0	533	23	0	26	0	19	1185
12:15 PM to	1:15 PM	0	17	586	0	0	0	0	0	0	0	556	25	0	67	0	20	1271
12:30 PM to	1:30 PM	0	17	598	0	0	0	0	0	0	0	580	27	0	65	0	19	1306
12:45 PM to	1:45 PM	0	18	594	0	0	0	0	0	0	0	621	18	0	66	0	18	1335
1:00 PM to	2:00 PM	0	23	581	0	0	0	0	0	0	0	626	15	0	59	0	16	1320
PM Turning Movement Counts	4:00 PM	0	12	149	0	0	0	0	0	0	0	165	4	0	9	0	8	347
	4:15 PM	0	5	150	0	0	0	0	0	0	0	147	7	0	3	0	4	316
	4:30 PM	0	9	163	0	0	0	0	0	0	0	153	4	0	2	0	0	331
	4:45 PM	0	9	133	0	0	0	0	0	0	0	188	6	0	5	0	3	344
	5:00 PM	0	4	164	0	0	0	0	0	0	0	147	3	0	8	0	2	328
	5:15 PM	0	5	154	0	0	0	0	0	0	0	178	2	0	2	0	1	342
	5:30 PM	0	4	166	0	0	0	0	0	0	0	160	3	0	1	0	1	335
	5:45 PM	0	9	149	0	0	0	0	0	0	0	206	13	0	2	0	1	380
4:00 PM to	5:00 PM	0	35	595	0	0	0	0	0	0	0	653	21	0	19	0	15	1338
4:15 PM to	5:15 PM	0	27	610	0	0	0	0	0	0	0	635	20	0	18	0	9	1319
4:30 PM to	5:30 PM	0	27	614	0	0	0	0	0	0	0	666	15	0	17	0	6	1345
4:45 PM to	5:45 PM	0	22	617	0	0	0	0	0	0	0	673	14	0	16	0	7	1349
5:00 PM to	6:00 PM	0	22	633	0	0	0	0	0	0	0	691	21	0	13	0	5	1385
Saturday Turning Movement Counts	12:00 PM	0	0	111	0	0	0	0	0	0	0	91	4	0	3	0	1	210
	12:15 PM	0	1	103	0	0	0	0	0	0	0	80	3	0	2	0	2	191
	12:30 PM	0	2	119	0	0	0	0	0	0	0	93	3	0	4	0	1	222
	12:45 PM	0	2	104	0	0	0	0	0	0	0	106	1	0	7	0	3	223
	1:00 PM	0	2	121	0	0	0	0	0	0	0	104	2	0	19	0	5	253
	1:15 PM	0	1	101	0	0	0	0	0	0	0	95	1	0	3	0	1	202
	1:30 PM	0	1	107	0	0	0	0	0	0	0	87	2	0	0	0	0	197
	1:45 PM	0	1	92	0	0	0	0	0	0	0	116	6	0	0	0	1	216
12:00 PM to	1:00 PM	0	5	437	0	0	0	0	0	0	0	370	11	0	16	0	7	846
12:15 PM to	1:15 PM	0	7	447	0	0	0	0	0	0	0	383	9	0	32	0	11	889
12:30 PM to	1:30 PM	0	7	445	0	0	0	0	0	0	0	398	7	0	33	0	10	900
12:45 PM to	1:45 PM	0	6	433	0	0	0	0	0	0	0	392	6	0	29	0	9	875
1:00 PM to	2:00 PM	0	5	421	0	0	0	0	0	0	0	402	11	0	22	0	7	868
Peak Hour	**PHF**	**Start Time**																
AM	0.873	7:45 AM	0	50	816	0	0	0	0	0	0	0	578	57	0	18	0	28	1547
Midday	0.912	12:45 PM	0	18	594	0	0	0	0	0	0	0	621	18	0	66	0	18	1335
PM	0.911	5:00 PM	0	22	633	0	0	0	0	0	0	0	691	21	0	13	0	5	1385
Saturday	0.889	12:30 PM	0	7	445	0	0	0	0	0	0	0	398	7	0	33	0	10	900

Mulryan Engineering, P.C. **Study Intersection No. 7**

Hamlet: Village of Great Neck
Project No. M15-012

Allenwood Road at Middle Neck Road		Southbound				Westbound				Northbound				Eastbound				Vehicle
		U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	Total
AM Turning Movement Counts	7:00 AM	0	4	92	6	0	3	0	9	0	8	109	0	0	2	0	0	233
	7:15 AM	0	2	139	3	0	2	0	14	0	14	89	0	0	0	0	0	263
	7:30 AM	0	7	181	5	0	6	0	31	0	13	152	1	0	1	0	2	399
	7:45 AM	0	4	211	7	0	9	0	18	0	13	183	1	0	0	0	3	449
	8:00 AM	0	5	249	5	0	4	1	27	0	10	129	0	0	1	0	0	431
	8:15 AM	0	6	153	8	0	11	0	21	0	13	148	0	0	0	0	0	360
	8:30 AM	0	3	186	7	0	4	1	16	0	5	145	5	0	0	0	0	372
	8:45 AM	0	5	186	3	0	2	0	23	0	13	162	4	0	4	0	2	404
7:00 AM to	8:00 AM	0	17	623	21	0	20	0	72	0	48	533	2	0	3	0	5	1344
7:15 AM to	8:15 AM	0	18	780	20	0	21	1	90	0	50	553	2	0	2	0	5	1542
7:30 AM to	8:30 AM	0	22	794	25	0	30	1	97	0	49	612	2	0	2	0	5	1639
7:45 AM to	8:45 AM	0	18	799	27	0	28	2	82	0	41	605	6	0	1	0	3	1612
8:00 AM to	9:00 AM	0	19	774	23	0	21	2	87	0	41	584	9	0	5	0	2	1567
Midday Turning Movement Counts	12:00 PM	0	2	136	3	0	3	0	15	0	10	126	3	0	1	0	0	299
	12:15 PM	0	3	139	3	0	2	0	11	0	8	133	2	0	2	0	0	303
	12:30 PM	0	2	152	3	0	0	1	13	0	11	125	1	0	0	0	1	309
	12:45 PM	0	4	151	1	0	5	0	6	0	9	157	6	0	0	1	0	340
	1:00 PM	0	6	185	1	0	5	0	11	0	11	145	6	0	1	1	0	372
	1:15 PM	0	4	155	1	0	1	0	11	0	4	161	3	0	0	0	1	341
	1:30 PM	0	3	150	2	0	0	0	2	0	10	162	4	0	0	0	1	334
	1:45 PM	0	4	126	0	0	1	0	9	0	7	162	4	0	2	0	1	316
12:00 PM to	1:00 PM	0	11	578	10	0	10	1	45	0	38	541	12	0	3	1	1	1251
12:15 PM to	1:15 PM	0	15	627	8	0	12	1	41	0	39	560	15	0	3	2	1	1324
12:30 PM to	1:30 PM	0	16	643	6	0	11	1	41	0	35	588	16	0	1	2	2	1362
12:45 PM to	1:45 PM	0	17	641	5	0	11	0	30	0	34	625	19	0	1	2	2	1387
1:00 PM to	2:00 PM	0	17	616	4	0	7	0	33	0	32	630	17	0	3	1	3	1363
PM Turning Movement Counts	4:00 PM	0	5	151	4	0	4	0	7	0	13	161	2	0	0	0	2	349
	4:15 PM	0	2	147	0	0	1	0	14	0	8	148	7	0	5	0	3	335
	4:30 PM	0	4	166	2	0	2	1	6	0	18	156	2	0	2	0	0	359
	4:45 PM	0	1	139	2	0	5	0	15	0	14	194	1	0	3	0	1	375
	5:00 PM	0	4	167	2	0	1	0	11	0	12	161	2	0	1	2	0	363
	5:15 PM	0	13	131	3	0	3	0	6	0	33	190	5	0	1	1	1	387
	5:30 PM	0	3	158	2	0	4	0	9	0	22	164	1	0	1	0	2	366
	5:45 PM	0	3	143	4	0	4	0	16	0	10	215	2	0	3	1	1	402
4:00 PM to	5:00 PM	0	12	603	8	0	12	1	42	0	53	659	12	0	10	0	6	1418
4:15 PM to	5:15 PM	0	11	619	6	0	9	1	46	0	52	659	12	0	11	2	4	1432
4:30 PM to	5:30 PM	0	22	603	9	0	11	1	38	0	77	701	10	0	7	3	2	1484
4:45 PM to	5:45 PM	0	21	595	9	0	13	0	41	0	81	709	9	0	6	3	4	1491
5:00 PM to	6:00 PM	0	23	599	11	0	12	0	42	0	77	730	10	0	6	4	4	1518
Saturday Turning Movement Counts	12:00 PM	0	3	109	1	0	1	0	5	0	8	92	3	0	1	0	1	224
	12:15 PM	0	1	111	2	0	5	0	5	0	15	80	1	0	1	0	1	222
	12:30 PM	0	5	121	3	0	1	0	6	0	13	97	0	0	0	1	0	247
	12:45 PM	0	2	111	0	0	1	0	12	0	13	101	0	0	1	0	0	241
	1:00 PM	0	1	143	0	0	1	0	8	0	12	104	3	0	2	0	2	276
	1:15 PM	0	2	102	0	0	1	0	7	0	10	92	1	0	1	1	1	218
	1:30 PM	0	4	108	1	0	3	0	9	0	8	86	2	0	0	0	0	221
	1:45 PM	0	1	89	0	0	2	0	8	0	8	119	3	0	0	0	0	230
12:00 PM to	1:00 PM	0	11	452	6	0	8	0	28	0	49	370	4	0	3	1	2	934
12:15 PM to	1:15 PM	0	9	486	5	0	8	0	31	0	53	382	4	0	4	1	3	986
12:30 PM to	1:30 PM	0	10	477	3	0	4	0	33	0	48	394	4	0	4	2	3	982
12:45 PM to	1:45 PM	0	9	464	1	0	6	0	36	0	43	383	6	0	4	1	3	956
1:00 PM to	2:00 PM	0	8	442	1	0	7	0	32	0	38	401	9	0	3	1	3	945
Peak Hour	**PHF**	**Start Time**																
AM	0.913	7:30 AM	0	22	794	25	0	30	1	97	0	49	612	2	0	2	0	5	1639
Midday	0.932	12:45 PM	0	17	641	5	0	11	0	30	0	34	625	19	0	1	2	2	1387
PM	0.944	5:00 PM	0	23	599	11	0	12	0	42	0	77	730	10	0	6	4	4	1518
Saturday	0.893	12:15 PM	0	9	486	5	0	8	0	31	0	53	382	4	0	4	1	3	986

Mulryan Engineering, P.C. **Study Intersection No. 1S**

Hamlet: Village of Great Neck
Project No. M15-012

Old Mill/Piccadilly Road at Middle Neck Road			Southbound				Westbound				Northbound				Eastbound				Vehicle
			U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	Total
Saturday Turning Movement Counts		8:00 AM	0	2	32	0	0	0	2	1	0	1	34	10	0	4	0	3	89
		8:15 AM	0	2	32	0	0	0	1	1	0	1	49	12	0	6	0	3	107
		8:30 AM	0	3	52	0	0	0	4	2	0	7	38	4	0	3	0	5	118
		8:45 AM	0	6	45	1	0	1	4	11	0	3	53	13	0	6	2	1	146
		9:00 AM	0	5	74	1	0	1	2	6	0	2	60	15	0	16	4	2	188
		9:15 AM	0	4	54	1	0	1	2	5	0	3	66	15	0	8	1	5	165
		9:30 AM	0	1	70	0	0	0	1	5	0	2	57	9	0	4	1	9	159
		9:45 AM	0	10	67	3	0	0	6	2	0	1	78	23	0	12	1	5	208
		10:00 AM	0	7	81	0	0	0	2	3	0	1	87	15	0	9	3	5	213
		10:15 AM	0	10	68	0	0	1	3	8	0	2	72	25	0	23	2	6	220
		10:30 AM	0	12	86	1	0	0	4	1	0	3	76	22	0	20	5	10	240
		10:45 AM	0	8	75	1	0	2	5	1	0	3	90	18	0	19	2	8	232
		11:00 AM	0	6	75	1	0	0	3	7	0	5	76	11	0	10	1	8	203
		11:15 AM	0	6	79	0	0	0	3	4	0	1	69	15	0	9	0	8	194
		11:30 AM	0	7	78	1	0	2	1	4	0	1	70	16	0	11	0	6	197
		11:45 AM	0	6	72	1	0	3	6	4	0	3	73	7	0	15	0	9	199
		12:00 PM	0	7	99	1	0	2	4	7	0	7	102	7	0	11	1	6	254
		12:15 PM	0	8	84	3	0	1	1	4	0	6	73	7	0	17	3	8	215
		12:30 PM	0	7	101	1	0	0	1	3	0	9	82	9	0	22	6	7	248
		12:45 PM	0	12	95	0	0	0	2	3	0	8	89	9	0	22	4	11	255
		1:00 PM	0	14	96	0	0	2	2	4	0	1	88	13	0	22	4	10	256
		1:15 PM	0	3	82	0	0	0	4	4	0	3	80	16	0	22	5	12	231
		1:30 PM	0	7	78	1	0	0	4	4	0	4	76	9	0	16	7	6	212
		1:45 PM	0	11	86	1	0	2	0	8	0	5	73	13	0	26	1	11	237
8:00 AM	to	9:00 AM	0	13	161	1	0	1	11	15	0	12	174	39	0	19	2	12	460
8:15 AM	to	9:15 AM	0	16	203	2	0	2	11	20	0	13	200	44	0	31	6	11	559
8:30 AM	to	9:30 AM	0	18	225	3	0	3	12	24	0	15	217	47	0	33	7	13	617
8:45 AM	to	9:45 AM	0	16	243	3	0	3	9	27	0	10	236	52	0	34	8	17	658
9:00 AM	to	10:00 AM	0	20	265	5	0	2	11	18	0	8	261	62	0	40	7	21	720
9:15 AM	to	10:15 AM	0	22	272	4	0	1	11	15	0	7	288	62	0	33	6	24	745
9:30 AM	to	10:30 AM	0	28	286	3	0	1	12	18	0	6	294	72	0	48	7	25	800
9:45 AM	to	10:45 AM	0	39	302	4	0	1	15	14	0	7	313	85	0	64	11	26	881
10:00 AM	to	11:00 AM	0	37	310	2	0	3	14	13	0	9	325	80	0	71	12	29	905
10:15 AM	to	11:15 AM	0	36	304	3	0	3	15	17	0	13	314	76	0	72	10	32	895
10:30 AM	to	11:30 AM	0	32	315	3	0	2	15	13	0	12	311	66	0	58	8	34	869
10:45 AM	to	11:45 AM	0	27	307	3	0	4	12	16	0	10	305	60	0	49	3	30	826
11:00 AM	to	12:00 PM	0	25	304	3	0	5	13	19	0	10	288	49	0	45	1	31	793
11:15 AM	to	12:15 PM	0	26	328	3	0	7	14	19	0	12	314	45	0	46	1	29	844
11:30 AM	to	12:30 PM	0	28	333	6	0	8	12	19	0	17	318	37	0	54	4	29	865
11:45 AM	to	12:45 PM	0	28	356	6	0	6	12	18	0	25	330	30	0	65	10	30	916
12:00 PM	to	1:00 PM	0	34	379	5	0	3	8	17	0	30	346	32	0	72	14	32	972
12:15 PM	to	1:15 PM	0	41	376	4	0	3	6	14	0	24	332	38	0	83	17	36	974
12:30 PM	to	1:30 PM	0	36	374	1	0	2	9	14	0	21	339	47	0	88	19	40	990
12:45 PM	to	1:45 PM	0	36	351	1	0	2	12	15	0	16	333	47	0	82	20	39	954
1:00 PM	to	2:00 PM	0	35	342	2	0	4	10	20	0	13	317	51	0	86	17	39	936
Peak Hour	**PHF**	**Start Time**																	
Saturday	0.967	12:30 PM	0	36	374	1	0	2	9	14	0	21	339	47	0	88	19	40	990

			Pedestrian 1	Pedestrian 2	Pedestrian 3	Pedestrian 4	Total
Saturday Turning Movement Counts		8:00 AM	2	3	0	3	8
		8:15 AM	3	3	0	1	7
		8:30 AM	1	0	0	4	5
		8:45 AM	4	13	3	13	33
		9:00 AM	1	14	7	18	40
		9:15 AM	8	9	1	14	32
		9:30 AM	6	21	5	12	44
		9:45 AM	4	13	2	21	40
		10:00 AM	10	15	0	35	60
		10:15 AM	15	13	0	19	47
		10:30 AM	10	23	7	32	72
		10:45 AM	5	14	1	20	40
		11:00 AM	7	12	2	12	33
		11:15 AM	1	8	1	4	14
		11:30 AM	4	2	0	11	17
		11:45 AM	1	10	0	6	17
		12:00 PM	11	21	0	7	39
		12:15 PM	11	15	4	7	37
		12:30 PM	15	33	3	9	60
		12:45 PM	33	66	0	4	103
		1:00 PM	0	5	0	20	25
		1:15 PM	0	11	1	24	36
		1:30 PM	12	15	10	21	58
		1:45 PM	0	4	3	3	10
8:00 AM	to	9:00 AM	10 0 0 0	19 0 0 0	3 0 0 0	21 0 0 0	53
8:15 AM	to	9:15 AM	9 0 0 0	30 0 0 0	10 0 0 0	36 0 0 0	85
8:30 AM	to	9:30 AM	14 0 0 0	36 0 0 0	11 0 0 0	49 0 0 0	110
8:45 AM	to	9:45 AM	19 0 0 0	57 0 0 0	16 0 0 0	57 0 0 0	149
9:00 AM	to	10:00 AM	19 0 0 0	57 0 0 0	15 0 0 0	65 0 0 0	156
9:15 AM	to	10:15 AM	28 0 0 0	58 0 0 0	8 0 0 0	82 0 0 0	176
9:30 AM	to	10:30 AM	35 0 0 0	62 0 0 0	7 0 0 0	87 0 0 0	191
9:45 AM	to	10:45 AM	39 0 0 0	64 0 0 0	9 0 0 0	107 0 0 0	219
10:00 AM	to	11:00 AM	40 0 0 0	65 0 0 0	8 0 0 0	106 0 0 0	219
10:15 AM	to	11:15 AM	37 0 0 0	62 0 0 0	10 0 0 0	83 0 0 0	192
10:30 AM	to	11:30 AM	23 0 0 0	57 0 0 0	11 0 0 0	68 0 0 0	159
10:45 AM	to	11:45 AM	17 0 0 0	36 0 0 0	4 0 0 0	47 0 0 0	104
11:00 AM	to	12:00 PM	13 0 0 0	32 0 0 0	3 0 0 0	33 0 0 0	81
11:15 AM	to	12:15 PM	17 0 0 0	41 0 0 0	1 0 0 0	28 0 0 0	87
11:30 AM	to	12:30 PM	27 0 0 0	48 0 0 0	4 0 0 0	31 0 0 0	110
11:45 AM	to	12:45 PM	38 0 0 0	79 0 0 0	7 0 0 0	29 0 0 0	153
12:00 PM	to	1:00 PM	70 0 0 0	135 0 0 0	7 0 0 0	27 0 0 0	239
12:15 PM	to	1:15 PM	59 0 0 0	119 0 0 0	7 0 0 0	40 0 0 0	225
12:30 PM	to	1:30 PM	48 0 0 0	115 0 0 0	4 0 0 0	57 0 0 0	224
12:45 PM	to	1:45 PM	45 0 0 0	97 0 0 0	11 0 0 0	69 0 0 0	222
1:00 PM	to	2:00 PM	12 0 0 0	35 0 0 0	14 0 0 0	68 0 0 0	129
Peak Hour		**Start Time**					
Saturday		9:45 AM	39 0 0 0	64 0 0 0	9 0 0 0	107 0 0 0	219
Saturday		12:00 PM	70 0 0 0	135 0 0 0	7 0 0 0	27 0 0 0	239

Mulryan Engineering, P.C. **Study Intersection No. 2S**

Hamlet: Village of Great Neck
Project No. M15-012

North Site Access at Middle Neck Road			Southbound				Westbound				Northbound				Eastbound				Vehicle
			U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	Total
Saturday Turning Movement Counts		8:00 AM	0	0	44	0	0	0	0	0	0	0	36	0	0	0	0	0	80
		8:15 AM	0	0	54	0	0	0	0	0	0	0	60	0	0	1	0	0	115
		8:30 AM	0	0	60	0	0	0	0	0	0	0	68	0	0	0	0	0	128
		8:45 AM	0	0	67	0	0	0	0	0	0	0	76	1	0	2	0	0	146
		9:00 AM	0	0	87	0	0	0	0	0	0	0	88	0	0	1	0	1	177
		9:15 AM	0	0	91	0	0	0	0	0	0	0	94	1	0	1	0	1	188
		9:30 AM	0	1	99	0	0	0	0	0	0	0	111	2	0	2	0	0	215
		9:45 AM	0	1	104	0	0	0	0	0	0	0	99	1	0	1	0	0	206
		10:00 AM	0	1	108	0	0	0	0	0	0	0	105	2	0	2	0	0	218
		10:15 AM	0	1	85	0	0	0	0	0	0	0	111	2	0	3	0	0	202
		10:30 AM	0	1	109	0	0	0	0	0	0	0	91	1	0	4	0	0	206
		10:45 AM	0	0	89	0	0	0	0	0	0	0	97	1	0	5	0	2	194
		11:00 AM	0	0	91	0	0	0	0	0	0	0	100	2	0	1	0	1	195
		11:15 AM	0	0	95	0	0	0	0	0	0	0	91	1	0	0	0	0	187
		11:30 AM	0	1	94	0	0	0	0	0	0	0	86	2	0	2	0	0	185
		11:45 AM	0	2	78	0	0	0	0	0	0	0	93	2	0	2	0	0	177
		12:00 PM	0	0	105	0	0	0	0	0	0	0	94	0	0	0	0	0	199
		12:15 PM	0	0	110	0	0	0	0	0	0	0	87	0	0	3	0	1	201
		12:30 PM	0	0	119	0	0	0	0	0	0	0	95	0	0	1	0	0	215
		12:45 PM	0	2	111	0	0	0	0	0	0	0	119	0	0	1	0	0	233
		1:00 PM	0	0	127	0	0	0	0	0	0	0	113	0	0	1	0	0	241
		1:15 PM	0	1	103	0	0	0	0	0	0	0	86	1	0	2	0	0	193
		1:30 PM	0	0	107	0	0	0	0	0	0	0	82	0	0	1	0	0	190
		1:45 PM	0	1	88	0	0	0	0	0	0	0	118	0	0	0	0	0	207
8:00 AM	to	9:00 AM	0	0	225	0	0	0	0	0	0	0	240	1	0	3	0	0	469
8:15 AM	to	9:15 AM	0	0	268	0	0	0	0	0	0	0	292	1	0	4	0	1	566
8:30 AM	to	9:30 AM	0	0	305	0	0	0	0	0	0	0	326	2	0	4	0	2	639
8:45 AM	to	9:45 AM	0	1	344	0	0	0	0	0	0	0	369	4	0	6	0	2	726
9:00 AM	to	10:00 AM	0	2	381	0	0	0	0	0	0	0	392	4	0	5	0	2	786
9:15 AM	to	10:15 AM	0	3	402	0	0	0	0	0	0	0	409	6	0	6	0	1	827
9:30 AM	to	10:30 AM	0	4	396	0	0	0	0	0	0	0	426	7	0	8	0	0	841
9:45 AM	to	10:45 AM	0	4	406	0	0	0	0	0	0	0	406	6	0	10	0	0	832
10:00 AM	to	11:00 AM	0	3	391	0	0	0	0	0	0	0	404	6	0	14	0	2	820
10:15 AM	to	11:15 AM	0	2	374	0	0	0	0	0	0	0	399	6	0	13	0	3	797
10:30 AM	to	11:30 AM	0	1	384	0	0	0	0	0	0	0	379	5	0	10	0	3	782
10:45 AM	to	11:45 AM	0	1	369	0	0	0	0	0	0	0	374	6	0	8	0	3	761
11:00 AM	to	12:00 PM	0	3	358	0	0	0	0	0	0	0	370	7	0	5	0	1	744
11:15 AM	to	12:15 PM	0	3	372	0	0	0	0	0	0	0	364	5	0	4	0	0	748
11:30 AM	to	12:30 PM	0	3	387	0	0	0	0	0	0	0	360	4	0	7	0	1	762
11:45 AM	to	12:45 PM	0	2	412	0	0	0	0	0	0	0	369	2	0	6	0	1	792
12:00 PM	to	1:00 PM	0	2	445	0	0	0	0	0	0	0	395	0	0	5	0	1	848
12:15 PM	to	1:15 PM	0	2	467	0	0	0	0	0	0	0	414	0	0	6	0	1	890
12:30 PM	to	1:30 PM	0	3	460	0	0	0	0	0	0	0	413	1	0	5	0	0	882
12:45 PM	to	1:45 PM	0	3	448	0	0	0	0	0	0	0	400	1	0	5	0	0	857
1:00 PM	to	2:00 PM	0	2	425	0	0	0	0	0	0	0	399	1	0	4	0	0	831
Peak Hour	**PHF**	**Start Time**																	
Saturday	0.923	12:15 PM	0	2	467	0	0	0	0	0	0	0	414	0	0	6	0	1	890

			Pedestrian 1	Pedestrian 2	Pedestrian 3	Pedestrian 4	Total
Saturday Turning Movement Counts		8:00 AM	0	0	0	3	3
		8:15 AM	1	0	1	2	4
		8:30 AM	1	0	0	10	11
		8:45 AM	0	0	0	28	28
		9:00 AM	0	0	0	18	18
		9:15 AM	0	0	0	15	15
		9:30 AM	0	0	1	29	30
		9:45 AM	0	0	0	23	23
		10:00 AM	1	0	0	32	33
		10:15 AM	0	0	0	28	28
		10:30 AM	0	0	0	34	34
		10:45 AM	0	0	0	37	37
		11:00 AM	0	0	0	36	36
		11:15 AM	0	0	0	27	27
		11:30 AM	0	0	0	40	40
		11:45 AM	0	0	0	52	52
		12:00 PM	3	0	3	19	25
		12:15 PM	0	0	0	16	16
		12:30 PM	0	0	0	25	25
		12:45 PM	5	0	0	40	45
		1:00 PM	0	0	0	27	27
		1:15 PM	0	0	0	2	2
		1:30 PM	0	0	0	4	4
		1:45 PM	0	0	0	3	3
8:00 AM	to 9:00 AM		2 0 0 0	0 0 0 0	1 0 0 0	43 0 0 0	46
8:15 AM	to 9:15 AM		2 0 0 0	0 0 0 0	1 0 0 0	58 0 0 0	61
8:30 AM	to 9:30 AM		1 0 0 0	0 0 0 0	0 0 0 0	71 0 0 0	72
8:45 AM	to 9:45 AM		0 0 0 0	0 0 0 0	1 0 0 0	90 0 0 0	91
9:00 AM	to 10:00 AM		0 0 0 0	0 0 0 0	1 0 0 0	85 0 0 0	86
9:15 AM	to 10:15 AM		1 0 0 0	0 0 0 0	1 0 0 0	99 0 0 0	101
9:30 AM	to 10:30 AM		1 0 0 0	0 0 0 0	1 0 0 0	112 0 0 0	114
9:45 AM	to 10:45 AM		1 0 0 0	0 0 0 0	0 0 0 0	117 0 0 0	118
10:00 AM	to 11:00 AM		1 0 0 0	0 0 0 0	0 0 0 0	131 0 0 0	132
10:15 AM	to 11:15 AM		0 0 0 0	0 0 0 0	0 0 0 0	135 0 0 0	135
10:30 AM	to 11:30 AM		0 0 0 0	0 0 0 0	0 0 0 0	134 0 0 0	134
10:45 AM	to 11:45 AM		0 0 0 0	0 0 0 0	0 0 0 0	140 0 0 0	140
11:00 AM	to 12:00 PM		0 0 0 0	0 0 0 0	0 0 0 0	155 0 0 0	155
11:15 AM	to 12:15 PM		3 0 0 0	0 0 0 0	3 0 0 0	138 0 0 0	144
11:30 AM	to 12:30 PM		3 0 0 0	0 0 0 0	3 0 0 0	127 0 0 0	133
11:45 AM	to 12:45 PM		3 0 0 0	0 0 0 0	3 0 0 0	112 0 0 0	118
12:00 PM	to 1:00 PM		8 0 0 0	0 0 0 0	3 0 0 0	100 0 0 0	111
12:15 PM	to 1:15 PM		5 0 0 0	0 0 0 0	0 0 0 0	108 0 0 0	113
12:30 PM	to 1:30 PM		5 0 0 0	0 0 0 0	0 0 0 0	94 0 0 0	99
12:45 PM	to 1:45 PM		5 0 0 0	0 0 0 0	0 0 0 0	73 0 0 0	78
1:00 PM	to 2:00 PM		0 0 0 0	0 0 0 0	0 0 0 0	36 0 0 0	36
Peak Hour		**Start Time**					
Saturday		10:45 AM	0 0 0 0	0 0 0 0	0 0 0 0	140 0 0 0	140
Saturday		11:00 AM	0 0 0 0	0 0 0 0	0 0 0 0	155 0 0 0	155

Mulryan Engineering, P.C. **Study Intersection No. 3S**

Hamlet: Village of Great Neck
Project No. M15-012

North Site Access at Middle Neck Road			Southbound				Westbound				Northbound				Eastbound				Vehicle
			U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	Total
Saturday Turning Movement Counts		8:00 AM	0	0	41	1	0	2	0	4	0	0	45	0	0	0	0	0	93
		8:15 AM	0	0	34	4	0	7	0	1	0	4	52	0	0	0	0	0	102
		8:30 AM	0	0	59	1	0	2	0	7	0	1	50	0	0	0	0	0	120
		8:45 AM	0	0	66	1	0	8	0	9	0	3	54	0	0	0	0	0	141
		9:00 AM	0	0	90	7	0	9	0	5	0	3	73	0	0	0	0	0	187
		9:15 AM	0	0	69	2	0	9	0	3	0	3	74	0	0	0	0	0	160
		9:30 AM	0	0	78	3	0	11	0	5	0	5	59	0	0	0	0	0	161
		9:45 AM	0	0	76	3	0	9	0	4	0	3	93	0	0	0	0	0	188
		10:00 AM	0	0	93	3	0	5	0	9	0	4	101	0	0	0	0	0	215
		10:15 AM	0	0	103	5	0	7	0	4	0	8	96	0	0	0	0	0	223
		10:30 AM	0	0	103	4	0	10	0	3	0	3	90	0	0	0	0	0	213
		10:45 AM	0	0	87	8	0	6	0	5	0	3	98	0	0	0	0	0	207
		11:00 AM	0	0	82	13	0	9	0	11	0	4	78	0	0	0	0	0	197
		11:15 AM	0	0	86	3	0	5	0	10	0	4	83	0	0	0	0	0	191
		11:30 AM	0	0	90	4	0	5	0	1	0	5	84	0	0	0	0	0	189
		11:45 AM	0	0	83	7	0	8	0	3	0	5	81	0	0	0	0	0	187
		12:00 PM	0	0	112	2	0	6	0	4	0	2	106	0	0	0	0	0	232
		12:15 PM	0	0	110	4	0	6	0	6	0	1	77	0	0	0	0	0	204
		12:30 PM	0	0	115	8	0	10	0	6	0	2	95	0	0	0	0	0	236
		12:45 PM	0	0	113	6	0	7	0	9	0	3	101	0	0	0	0	0	239
		1:00 PM	0	0	133	4	0	4	0	5	0	4	104	0	0	0	0	0	254
		1:15 PM	0	0	112	8	0	4	0	6	0	5	86	0	0	0	0	0	221
		1:30 PM	0	0	97	8	0	8	0	4	0	5	82	0	0	0	0	0	204
		1:45 PM	0	0	117	8	0	5	0	4	0	2	83	0	0	0	0	0	219
8:00 AM	to	9:00 AM	0	0	200	7	0	19	0	21	0	8	201	0	0	0	0	0	456
8:15 AM	to	9:15 AM	0	0	249	13	0	26	0	22	0	11	229	0	0	0	0	0	550
8:30 AM	to	9:30 AM	0	0	284	11	0	28	0	24	0	10	251	0	0	0	0	0	608
8:45 AM	to	9:45 AM	0	0	303	13	0	37	0	22	0	14	260	0	0	0	0	0	649
9:00 AM	to	10:00 AM	0	0	313	15	0	38	0	17	0	14	299	0	0	0	0	0	696
9:15 AM	to	10:15 AM	0	0	316	11	0	34	0	21	0	15	327	0	0	0	0	0	724
9:30 AM	to	10:30 AM	0	0	350	14	0	32	0	22	0	20	349	0	0	0	0	0	787
9:45 AM	to	10:45 AM	0	0	375	15	0	31	0	20	0	18	380	0	0	0	0	0	839
10:00 AM	to	11:00 AM	0	0	386	20	0	28	0	21	0	18	385	0	0	0	0	0	858
10:15 AM	to	11:15 AM	0	0	375	30	0	32	0	23	0	18	362	0	0	0	0	0	840
10:30 AM	to	11:30 AM	0	0	358	28	0	30	0	29	0	14	349	0	0	0	0	0	808
10:45 AM	to	11:45 AM	0	0	345	28	0	25	0	27	0	16	343	0	0	0	0	0	784
11:00 AM	to	12:00 PM	0	0	341	27	0	27	0	25	0	18	326	0	0	0	0	0	764
11:15 AM	to	12:15 PM	0	0	371	16	0	24	0	18	0	16	354	0	0	0	0	0	799
11:30 AM	to	12:30 PM	0	0	395	17	0	25	0	14	0	13	348	0	0	0	0	0	812
11:45 AM	to	12:45 PM	0	0	420	21	0	30	0	19	0	10	359	0	0	0	0	0	859
12:00 PM	to	1:00 PM	0	0	450	20	0	29	0	25	0	8	379	0	0	0	0	0	911
12:15 PM	to	1:15 PM	0	0	471	22	0	27	0	26	0	10	377	0	0	0	0	0	933
12:30 PM	to	1:30 PM	0	0	473	26	0	25	0	26	0	14	386	0	0	0	0	0	950
12:45 PM	to	1:45 PM	0	0	455	26	0	23	0	24	0	17	373	0	0	0	0	0	918
1:00 PM	to	2:00 PM	0	0	459	28	0	21	0	19	0	16	355	0	0	0	0	0	898
Peak Hour	**PHF**	**Start Time**																	
Saturday	0.935	12:30 PM	0	0	473	26	0	25	0	26	0	14	386	0	0	0	0	0	950

			Pedestrian 1	Pedestrian 2	Pedestrian 3	Pedestrian 4	Total
Saturday Turning Movement Counts		8:00 AM	2	2	0	0	4
		8:15 AM	0	5	0	0	5
		8:30 AM	0	5	1	0	6
		8:45 AM	0	14	4	0	18
		9:00 AM	0	9	6	0	15
		9:15 AM	2	5	3	0	10
		9:30 AM	1	23	3	0	27
		9:45 AM	2	13	5	0	20
		10:00 AM	16	12	2	0	30
		10:15 AM	5	18	1	0	24
		10:30 AM	3	29	1	0	33
		10:45 AM	2	15	0	0	17
		11:00 AM	0	6	2	0	8
		11:15 AM	0	9	1	0	10
		11:30 AM	0	1	1	0	2
		11:45 AM	0	13	2	0	15
		12:00 PM	1	16	0	0	17
		12:15 PM	0	26	0	0	26
		12:30 PM	9	44	0	0	53
		12:45 PM	18	53	0	0	71
		1:00 PM	14	4	1	0	19
		1:15 PM	5	13	2	0	20
		1:30 PM	4	21	0	0	25
		1:45 PM	2	10	0	0	12
8:00 AM	to	9:00 AM	2	26	5	0	33
8:15 AM	to	9:15 AM	0	33	11	0	44
8:30 AM	to	9:30 AM	2	33	14	0	49
8:45 AM	to	9:45 AM	3	51	16	0	70
9:00 AM	to	10:00 AM	5	50	17	0	72
9:15 AM	to	10:15 AM	21	53	13	0	87
9:30 AM	to	10:30 AM	24	66	11	0	101
9:45 AM	to	10:45 AM	26	72	9	0	107
10:00 AM	to	11:00 AM	26	74	4	0	104
10:15 AM	to	11:15 AM	10	68	4	0	82
10:30 AM	to	11:30 AM	5	59	4	0	68
10:45 AM	to	11:45 AM	2	31	4	0	37
11:00 AM	to	12:00 PM	0	29	6	0	35
11:15 AM	to	12:15 PM	1	39	4	0	44
11:30 AM	to	12:30 PM	1	56	3	0	60
11:45 AM	to	12:45 PM	10	99	2	0	111
12:00 PM	to	1:00 PM	28	139	0	0	167
12:15 PM	to	1:15 PM	41	127	1	0	169
12:30 PM	to	1:30 PM	46	114	3	0	163
12:45 PM	to	1:45 PM	41	91	3	0	135
1:00 PM	to	2:00 PM	25	48	3	0	76
Peak Hour		**Start Time**					
Saturday		9:45 AM	26	72	9	0	107
Saturday		12:15 PM	41	127	1	0	169

Mulryan Engineering, P.C. **Study Intersection No. 4S**

Hamlet: Village of Great Neck
Project No. M15-012

Millbrook Court at Middle Neck Road		Southbound				Westbound				Northbound				Eastbound				Vehicle
		U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	Total
Saturday Turning Movement Counts	8:00 AM	0	0	43	0	0	0	0	0	0	0	34	1	0	1	0	0	79
	8:15 AM	0	0	56	0	0	0	0	0	0	0	57	0	0	0	0	0	113
	8:30 AM	0	0	62	0	0	0	0	0	0	0	62	0	0	1	0	0	125
	8:45 AM	0	0	73	0	0	0	0	0	0	0	76	2	0	2	0	0	153
	9:00 AM	0	0	91	0	0	0	0	0	0	0	87	2	0	2	0	0	182
	9:15 AM	0	1	97	0	0	0	0	0	0	0	98	2	0	2	0	1	201
	9:30 AM	0	2	99	0	0	0	0	0	0	0	111	1	0	2	0	1	216
	9:45 AM	0	1	103	0	0	0	0	0	0	0	92	0	0	2	0	0	198
	10:00 AM	0	0	106	0	0	0	0	0	0	0	96	3	0	1	0	2	208
	10:15 AM	0	2	87	0	0	0	0	0	0	0	106	0	0	0	0	0	195
	10:30 AM	0	3	110	0	0	0	0	0	0	0	86	1	0	2	0	1	203
	10:45 AM	0	0	96	0	0	0	0	0	0	0	89	1	0	2	0	2	190
	11:00 AM	0	0	93	0	0	0	0	0	0	0	99	1	0	1	0	0	194
	11:15 AM	0	2	98	0	0	0	0	0	0	0	92	0	0	0	0	0	192
	11:30 AM	0	0	97	0	0	0	0	0	0	0	90	2	0	1	0	0	190
	11:45 AM	0	1	79	0	0	0	0	0	0	0	96	0	0	0	0	0	176
	12:00 PM	0	0	110	0	0	0	0	0	0	0	91	0	0	1	0	1	203
	12:15 PM	0	6	96	0	0	0	0	0	0	0	83	0	0	6	0	2	193
	12:30 PM	0	1	123	0	0	0	0	0	0	0	93	0	0	1	0	2	220
	12:45 PM	0	0	108	0	0	0	0	0	0	0	115	0	0	0	0	1	224
	1:00 PM	0	0	125	0	0	0	0	0	0	0	108	0	0	0	0	0	233
	1:15 PM	0	1	100	0	0	0	0	0	0	0	87	3	0	2	0	0	193
	1:30 PM	0	2	107	0	0	0	0	0	0	0	83	1	0	3	0	0	196
	1:45 PM	0	0	91	0	0	0	0	0	0	0	114	2	0	1	0	0	208
8:00 AM to	9:00 AM	0	0	234	0	0	0	0	0	0	0	229	3	0	4	0	0	470
8:15 AM to	9:15 AM	0	0	282	0	0	0	0	0	0	0	282	4	0	5	0	0	573
8:30 AM to	9:30 AM	0	1	323	0	0	0	0	0	0	0	323	6	0	7	0	1	661
8:45 AM to	9:45 AM	0	3	360	0	0	0	0	0	0	0	372	7	0	8	0	2	752
9:00 AM to	10:00 AM	0	4	390	0	0	0	0	0	0	0	388	5	0	8	0	2	797
9:15 AM to	10:15 AM	0	4	405	0	0	0	0	0	0	0	397	6	0	7	0	4	823
9:30 AM to	10:30 AM	0	5	395	0	0	0	0	0	0	0	405	4	0	5	0	3	817
9:45 AM to	10:45 AM	0	6	406	0	0	0	0	0	0	0	380	4	0	5	0	3	804
10:00 AM to	11:00 AM	0	5	399	0	0	0	0	0	0	0	377	5	0	5	0	5	796
10:15 AM to	11:15 AM	0	5	386	0	0	0	0	0	0	0	380	3	0	5	0	3	782
10:30 AM to	11:30 AM	0	5	397	0	0	0	0	0	0	0	366	3	0	5	0	3	779
10:45 AM to	11:45 AM	0	2	384	0	0	0	0	0	0	0	370	4	0	4	0	2	766
11:00 AM to	12:00 PM	0	3	367	0	0	0	0	0	0	0	377	3	0	2	0	0	752
11:15 AM to	12:15 PM	0	3	384	0	0	0	0	0	0	0	369	2	0	2	0	1	761
11:30 AM to	12:30 PM	0	7	382	0	0	0	0	0	0	0	360	2	0	8	0	3	762
11:45 AM to	12:45 PM	0	8	408	0	0	0	0	0	0	0	363	0	0	8	0	5	792
12:00 PM to	1:00 PM	0	7	437	0	0	0	0	0	0	0	382	0	0	8	0	6	840
12:15 PM to	1:15 PM	0	7	452	0	0	0	0	0	0	0	399	0	0	7	0	5	870
12:30 PM to	1:30 PM	0	2	456	0	0	0	0	0	0	0	403	3	0	3	0	3	870
12:45 PM to	1:45 PM	0	3	440	0	0	0	0	0	0	0	393	4	0	5	0	1	846
1:00 PM to	2:00 PM	0	3	423	0	0	0	0	0	0	0	392	6	0	6	0	0	830
Peak Hour	**PHF**	**Start Time**																
Saturday	0.933	12:15 PM	0	7	452	0	0	0	0	0	0	0	399	0	0	7	0	5	870

		Pedestrian 1	Pedestrian 2	Pedestrian 3	Pedestrian 4	Total
Saturday Turning Movement Counts	8:00 AM	0	0	0	6	6
	8:15 AM	0	0	0	3	3
	8:30 AM	0	0	0	5	5
	8:45 AM	0	0	1	23	24
	9:00 AM	1	0	1	23	25
	9:15 AM	0	0	0	19	19
	9:30 AM	0	0	2	41	43
	9:45 AM	2	0	2	25	29
	10:00 AM	2	0	6	52	60
	10:15 AM	0	0	0	29	29
	10:30 AM	2	0	1	27	30
	10:45 AM	2	0	2	39	43
	11:00 AM	0	0	0	48	48
	11:15 AM	0	0	0	37	37
	11:30 AM	0	0	0	43	43
	11:45 AM	6	0	0	52	58
	12:00 PM	0	0	1	31	32
	12:15 PM	2	0	3	18	23
	12:30 PM	0	0	0	21	21
	12:45 PM	0	0	2	27	29
	1:00 PM	0	0	0	26	26
	1:15 PM	1	0	0	1	2
	1:30 PM	0	0	0	2	2
	1:45 PM	0	0	0	1	1
8:00 AM to	9:00 AM	0 0 0 0	0 0 0 0	1 0 0 0	37 0 0 0	38
8:15 AM to	9:15 AM	1 0 0 0	0 0 0 0	2 0 0 0	54 0 0 0	57
8:30 AM to	9:30 AM	1 0 0 0	0 0 0 0	2 0 0 0	70 0 0 0	73
8:45 AM to	9:45 AM	1 0 0 0	0 0 0 0	4 0 0 0	106 0 0 0	111
9:00 AM to	10:00 AM	3 0 0 0	0 0 0 0	5 0 0 0	108 0 0 0	116
9:15 AM to	10:15 AM	4 0 0 0	0 0 0 0	10 0 0 0	137 0 0 0	151
9:30 AM to	10:30 AM	4 0 0 0	0 0 0 0	10 0 0 0	147 0 0 0	161
9:45 AM to	10:45 AM	6 0 0 0	0 0 0 0	9 0 0 0	133 0 0 0	148
10:00 AM to	11:00 AM	6 0 0 0	0 0 0 0	9 0 0 0	147 0 0 0	162
10:15 AM to	11:15 AM	4 0 0 0	0 0 0 0	3 0 0 0	143 0 0 0	150
10:30 AM to	11:30 AM	4 0 0 0	0 0 0 0	3 0 0 0	151 0 0 0	158
10:45 AM to	11:45 AM	2 0 0 0	0 0 0 0	2 0 0 0	167 0 0 0	171
11:00 AM to	12:00 PM	6 0 0 0	0 0 0 0	0 0 0 0	180 0 0 0	186
11:15 AM to	12:15 PM	6 0 0 0	0 0 0 0	1 0 0 0	163 0 0 0	170
11:30 AM to	12:30 PM	8 0 0 0	0 0 0 0	4 0 0 0	144 0 0 0	156
11:45 AM to	12:45 PM	8 0 0 0	0 0 0 0	4 0 0 0	122 0 0 0	134
12:00 PM to	1:00 PM	2 0 0 0	0 0 0 0	6 0 0 0	97 0 0 0	105
12:15 PM to	1:15 PM	2 0 0 0	0 0 0 0	5 0 0 0	92 0 0 0	99
12:30 PM to	1:30 PM	1 0 0 0	0 0 0 0	2 0 0 0	75 0 0 0	78
12:45 PM to	1:45 PM	1 0 0 0	0 0 0 0	2 0 0 0	56 0 0 0	59
1:00 PM to	2:00 PM	1 0 0 0	0 0 0 0	0 0 0 0	30 0 0 0	31
Peak Hour	**Start Time**					
Saturday	10:45 AM	2 0 0 0	0 0 0 0	2 0 0 0	167 0 0 0	171
Saturday	11:00 AM	6 0 0 0	0 0 0 0	0 0 0 0	180 0 0 0	186

Mulryan Engineering, P.C. **Study Intersection No. 5S**

Hamlet: Village of Great Neck
Project No. M15-012

South Site Access at Middle Neck Road			Southbound				Westbound				Northbound				Eastbound				Vehicle
			U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	Total
Saturday Turning Movement Counts		8:00 AM	0	0	43	0	0	0	0	0	0	0	37	0	0	0	0	0	80
		8:15 AM	0	0	53	0	0	0	0	0	0	0	56	0	0	0	0	0	109
		8:30 AM	0	0	63	0	0	0	0	0	0	0	62	0	0	0	0	0	125
		8:45 AM	0	1	79	0	0	0	0	0	0	0	75	0	0	1	0	0	156
		9:00 AM	0	0	93	0	0	0	0	0	0	0	85	0	0	0	0	1	179
		9:15 AM	0	1	92	0	0	0	0	0	0	0	100	0	0	0	0	1	194
		9:30 AM	0	0	108	0	0	0	0	0	0	0	108	1	0	0	0	0	217
		9:45 AM	0	0	97	0	0	0	0	0	0	0	88	0	0	1	0	0	186
		10:00 AM	0	0	111	0	0	0	0	0	0	0	95	0	0	2	0	0	208
		10:15 AM	0	0	83	0	0	0	0	0	0	0	112	0	0	1	0	0	196
		10:30 AM	0	0	110	0	0	0	0	0	0	0	86	0	0	0	0	0	196
		10:45 AM	0	0	100	0	0	0	0	0	0	0	93	1	0	0	0	0	194
		11:00 AM	0	0	97	0	0	0	0	0	0	0	105	0	0	0	0	0	202
		11:15 AM	0	0	104	0	0	0	0	0	0	0	90	1	0	1	0	0	196
		11:30 AM	0	0	98	0	0	0	0	0	0	0	89	0	0	0	0	1	188
		11:45 AM	0	0	79	0	0	0	0	0	0	0	92	0	0	0	0	0	171
		12:00 PM	0	2	98	0	0	0	0	0	0	0	87	0	0	2	0	0	189
		12:15 PM	0	0	107	0	0	0	0	0	0	0	75	0	0	2	0	0	184
		12:30 PM	0	0	119	0	0	0	0	0	0	0	95	0	0	0	0	0	214
		12:45 PM	0	0	102	0	0	0	0	0	0	0	98	1	0	1	0	1	203
		1:00 PM	0	0	126	0	0	0	0	0	0	0	107	0	0	0	0	0	233
		1:15 PM	0	1	99	0	0	0	0	0	0	0	88	0	0	0	0	0	188
		1:30 PM	0	0	112	0	0	0	0	0	0	0	86	0	0	0	0	0	198
		1:45 PM	0	0	93	0	0	0	0	0	0	0	114	0	0	0	0	0	207
8:00 AM	to	9:00 AM	0	1	238	0	0	0	0	0	0	0	230	0	0	1	0	0	470
8:15 AM	to	9:15 AM	0	1	288	0	0	0	0	0	0	0	278	0	0	1	0	1	569
8:30 AM	to	9:30 AM	0	2	327	0	0	0	0	0	0	0	322	0	0	1	0	2	654
8:45 AM	to	9:45 AM	0	2	372	0	0	0	0	0	0	0	368	1	0	1	0	2	746
9:00 AM	to	10:00 AM	0	1	390	0	0	0	0	0	0	0	381	1	0	1	0	2	776
9:15 AM	to	10:15 AM	0	1	408	0	0	0	0	0	0	0	391	1	0	3	0	1	805
9:30 AM	to	10:30 AM	0	0	399	0	0	0	0	0	0	0	403	1	0	4	0	0	807
9:45 AM	to	10:45 AM	0	0	401	0	0	0	0	0	0	0	381	0	0	4	0	0	786
10:00 AM	to	11:00 AM	0	0	404	0	0	0	0	0	0	0	386	1	0	3	0	0	794
10:15 AM	to	11:15 AM	0	0	390	0	0	0	0	0	0	0	396	1	0	1	0	0	788
10:30 AM	to	11:30 AM	0	0	411	0	0	0	0	0	0	0	374	2	0	1	0	0	788
10:45 AM	to	11:45 AM	0	0	399	0	0	0	0	0	0	0	377	2	0	1	0	1	780
11:00 AM	to	12:00 PM	0	0	378	0	0	0	0	0	0	0	376	1	0	1	0	1	757
11:15 AM	to	12:15 PM	0	2	379	0	0	0	0	0	0	0	358	1	0	3	0	1	744
11:30 AM	to	12:30 PM	0	2	382	0	0	0	0	0	0	0	343	0	0	4	0	1	732
11:45 AM	to	12:45 PM	0	2	403	0	0	0	0	0	0	0	349	0	0	4	0	0	758
12:00 PM	to	1:00 PM	0	2	426	0	0	0	0	0	0	0	355	1	0	5	0	1	790
12:15 PM	to	1:15 PM	0	0	454	0	0	0	0	0	0	0	375	1	0	3	0	1	834
12:30 PM	to	1:30 PM	0	1	446	0	0	0	0	0	0	0	388	1	0	1	0	1	838
12:45 PM	to	1:45 PM	0	1	439	0	0	0	0	0	0	0	379	1	0	1	0	1	822
1:00 PM	to	2:00 PM	0	1	430	0	0	0	0	0	0	0	395	0	0	0	0	0	826
Peak Hour	**PHF**	**Start Time**																	
Saturday	0.899	12:30 PM	0	1	446	0	0	0	0	0	0	0	388	1	0	1	0	1	838

			Pedestrian 1	Pedestrian 2	Pedestrian 3	Pedestrian 4	Total
Saturday Turning Movement Counts		8:00 AM	0	0	0	6	6
		8:15 AM	0	0	1	3	4
		8:30 AM	1	0	1	7	9
		8:45 AM	3	0	1	20	24
		9:00 AM	2	0	1	24	27
		9:15 AM	1	0	2	17	20
		9:30 AM	2	0	4	35	41
		9:45 AM	3	0	0	38	41
		10:00 AM	3	0	0	40	43
		10:15 AM	0	0	1	36	37
		10:30 AM	4	0	0	26	30
		10:45 AM	3	0	3	36	42
		11:00 AM	0	0	1	52	53
		11:15 AM	3	0	0	34	37
		11:30 AM	0	0	3	45	48
		11:45 AM	0	0	1	53	54
		12:00 PM	1	0	0	31	32
		12:15 PM	0	0	2	13	15
		12:30 PM	0	0	1	21	22
		12:45 PM	0	0	0	21	21
		1:00 PM	1	0	0	27	28
		1:15 PM	0	0	0	0	0
		1:30 PM	5	0	0	6	11
		1:45 PM	0	0	0	1	1
8:00 AM	to 9:00 AM		4 0 0 0	0 0 0 0	3 0 0 0	36 0 0 0	43
8:15 AM	to 9:15 AM		6 0 0 0	0 0 0 0	4 0 0 0	54 0 0 0	64
8:30 AM	to 9:30 AM		7 0 0 0	0 0 0 0	5 0 0 0	68 0 0 0	80
8:45 AM	to 9:45 AM		8 0 0 0	0 0 0 0	8 0 0 0	96 0 0 0	112
9:00 AM	to 10:00 AM		8 0 0 0	0 0 0 0	7 0 0 0	114 0 0 0	129
9:15 AM	to 10:15 AM		9 0 0 0	0 0 0 0	6 0 0 0	130 0 0 0	145
9:30 AM	to 10:30 AM		8 0 0 0	0 0 0 0	5 0 0 0	149 0 0 0	162
9:45 AM	to 10:45 AM		10 0 0 0	0 0 0 0	1 0 0 0	140 0 0 0	151
10:00 AM	to 11:00 AM		10 0 0 0	0 0 0 0	4 0 0 0	138 0 0 0	152
10:15 AM	to 11:15 AM		7 0 0 0	0 0 0 0	5 0 0 0	150 0 0 0	162
10:30 AM	to 11:30 AM		10 0 0 0	0 0 0 0	4 0 0 0	148 0 0 0	162
10:45 AM	to 11:45 AM		6 0 0 0	0 0 0 0	7 0 0 0	167 0 0 0	180
11:00 AM	to 12:00 PM		3 0 0 0	0 0 0 0	5 0 0 0	184 0 0 0	192
11:15 AM	to 12:15 PM		4 0 0 0	0 0 0 0	4 0 0 0	163 0 0 0	171
11:30 AM	to 12:30 PM		1 0 0 0	0 0 0 0	6 0 0 0	142 0 0 0	149
11:45 AM	to 12:45 PM		1 0 0 0	0 0 0 0	4 0 0 0	118 0 0 0	123
12:00 PM	to 1:00 PM		1 0 0 0	0 0 0 0	3 0 0 0	86 0 0 0	90
12:15 PM	to 1:15 PM		1 0 0 0	0 0 0 0	3 0 0 0	82 0 0 0	86
12:30 PM	to 1:30 PM		1 0 0 0	0 0 0 0	1 0 0 0	69 0 0 0	71
12:45 PM	to 1:45 PM		6 0 0 0	0 0 0 0	0 0 0 0	54 0 0 0	60
1:00 PM	to 2:00 PM		6 0 0 0	0 0 0 0	0 0 0 0	34 0 0 0	40
Peak Hour		**Start Time**					
Saturday		10:45 AM	6 0 0 0	0 0 0 0	7 0 0 0	167 0 0 0	180
Saturday		11:00 AM	3 0 0 0	0 0 0 0	5 0 0 0	184 0 0 0	192

Mulryan Engineering, P.C. **Study Intersection No. 6S**

Hamlet: Village of Great Neck
Project No. M15-012

South Site Access at Middle Neck Road			Southbound				Westbound				Northbound				Eastbound				Vehicle
			U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	Total
Saturday Turning Movement Counts		8:00 AM	0	1	42	0	0	0	0	0	0	0	35	0	0	1	0	1	80
		8:15 AM	0	0	57	0	0	0	0	0	0	0	57	1	0	0	0	1	116
		8:30 AM	0	2	61	0	0	0	0	0	0	0	63	10	0	2	0	0	138
		8:45 AM	0	10	70	0	0	0	0	0	0	0	77	21	0	4	0	1	183
		9:00 AM	0	6	85	0	0	0	0	0	0	0	79	14	0	5	0	5	194
		9:15 AM	0	3	93	0	0	0	0	0	0	0	96	4	0	2	0	2	200
		9:30 AM	0	2	99	0	0	0	0	0	0	0	109	2	0	0	0	0	212
		9:45 AM	0	4	102	0	0	0	0	0	0	0	93	12	0	3	0	0	214
		10:00 AM	0	5	105	0	0	0	0	0	0	0	99	10	0	10	0	0	229
		10:15 AM	0	2	86	0	0	0	0	0	0	0	99	1	0	3	0	1	192
		10:30 AM	0	2	107	0	0	0	0	0	0	0	90	6	0	1	0	0	206
		10:45 AM	0	0	98	0	0	0	0	0	0	0	95	3	0	2	0	0	198
		11:00 AM	0	2	93	0	0	0	0	0	0	0	96	5	0	10	0	5	211
		11:15 AM	0	2	96	0	0	0	0	0	0	0	94	1	0	0	0	0	193
		11:30 AM	0	2	94	0	0	0	0	0	0	0	86	1	0	3	0	0	186
		11:45 AM	0	1	79	0	0	0	0	0	0	0	97	4	0	6	0	0	187
		12:00 PM	0	0	111	0	0	0	0	0	0	0	91	4	0	3	0	1	210
		12:15 PM	0	1	103	0	0	0	0	0	0	0	80	3	0	2	0	2	191
		12:30 PM	0	2	119	0	0	0	0	0	0	0	93	3	0	4	0	1	222
		12:45 PM	0	2	104	0	0	0	0	0	0	0	106	1	0	7	0	3	223
		1:00 PM	0	2	121	0	0	0	0	0	0	0	104	2	0	19	0	5	253
		1:15 PM	0	1	101	0	0	0	0	0	0	0	95	1	0	3	0	1	202
		1:30 PM	0	1	107	0	0	0	0	0	0	0	87	2	0	0	0	0	197
		1:45 PM	0	1	92	0	0	0	0	0	0	0	116	6	0	0	0	1	216
8:00 AM	to	9:00 AM	0	13	230	0	0	0	0	0	0	0	232	32	0	7	0	3	517
8:15 AM	to	9:15 AM	0	18	273	0	0	0	0	0	0	0	276	46	0	11	0	7	631
8:30 AM	to	9:30 AM	0	21	309	0	0	0	0	0	0	0	315	49	0	13	0	8	715
8:45 AM	to	9:45 AM	0	21	347	0	0	0	0	0	0	0	361	41	0	11	0	8	789
9:00 AM	to	10:00 AM	0	15	379	0	0	0	0	0	0	0	377	32	0	10	0	7	820
9:15 AM	to	10:15 AM	0	14	399	0	0	0	0	0	0	0	397	28	0	15	0	2	855
9:30 AM	to	10:30 AM	0	13	392	0	0	0	0	0	0	0	400	25	0	16	0	1	847
9:45 AM	to	10:45 AM	0	13	400	0	0	0	0	0	0	0	381	29	0	17	0	1	841
10:00 AM	to	11:00 AM	0	9	396	0	0	0	0	0	0	0	383	20	0	16	0	1	825
10:15 AM	to	11:15 AM	0	6	384	0	0	0	0	0	0	0	380	15	0	16	0	6	807
10:30 AM	to	11:30 AM	0	6	394	0	0	0	0	0	0	0	375	15	0	13	0	5	808
10:45 AM	to	11:45 AM	0	6	381	0	0	0	0	0	0	0	371	10	0	15	0	5	788
11:00 AM	to	12:00 PM	0	7	362	0	0	0	0	0	0	0	373	11	0	19	0	5	777
11:15 AM	to	12:15 PM	0	5	380	0	0	0	0	0	0	0	368	10	0	12	0	1	776
11:30 AM	to	12:30 PM	0	4	387	0	0	0	0	0	0	0	354	12	0	14	0	3	774
11:45 AM	to	12:45 PM	0	4	412	0	0	0	0	0	0	0	361	14	0	15	0	4	810
12:00 PM	to	1:00 PM	0	5	437	0	0	0	0	0	0	0	370	11	0	16	0	7	846
12:15 PM	to	1:15 PM	0	7	447	0	0	0	0	0	0	0	383	9	0	32	0	11	889
12:30 PM	to	1:30 PM	0	7	445	0	0	0	0	0	0	0	398	7	0	33	0	10	900
12:45 PM	to	1:45 PM	0	6	433	0	0	0	0	0	0	0	392	6	0	29	0	9	875
1:00 PM	to	2:00 PM	0	5	421	0	0	0	0	0	0	0	402	11	0	22	0	7	868
Peak Hour	**PHF**	**Start Time**																	
Saturday	0.889	12:30 PM	0	7	445	0	0	0	0	0	0	0	398	7	0	33	0	10	900

			Pedestrian 1	Pedestrian 2	Pedestrian 3	Pedestrian 4	Total
Saturday Turning Movement Counts		8:00 AM	0	0	1	4	5
		8:15 AM	0	0	0	5	5
		8:30 AM	2	0	1	7	10
		8:45 AM	3	0	0	24	27
		9:00 AM	2	0	2	23	27
		9:15 AM	3	0	7	15	25
		9:30 AM	7	0	2	24	33
		9:45 AM	3	0	1	21	25
		10:00 AM	7	0	1	47	55
		10:15 AM	3	0	0	29	32
		10:30 AM	2	0	0	24	26
		10:45 AM	2	0	2	27	31
		11:00 AM	5	0	5	29	39
		11:15 AM	5	0	7	51	63
		11:30 AM	3	0	4	52	59
		11:45 AM	0	0	3	37	40
		12:00 PM	0	0	4	19	23
		12:15 PM	4	0	2	17	23
		12:30 PM	0	0	2	19	21
		12:45 PM	0	0	1	16	17
		1:00 PM	0	0	2	21	23
		1:15 PM	0	0	1	0	1
		1:30 PM	0	0	2	6	8
		1:45 PM	0	0	1	1	2
8:00 AM	to 9:00 AM		5 0 0 0	0 0 0 0	2 0 0 0	40 0 0 0	47
8:15 AM	to 9:15 AM		7 0 0 0	0 0 0 0	3 0 0 0	59 0 0 0	69
8:30 AM	to 9:30 AM		10 0 0 0	0 0 0 0	10 0 0 0	69 0 0 0	89
8:45 AM	to 9:45 AM		15 0 0 0	0 0 0 0	11 0 0 0	86 0 0 0	112
9:00 AM	to 10:00 AM		15 0 0 0	0 0 0 0	12 0 0 0	83 0 0 0	110
9:15 AM	to 10:15 AM		20 0 0 0	0 0 0 0	11 0 0 0	107 0 0 0	138
9:30 AM	to 10:30 AM		20 0 0 0	0 0 0 0	4 0 0 0	121 0 0 0	145
9:45 AM	to 10:45 AM		15 0 0 0	0 0 0 0	2 0 0 0	121 0 0 0	138
10:00 AM	to 11:00 AM		14 0 0 0	0 0 0 0	3 0 0 0	127 0 0 0	144
10:15 AM	to 11:15 AM		12 0 0 0	0 0 0 0	7 0 0 0	109 0 0 0	128
10:30 AM	to 11:30 AM		14 0 0 0	0 0 0 0	14 0 0 0	131 0 0 0	159
10:45 AM	to 11:45 AM		15 0 0 0	0 0 0 0	18 0 0 0	159 0 0 0	192
11:00 AM	to 12:00 PM		13 0 0 0	0 0 0 0	19 0 0 0	169 0 0 0	201
11:15 AM	to 12:15 PM		8 0 0 0	0 0 0 0	18 0 0 0	159 0 0 0	185
11:30 AM	to 12:30 PM		7 0 0 0	0 0 0 0	13 0 0 0	125 0 0 0	145
11:45 AM	to 12:45 PM		4 0 0 0	0 0 0 0	11 0 0 0	92 0 0 0	107
12:00 PM	to 1:00 PM		4 0 0 0	0 0 0 0	9 0 0 0	71 0 0 0	84
12:15 PM	to 1:15 PM		4 0 0 0	0 0 0 0	7 0 0 0	73 0 0 0	84
12:30 PM	to 1:30 PM		0 0 0 0	0 0 0 0	6 0 0 0	56 0 0 0	62
12:45 PM	to 1:45 PM		0 0 0 0	0 0 0 0	6 0 0 0	43 0 0 0	49
1:00 PM	to 2:00 PM		0 0 0 0	0 0 0 0	6 0 0 0	28 0 0 0	34
Peak Hour		**Start Time**					
Saturday		10:45 AM	15 0 0 0	0 0 0 0	18 0 0 0	159 0 0 0	192
Saturday		11:00 AM	13 0 0 0	0 0 0 0	19 0 0 0	169 0 0 0	201

Mulryan Engineering, P.C. **Study Intersection No. 7S**

Hamlet: Village of Great Neck
Project No. M15-012

Allenwood Road at Middle Neck Road			Southbound				Westbound				Northbound				Eastbound				Vehicle
			U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	Total
Saturday Turning Movement Counts		8:00 AM	0	2	45	1	0	0	0	10	0	1	37	0	0	1	0	0	97
		8:15 AM	0	3	51	0	0	1	0	7	0	6	57	0	0	0	0	0	125
		8:30 AM	0	4	66	2	0	0	0	3	0	3	74	0	0	0	0	0	152
		8:45 AM	0	1	72	0	0	2	0	4	0	1	95	2	0	1	0	2	180
		9:00 AM	0	5	94	2	0	3	0	14	0	9	95	3	0	2	1	0	228
		9:15 AM	0	3	87	0	0	0	0	11	0	5	99	0	0	1	0	0	206
		9:30 AM	0	5	101	0	0	1	0	13	0	6	115	1	0	4	0	0	246
		9:45 AM	0	3	99	1	0	1	0	15	0	7	105	4	0	1	0	0	236
		10:00 AM	0	5	128	3	0	2	0	14	0	12	105	1	0	0	0	3	273
		10:15 AM	0	1	90	0	0	2	0	9	0	4	106	2	0	0	0	1	215
		10:30 AM	0	4	106	1	0	2	0	11	0	7	97	0	0	0	0	0	228
		10:45 AM	0	3	101	0	0	1	0	13	0	3	100	1	0	0	0	0	222
		11:00 AM	0	2	108	2	0	0	0	9	0	6	101	3	0	1	0	1	233
		11:15 AM	0	3	101	0	0	1	0	7	0	9	99	3	0	1	0	2	226
		11:30 AM	0	7	94	1	0	2	0	9	0	5	88	2	0	1	0	1	210
		11:45 AM	0	1	82	0	0	1	0	11	0	4	99	5	0	1	0	0	204
		12:00 PM	0	3	109	1	0	1	0	5	0	8	92	3	0	1	0	1	224
		12:15 PM	0	1	111	2	0	5	0	5	0	15	80	1	0	1	0	1	222
		12:30 PM	0	5	121	3	0	1	0	6	0	13	97	0	0	0	1	0	247
		12:45 PM	0	2	111	0	0	1	0	12	0	13	101	0	0	1	0	0	241
		1:00 PM	0	1	143	0	0	1	0	8	0	12	104	3	0	2	0	2	276
		1:15 PM	0	2	102	0	0	1	0	7	0	10	92	1	0	1	1	1	218
		1:30 PM	0	4	108	1	0	3	0	9	0	8	86	2	0	0	0	0	221
		1:45 PM	0	1	89	0	0	2	0	8	0	8	119	3	0	0	0	0	230
8:00 AM	to	9:00 AM	0	10	234	3	0	3	0	24	0	11	263	2	0	2	0	2	554
8:15 AM	to	9:15 AM	0	13	283	4	0	6	0	28	0	19	321	5	0	3	1	2	685
8:30 AM	to	9:30 AM	0	13	319	4	0	5	0	32	0	18	363	5	0	4	1	2	766
8:45 AM	to	9:45 AM	0	14	354	2	0	6	0	42	0	21	404	6	0	8	1	2	860
9:00 AM	to	10:00 AM	0	16	381	3	0	5	0	53	0	27	414	8	0	8	1	0	916
9:15 AM	to	10:15 AM	0	16	415	4	0	4	0	53	0	30	424	6	0	6	0	3	961
9:30 AM	to	10:30 AM	0	14	418	4	0	6	0	51	0	29	431	8	0	5	0	4	970
9:45 AM	to	10:45 AM	0	13	423	5	0	7	0	49	0	30	413	7	0	1	0	4	952
10:00 AM	to	11:00 AM	0	13	425	4	0	7	0	47	0	26	408	4	0	0	0	4	938
10:15 AM	to	11:15 AM	0	10	405	3	0	5	0	42	0	20	404	6	0	1	0	2	898
10:30 AM	to	11:30 AM	0	12	416	3	0	4	0	40	0	25	397	7	0	2	0	3	909
10:45 AM	to	11:45 AM	0	15	404	3	0	4	0	38	0	23	388	9	0	3	0	4	891
11:00 AM	to	12:00 PM	0	13	385	3	0	4	0	36	0	24	387	13	0	4	0	4	873
11:15 AM	to	12:15 PM	0	14	386	2	0	5	0	32	0	26	378	13	0	4	0	4	864
11:30 AM	to	12:30 PM	0	12	396	4	0	9	0	30	0	32	359	11	0	4	0	3	860
11:45 AM	to	12:45 PM	0	10	423	6	0	8	0	27	0	40	368	9	0	3	1	2	897
12:00 PM	to	1:00 PM	0	11	452	6	0	8	0	28	0	49	370	4	0	3	1	2	934
12:15 PM	to	1:15 PM	0	9	486	5	0	8	0	31	0	53	382	4	0	4	1	3	986
12:30 PM	to	1:30 PM	0	10	477	3	0	4	0	33	0	48	394	4	0	4	2	3	982
12:45 PM	to	1:45 PM	0	9	464	1	0	6	0	36	0	43	383	6	0	4	1	3	956
1:00 PM	to	2:00 PM	0	8	442	1	0	7	0	32	0	38	401	9	0	3	1	3	945
Peak Hour	**PHF**	**Start Time**																	
Saturday	0.893	12:15 PM	0	9	486	5	0	8	0	31	0	53	382	4	0	4	1	3	986

			Pedestrian 1				Pedestrian 2				Pedestrian 3				Pedestrian 4				Total
Saturday Turning Movement Counts		8:00 AM	2				12				0				0				14
		8:15 AM	1				5				0				0				6
		8:30 AM	3				7				0				0				10
		8:45 AM	5				11				2				0				18
		9:00 AM	12				21				1				0				34
		9:15 AM	5				22				4				0				31
		9:30 AM	12				13				1				0				26
		9:45 AM	9				14				0				0				23
		10:00 AM	17				24				3				0				44
		10:15 AM	4				16				0				0				20
		10:30 AM	10				15				0				0				25
		10:45 AM	5				15				0				0				20
		11:00 AM	7				15				0				0				22
		11:15 AM	9				25				0				0				34
		11:30 AM	4				21				0				0				25
		11:45 AM	13				14				0				0				27
		12:00 PM	6				15				0				0				21
		12:15 PM	7				19				0				0				26
		12:30 PM	4				11				0				0				15
		12:45 PM	1				12				0				0				13
		1:00 PM	7				10				0				0				17
		1:15 PM	1				12				0				0				13
		1:30 PM	0				11				0				0				11
		1:45 PM	1				8				0				0				9
8:00 AM	to	9:00 AM	11	0	0	0	35	0	0	0	2	0	0	0	0	0	0	0	48
8:15 AM	to	9:15 AM	21	0	0	0	44	0	0	0	3	0	0	0	0	0	0	0	68
8:30 AM	to	9:30 AM	25	0	0	0	61	0	0	0	7	0	0	0	0	0	0	0	93
8:45 AM	to	9:45 AM	34	0	0	0	67	0	0	0	8	0	0	0	0	0	0	0	109
9:00 AM	to	10:00 AM	38	0	0	0	70	0	0	0	6	0	0	0	0	0	0	0	114
9:15 AM	to	10:15 AM	43	0	0	0	73	0	0	0	8	0	0	0	0	0	0	0	124
9:30 AM	to	10:30 AM	42	0	0	0	67	0	0	0	4	0	0	0	0	0	0	0	113
9:45 AM	to	10:45 AM	40	0	0	0	69	0	0	0	3	0	0	0	0	0	0	0	112
10:00 AM	to	11:00 AM	36	0	0	0	70	0	0	0	3	0	0	0	0	0	0	0	109
10:15 AM	to	11:15 AM	26	0	0	0	61	0	0	0	0	0	0	0	0	0	0	0	87
10:30 AM	to	11:30 AM	31	0	0	0	70	0	0	0	0	0	0	0	0	0	0	0	101
10:45 AM	to	11:45 AM	25	0	0	0	76	0	0	0	0	0	0	0	0	0	0	0	101
11:00 AM	to	12:00 PM	33	0	0	0	75	0	0	0	0	0	0	0	0	0	0	0	108
11:15 AM	to	12:15 PM	32	0	0	0	75	0	0	0	0	0	0	0	0	0	0	0	107
11:30 AM	to	12:30 PM	30	0	0	0	69	0	0	0	0	0	0	0	0	0	0	0	99
11:45 AM	to	12:45 PM	30	0	0	0	59	0	0	0	0	0	0	0	0	0	0	0	89
12:00 PM	to	1:00 PM	18	0	0	0	57	0	0	0	0	0	0	0	0	0	0	0	75
12:15 PM	to	1:15 PM	19	0	0	0	52	0	0	0	0	0	0	0	0	0	0	0	71
12:30 PM	to	1:30 PM	13	0	0	0	45	0	0	0	0	0	0	0	0	0	0	0	58
12:45 PM	to	1:45 PM	9	0	0	0	45	0	0	0	0	0	0	0	0	0	0	0	54
1:00 PM	to	2:00 PM	9	0	0	0	41	0	0	0	0	0	0	0	0	0	0	0	50
Peak Hour		**Start Time**																	
Saturday		9:15 AM	43	0	0	0	73	0	0	0	8	0	0	0	0	0	0	0	124
Saturday		11:00 AM	33	0	0	0	75	0	0	0	0	0	0	0	0	0	0	0	108

SECTION NO. 03 ..... TABLES

Mulryan Engineering, P.C. **Table No. 1**

Hamlet: Village of Great Neck
Project No. M15-012

Growth Factor: 1.00%
No. of Years: 5
Growth Rate: 1.050

ITE Trip Generation
186 Apartment Units

	AM	PM	SAT
Enter	**19**	**75**	**49**
Exit	**76**	**41**	**49**
Total	95	116	98

ITE Trip Generation
Net Change 67 Units

	AM	PM	SAT
Enter	**7**	**27**	**17**
Exit	**27**	**15**	**17**
Total	34	42	34

Old Mill/Piccadilly Road at Middle Neck Road		Southbound				Westbound				Northbound				Eastbound				
		U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	Total
Other Planned Projects	AM			2								3	2		1			9
Site Generated Volume	PM			4								3	1		4			12
	SAT			3								3	1		2			9
Site Generated Volume	AM	---	---	5	---	---	---	---	0	---	0	3	1	---	1	---	---	11
	PM	---	---	10	---	---	---	---	1	---	0	4	1	---	2	---	---	19
	SAT	---	---	12	---	---	---	---	1	---	0	5	1	---	3	---	---	21
Existing AM Peak Hour	7:30 AM	0	77	599	9	0	15	43	75	0	23	528	108	0	166	31	64	1738
Existing PM Peak Hour	5:00 PM	0	56	501	8	0	14	32	44	0	47	583	101	0	111	24	70	1591
Existing Sat Peak Hour	12:30 PM	0	36	374	1	0	2	9	14	0	21	339	47	0	88	19	40	990
AM Adjusted Flow Rate	0.831	---	93	721	11	---	18	52	90	---	28	636	130	---	200	37	77	2092
PM Adjusted Flow Rate	0.963	---	58	520	8	---	15	33	46	---	49	605	105	---	115	25	73	1652
Sat Adjusted Flow Rate	0.967	---	37	387	1	---	2	9	14	---	22	351	49	---	91	20	41	1024
No Build AM	1.050	---	97	759	11	---	19	54	95	---	29	671	139	---	211	39	81	2205
No Build PM	1.050	---	61	551	9	---	15	35	48	---	51	639	111	---	125	26	76	1747
No Build Sat	1.050	---	39	409	1	---	2	10	15	---	23	371	52	---	98	21	43	1084
Build AM Peak Hour		---	97	764	11	---	19	54	95	---	29	674	139	---	212	39	81	2216
Build PM Peak Hour		---	61	561	9	---	15	35	49	---	52	643	112	---	127	26	76	1766
Build Sat Peak Hour		---	39	421	1	---	2	10	16	---	23	376	53	---	100	21	43	1105

North Site Access at Middle Neck Road		Southbound				Westbound				Northbound				Eastbound				
		U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	Total
Other Planned Projects	AM			3								6						9
Site Generated Volume	PM			8								4						12
	SAT			5								4						9
Site Generated Volume	AM	---	---	7	---	---	---	---	---	---	---	---	---	---	65	---	11	83
	PM	---	---	14	---	---	---	---	---	---	---	---	---	---	27	---	14	55
	SAT	---	---	15	---	---	---	---	---	---	---	---	---	---	32	---	17	64
Existing AM Peak Hour	7:30 AM	0	3	795	0	0	0	0	0	0	0	629	0	0	18	0	1	1446
Existing PM Peak Hour	5:00 PM	0	5	622	0	0	0	0	0	0	0	703	4	0	2	0	1	1337
Existing Sat Peak Hour	12:15 PM	0	2	467	0	0	0	0	0	0	0	414	0	0	6	0	1	890
AM Adjusted Flow Rate	0.820	---	4	970	0	---	0	0	0	---	0	767	0	---	22	0	1	1764
PM Adjusted Flow Rate	0.963	---	5	646	0	---	0	0	0	---	0	730	4	---	2	0	1	1388
Sat Adjusted Flow Rate	0.923	---	2	506	0	---	0	0	0	---	0	448	0	---	6	0	1	964
No Build AM	1.050	---	4	1021	0	---	0	0	0	---	0	812	0	---	23	0	1	1861
No Build PM	1.050	---	5	686	0	---	0	0	0	---	0	770	4	---	2	0	1	1469
No Build Sat	1.050	---	2	536	0	---	0	0	0	---	0	475	0	---	7	0	1	1021
Build AM Peak Hour		---	0	1028	0	---	0	0	0	---	0	812	0	---	65	0	11	1916
Build PM Peak Hour		---	0	700	0	---	0	0	0	---	0	770	0	---	27	0	14	1511
Build Sat Peak Hour		---	0	551	0	---	0	0	0	---	0	475	0	---	32	0	17	1075

Wooleys Lane at Middle Neck Road		Southbound				Westbound				Northbound				Eastbound				
		U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	Total
Other Planned Projects	AM			3								6						9
Site Generated Volume	PM			8								4						12
	SAT			5								4						9
Site Generated Volume	AM	---	---	30	---	---	---	---	---	---	---	---	---	---	---	---	---	30
	PM	---	---	23	---	---	---	---	---	---	---	---	---	---	---	---	---	23
	SAT	---	---	26	---	---	---	---	---	---	---	---	---	---	---	---	---	26
Existing AM Peak Hour	7:30 AM	0	0	799	76	0	77	0	39	0	32	590	0	0	0	0	0	1613
Existing PM Peak Hour	5:00 PM	0	0	600	44	0	57	0	34	0	30	686	0	0	0	0	0	1451
Existing Sat Peak Hour	12:30 PM	0	0	473	26	0	25	0	26	0	14	386	0	0	0	0	0	950
AM Adjusted Flow Rate	0.800	---	0	999	95	---	96	0	49	---	40	737	0	---	0	0	0	2016
PM Adjusted Flow Rate	0.950	---	0	632	46	---	60	0	36	---	32	722	0	---	0	0	0	1528
Sat Adjusted Flow Rate	0.935	---	0	506	28	---	27	0	28	---	15	413	0	---	0	0	0	1016
No Build AM	1.050	---	0	1052	100	---	101	0	51	---	42	780	0	---	0	0	0	2126
No Build PM	1.050	---	0	671	49	---	63	0	38	---	33	763	0	---	0	0	0	1616
No Build Sat	1.050	---	0	536	29	---	28	0	29	---	16	437	0	---	0	0	0	1076
Build AM Peak Hour		---	0	1081	100	---	101	0	51	---	42	780	0	---	0	0	0	2155
Build PM Peak Hour		---	0	695	49	---	63	0	38	---	33	763	0	---	0	0	0	1640
Build Sat Peak Hour		---	0	563	29	---	28	0	29	---	16	437	0	---	0	0	0	1102

Mulryan Engineering, P.C. **Table No. 1**

Hamlet: Village of Great Neck
Project No. M15-012

Growth Factor: 1.00%
No. of Years: 5
Growth Rate: 1.050

ITE Trip Generation
186 Apartment Units

	AM	PM	SAT
Enter	**19**	**75**	**49**
Exit	**76**	**41**	**49**
Total	95	116	98

ITE Trip Generation
Net Change 67 Units

	AM	PM	SAT
Enter	**7**	**27**	**17**
Exit	**27**	**15**	**17**
Total	34	42	34

Millbrook Court at Middle Neck Road		Southbound				Westbound				Northbound				Eastbound				
		U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	Total
Other Planned Projects	AM			3								6						9
Site Generated Volume	PM			8								4						12
	SAT			5								4						9
Site Generated Volume	AM	---	---	30	---	---	---	---	---	---	---	---	---	---	---	---	---	30
	PM	---	---	23	---	---	---	---	---	---	---	---	---	---	---	---	---	23
	SAT	---	---	26	---	---	---	---	---	---	---	---	---	---	---	---	---	26
Existing AM Peak Hour	7:45 AM	0	4	796	0	0	0	0	0	0	0	564	8	0	12	0	5	1389
Existing PM Peak Hour	5:00 PM	0	4	607	0	0	0	0	0	0	0	676	4	0	3	0	2	1296
Existing Sat Peak Hour	12:15 PM	0	7	452	0	0	0	0	0	0	0	399	0	0	7	0	5	870
AM Adjusted Flow Rate	0.843	---	5	944	0	---	0	0	0	---	0	669	9	---	14	0	6	1648
PM Adjusted Flow Rate	0.947	---	4	641	0	---	0	0	0	---	0	714	4	---	3	0	2	1368
Sat Adjusted Flow Rate	0.933	---	7	484	0	---	0	0	0	---	0	427	0	---	7	0	5	932
No Build AM	1.050	---	5	995	0	---	0	0	0	---	0	709	10	---	15	0	6	1739
No Build PM	1.050	---	4	681	0	---	0	0	0	---	0	753	4	---	3	0	2	1448
No Build Sat	1.050	---	8	513	0	---	0	0	0	---	0	453	0	---	8	0	6	988
Build AM Peak Hour		---	2	1024	0	---	0	0	0	---	0	709	5	---	7	0	3	1751
Build PM Peak Hour		---	2	704	0	---	0	0	0	---	0	753	2	---	2	0	1	1464
Build Sat Peak Hour		---	4	540	0	---	0	0	0	---	0	453	0	---	4	0	3	1003

South Site Access at Middle Neck Road		Southbound				Westbound				Northbound				Eastbound				
		U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	Total
Other Planned Projects	AM			3								6						9
Site Generated Volume	PM			8								4						12
	SAT			5								4						9
Site Generated Volume	AM	---	18	23	---	---	---	---	---	---	---	---	1	---	---	---	---	42
	PM	---	38	10	---	---	---	---	---	---	---	---	38	---	---	---	---	85
	SAT	---	44	11	---	---	---	---	---	---	---	---	5	---	---	---	---	60
Existing AM Peak Hour	7:45 AM	0	5	839	0	0	0	0	0	0	0	600	0	0	4	0	1	1449
Existing PM Peak Hour	5:00 PM	0	0	637	0	0	0	0	0	0	0	678	2	0	0	0	0	1317
Existing Sat Peak Hour	12:30 PM	0	1	446	0	0	0	0	0	0	0	388	1	0	1	0	1	838
AM Adjusted Flow Rate	0.850	---	6	987	0	---	0	0	0	---	0	706	0	---	5	0	1	1704
PM Adjusted Flow Rate	0.949	---	0	671	0	---	0	0	0	---	0	715	2	---	0	0	0	1388
Sat Adjusted Flow Rate	0.899	---	1	496	0	---	0	0	0	---	0	432	1	---	1	0	1	932
No Build AM	1.050	---	6	1039	0	---	0	0	0	---	0	747	0	---	5	0	1	1798
No Build PM	1.050	---	0	713	0	---	0	0	0	---	0	754	2	---	0	0	0	1469
No Build Sat	1.050	---	1	526	0	---	0	0	0	---	0	457	1	---	1	0	1	988
Build AM Peak Hour		---	31	1062	0	---	0	0	0	---	0	747	6	---	0	0	0	1845
Build PM Peak Hour		---	45	723	0	---	0	0	0	---	0	754	46	---	0	0	0	1568
Build Sat Peak Hour		---	51	537	0	---	0	0	0	---	0	457	6	---	0	0	0	1052

Clover Drive at Middle Neck Road		Southbound				Westbound				Northbound				Eastbound				
		U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	Total
Other Planned Projects	AM		2	1								4	-8		-1		-3	-5
Site Generated Volume	PM		-4	5								2	-2		0		-3	-2
	SAT		-2	3								3	0		-7		-3	-6
Site Generated Volume	AM	---	---	23	---	---	---	---	---	---	---	0	---	---	---	---	---	23
	PM	---	---	10	---	---	---	---	---	---	---	14	---	---	---	---	---	23
	SAT	---	---	11	---	---	---	---	---	---	---	2	---	---	---	---	---	13
Existing AM Peak Hour	7:45 AM	0	50	816	0	0	0	0	0	0	0	578	57	0	18	0	28	1547
Existing PM Peak Hour	5:00 PM	0	22	633	0	0	0	0	0	0	0	691	21	0	13	0	5	1385
Existing Sat Peak Hour	12:30 PM	0	7	445	0	0	0	0	0	0	0	398	7	0	33	0	10	900
AM Adjusted Flow Rate	0.873	---	57	935	0	---	0	0	0	---	0	662	65	---	21	0	32	1772
PM Adjusted Flow Rate	0.911	---	24	695	0	---	0	0	0	---	0	758	23	---	14	0	5	1520
Sat Adjusted Flow Rate	0.889	---	8	500	0	---	0	0	0	---	0	448	8	---	37	0	11	1012
No Build AM	1.050	---	62	982	0	---	0	0	0	---	0	699	61	---	21	0	31	1856
No Build PM	1.050	---	21	734	0	---	0	0	0	---	0	798	22	---	15	0	3	1594
No Build Sat	1.050	---	6	528	0	---	0	0	0	---	0	473	8	---	32	0	9	1057
Build AM Peak Hour		---	62	1005	0	---	0	0	0	---	0	700	61	---	21	0	31	1879
Build PM Peak Hour		---	21	744	0	---	0	0	0	---	0	812	22	---	15	0	3	1617
Build Sat Peak Hour		---	6	539	0	---	0	0	0	---	0	475	8	---	32	0	9	1069

Mulryan Engineering, P.C. **Table No. 1**

Hamlet: Village of Great Neck
Project No. M15-012

Growth Factor: 1.00%
No. of Years: 5
Growth Rate: 1.050

ITE Trip Generation
186 Apartment Units

	AM	PM	SAT
Enter	**19**	**75**	**49**
Exit	**76**	**41**	**49**
Total	95	116	98

ITE Trip Generation
Net Change 67 Units

	AM	PM	SAT
Enter	**7**	**27**	**17**
Exit	**27**	**15**	**17**
Total	34	42	34

Allenwood Road at Middle Neck Road		Southbound				Westbound				Northbound				Eastbound				
		U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	Total
Other Planned Projects	AM		1	4								3	3		8		4	23
Site Generated Volume	PM		1	4								7	3		8		4	27
	SAT		1	3								5	8		5		3	25
Site Generated Volume	AM	---	---	23	---	---	---	---	---	---	---	0	---	---	---	---	---	23
	PM	---	---	10	---	---	---	---	---	---	---	14	---	---	---	---	---	23
	SAT	---	---	11	---	---	---	---	---	---	---	2	---	---	---	---	---	13
Existing AM Peak Hour	7:30 AM	0	22	794	25	0	30	1	97	0	49	612	2	0	2	0	5	1639
Existing PM Peak Hour	5:00 PM	0	23	599	11	0	12	0	42	0	77	730	10	0	6	4	4	1518
Existing Sat Peak Hour	12:15 PM	0	9	486	5	0	8	0	31	0	53	382	4	0	4	1	3	986
AM Adjusted Flow Rate	0.913	---	24	870	27	---	33	1	106	---	54	671	2	---	2	0	5	1796
PM Adjusted Flow Rate	0.944	---	24	635	12	---	13	0	44	---	82	773	11	---	6	4	4	1608
Sat Adjusted Flow Rate	0.893	---	10	544	6	---	9	0	35	---	59	428	4	---	4	1	3	1104
No Build AM	1.050	---	1	918	29	---	35	0	112	---	56	707	3	---	8	0	4	1872
No Build PM	1.050	---	1	670	12	---	13	0	47	---	86	819	3	---	8	0	4	1663
No Build Sat	1.050	---	1	574	6	---	9	0	36	---	62	454	8	---	5	0	3	1160
Build AM Peak Hour		---	1	941	29	---	35	0	112	---	56	708	3	---	8	0	4	1895
Build PM Peak Hour		---	1	680	12	---	13	0	47	---	86	832	3	---	8	0	4	1686
Build Sat Peak Hour		---	1	585	6	---	9	0	36	---	62	456	8	---	5	0	3	1172

Mulryan Engineering, P.C. **Table No. 2**

Hamlet: Village of Great Neck
Project No. M15-012

Growth Factor: 1.00%
No. of Years: 5
Growth Rate: 1.050

ITE Trip Generation
186 Apartment Units

	AM	PM	SAT
Enter	**19**	**75**	**49**
Exit	**76**	**41**	**49**
Total	95	116	98

ITE Trip Generation
Net Change 67 Units

	AM	PM	SAT
Enter	**7**	**27**	**17**
Exit	**27**	**15**	**17**
Total	34	42	34

Old Mill/Piccadilly Road at Middle Neck Road		Southbound				Westbound				Northbound				Eastbound				
		U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	Total
AM Peak Hour Distribution	Entering			**73%**					**6%**						**16%**			95%
	Exiting										**1%**	**12%**	**2%**					15%
PM Peak Hour Distribution	Entering			**39%**					**3%**						**9%**			50%
	Exiting										**2%**	**29%**	**5%**					35%
Saturday Peak Hour Distribution	Entering			**69%**					**5%**						**15%**			90%
	Exiting										**2%**	**29%**	**5%**					35%
Site Generated Volume	AM	---	---	5.1	---	---	---	---	0.4	---	0.2	3.3	0.5	---	1.1	---	---	11
	PM	---	---	10.4	---	---	---	---	0.8	---	0.3	4.3	0.7	---	2.3	---	---	19
	SAT	---	---	11.8	---	---	---	---	0.9	---	0.3	4.9	0.8	---	2.6	---	---	21

North Site Access at Middle Neck Road		Southbound				Westbound				Northbound				Eastbound				
		U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	Total
AM Peak Hour Distribution	Entering			**95%**														95%
	Exiting														**85%**		**15%**	100%
PM Peak Hour Distribution	Entering			**50%**														50%
	Exiting														**65%**		**35%**	100%
Saturday Peak Hour Distribution	Entering			**90%**														90%
	Exiting														**65%**		**35%**	100%
Site Generated Volume	AM	---	---	6.7	---	---	---	---	---	---	---	---	---	---	64.6	---	11.4	83
	PM	---	---	13.5	---	---	---	---	---	---	---	---	---	---	26.7	---	14.4	55
	SAT	---	---	15.3	---	---	---	---	---	---	---	---	---	---	31.9	---	17.2	64

Wooleys Lane at Middle Neck Road		Southbound				Westbound				Northbound				Eastbound				
		U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	Total
AM Peak Hour Distribution	Entering			**95%**														95%
	Exiting			**85%**														85%
PM Peak Hour Distribution	Entering			**50%**														50%
	Exiting			**65%**														65%
Saturday Peak Hour Distribution	Entering			**90%**														90%
	Exiting			**65%**														65%
Site Generated Volume	AM	---	---	29.6	---	---	---	---	---	---	---	---	---	---	---	---	---	30
	PM	---	---	23.3	---	---	---	---	---	---	---	---	---	---	---	---	---	23
	SAT	---	---	26.4	---	---	---	---	---	---	---	---	---	---	---	---	---	26

Millbrook Court at Middle Neck Road		Southbound				Westbound				Northbound				Eastbound				
		U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	Total
AM Peak Hour Distribution	Entering			**95%**														95%
	Exiting			**85%**														85%
PM Peak Hour Distribution	Entering			**50%**														50%
	Exiting			**65%**														65%
Saturday Peak Hour Distribution	Entering			**90%**														90%
	Exiting			**65%**														65%
Site Generated Volume	AM	---	---	29.6	---	---	---	---	---	---	---	---	---	---	---	---	---	30
	PM	---	---	23.3	---	---	---	---	---	---	---	---	---	---	---	---	---	23
	SAT	---	---	26.4	---	---	---	---	---	---	---	---	---	---	---	---	---	26

South Site Access at Middle Neck Road		Southbound				Westbound				Northbound				Eastbound				
		U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	Total
AM Peak Hour Distribution	Entering		**95%**										**5%**					100%
	Exiting			**85%**														85%
PM Peak Hour Distribution	Entering		**50%**										**50%**					100%
	Exiting			**65%**														65%
Saturday Peak Hour Distribution	Entering		**90%**										**10%**					100%
	Exiting			**65%**														65%
Site Generated Volume	AM	---	18.1	23.0	---	---	---	---	---	---	---	---	1.0	---	---	---	---	42
	PM	---	37.5	9.8	---	---	---	---	---	---	---	---	37.5	---	---	---	---	85
	SAT	---	44.1	11.1	---	---	---	---	---	---	---	---	4.9	---	---	---	---	60

Mulryan Engineering, P.C. **Table No. 2**

Hamlet: Village of Great Neck
Project No. M15-012

Growth Factor: 1.00%
No. of Years: 5
Growth Rate: 1.050

ITE Trip Generation
186 Apartment Units

	AM	PM	SAT
Enter	**19**	**75**	**49**
Exit	**76**	**41**	**49**
Total	95	116	98

ITE Trip Generation
Net Change 67 Units

	AM	PM	SAT
Enter	**7**	**27**	**17**
Exit	**27**	**15**	**17**
Total	34	42	34

Clover Drive at Middle Neck Road		Southbound				Westbound				Northbound				Eastbound				
		U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	Total
AM Peak Hour Distribution	Entering											**5%**						5%
	Exiting			**85%**														85%
PM Peak Hour Distribution	Entering											**50%**						50%
	Exiting			**65%**														65%
Saturday Peak Hour Distribution	Entering											**10%**						10%
	Exiting			**65%**														65%
Site Generated Volume	AM	---	---	23.0	---	---	---	---	---	---	---	0.4	---	---	---	---	---	23
	PM	---	---	9.8	---	---	---	---	---	---	---	13.5	---	---	---	---	---	23
	SAT	---	---	11.1	---	---	---	---	---	---	---	1.7	---	---	---	---	---	13

Allenwood Road at Middle Neck Road		Southbound				Westbound				Northbound				Eastbound				
		U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	U-Turn	Right	Through	Left	Total
AM Peak Hour Distribution	Entering											**5%**						5%
	Exiting			**85%**														85%
PM Peak Hour Distribution	Entering											**50%**						50%
	Exiting			**65%**														65%
Saturday Peak Hour Distribution	Entering											**10%**						10%
	Exiting			**65%**														65%
Site Generated Volume	AM	---	---	23.0	---	---	---	---	---	---	---	0.4	---	---	---	---	---	23
	PM	---	---	9.8	---	---	---	---	---	---	---	13.5	---	---	---	---	---	23
	SAT	---	---	11.1	---	---	---	---	---	---	---	1.7	---	---	---	---	---	13

Mulryan Engineering, P.C. **Table No. 3**

Hamlet: Village of Great Neck
Project No. M15-012

Trip Generation Calculations

Proposed Development

Land Use Code: 220
Land Use Description: Apartments
Independent Variable: Number of Dwelling Units
Variable: 119
Source: Institute of Transportation Engineers, Trip Generation, 9th Edition 2012

	Directional Distribution	Rate	Standard Deviation	Adjustment Factor	Driveway Volume
7-9 AM Peak Hour Enter	20%	0.10	0.00	1.00	12
7-9 AM Peak Hour Exit	80%	0.41	0.00	1.00	49
7-9 AM Peak Hour Total	100%	0.51	0.73	1.00	61
AM Peak Hour Enter	29%	0.16	0.00	1.00	19
AM Peak Hour Exit	71%	0.39	0.00	1.00	46
AM Peak Hour Total	100%	0.55	0.76	1.00	65
PM Peak Hour Enter	61%	0.41	0.00	1.00	49
PM Peak Hour Exit	39%	0.26	0.00	1.00	31
PM Peak Hour Total	100%	0.67	0.85	1.00	80
4-6 PM Peak Hour Enter	65%	0.40	0.00	1.00	48
4-6 PM Peak Hour Exit	35%	0.22	0.00	1.00	26
4-6 PM Peak Hour Total	100%	0.62	0.82	1.00	74
Saturday Peak Hour Enter	50%	0.26	0.00	1.00	31
Saturday Peak Hour Exit	50%	0.26	0.00	1.00	31
Saturday Peak Hour Total	100%	0.52	0.74	1.00	62

Mulryan Engineering, P.C. **Table No. 4**

Hamlet: Village of Great Neck
Project No. M15-012

Trip Generation Calculations

Proposed Development

Land Use Code: 220
Land Use Description: Apartments
Independent Variable: Number of Dwelling Units
Variable: 186
Source: Institute of Transportation Engineers, Trip Generation, 9th Edition 2012

	Directional Distribution	Rate	Standard Deviation	Adjustment Factor	Driveway Volume
7-9 AM Peak Hour Enter	20%	0.10	0.00	1.00	19
7-9 AM Peak Hour Exit	80%	0.41	0.00	1.00	76
7-9 AM Peak Hour Total	100%	0.51	0.73	1.00	95
AM Peak Hour Enter	29%	0.16	0.00	1.00	30
AM Peak Hour Exit	71%	0.39	0.00	1.00	73
AM Peak Hour Total	100%	0.55	0.76	1.00	102
PM Peak Hour Enter	61%	0.41	0.00	1.00	76
PM Peak Hour Exit	39%	0.26	0.00	1.00	49
PM Peak Hour Total	100%	0.67	0.85	1.00	125
4-6 PM Peak Hour Enter	65%	0.40	0.00	1.00	75
4-6 PM Peak Hour Exit	35%	0.22	0.00	1.00	40
4-6 PM Peak Hour Total	100%	0.62	0.82	1.00	115
Saturday Peak Hour Enter	50%	0.26	0.00	1.00	48
Saturday Peak Hour Exit	50%	0.26	0.00	1.00	48
Saturday Peak Hour Total	100%	0.52	0.74	1.00	97

Mulryan Engineering, P.C. **Table No. 5**

Hamlet: Village of Great Neck
Project No. M15-012

Trip Generation Calculations

Proposed Development

Land Use Code: 220
Land Use Description: Apartments
Independent Variable: Number of Dwelling Units
Variable: 67
Source: Institute of Transportation Engineers, Trip Generation, 9th Edition 2012

	Directional Distribution	Rate	Standard Deviation	Adjustment Factor	Driveway Volume
7-9 AM Peak Hour Enter	20%	0.10	0.00	1.00	7
7-9 AM Peak Hour Exit	80%	0.41	0.00	1.00	27
7-9 AM Peak Hour Total	100%	0.51	0.73	1.00	34
AM Peak Hour Enter	29%	0.16	0.00	1.00	11
AM Peak Hour Exit	71%	0.39	0.00	1.00	26
AM Peak Hour Total	100%	0.55	0.76	1.00	37
PM Peak Hour Enter	61%	0.41	0.00	1.00	27
PM Peak Hour Exit	39%	0.26	0.00	1.00	18
PM Peak Hour Total	100%	0.67	0.85	1.00	45
4-6 PM Peak Hour Enter	65%	0.40	0.00	1.00	27
4-6 PM Peak Hour Exit	35%	0.22	0.00	1.00	15
4-6 PM Peak Hour Total	100%	0.62	0.82	1.00	42
Saturday Peak Hour Enter	50%	0.26	0.00	1.00	17
Saturday Peak Hour Exit	50%	0.26	0.00	1.00	17
Saturday Peak Hour Total	100%	0.52	0.74	1.00	35

Mulryan Engineering, P.C. **Table No. 6**

Hamlet: Village of Great Neck
Project No. M15-012

Parking Observations taken on:

Tuesday, May 12, 2015

NUMBER OF OCCUPIED PARKING SPACES

	Parking Capacity	10:00 PM	10:15 PM	10:30 PM	10:45 PM	11:00 PM	11:15 PM	11:30 PM							Average
Area No. 1 Northern Parking Lot	20	8	8	8	9	10	13	13							10
Area No. 2 Southern Parking Lot	24	12	13	16	16	16	15	15							15
Area No. 3 Millbrook Court	16	16	16	16	16	16	16	16							16
Area No. 4 Millbrook Court Circle	12	11	11	11	11	11	11	11							11
Area No. 5 Garages	62	x	x	x	x	x	x	x							x
	134	**47**	**48**	**51**	**52**	**53**	**55**	**55**							**52**

NUMBER OF AVAILABLE PARKING SPACES

	Parking Capacity	10:00 PM	10:15 PM	10:30 PM	10:45 PM	11:00 PM	11:15 PM	11:30 PM							Average
Area No. 1 Northern Parking Lot	20	12	12	12	11	10	7	7							10
Area No. 2 Southern Parking Lot	24	12	11	8	8	8	9	9							9
Area No. 3 Millbrook Court	16	0	0	0	0	0	0	0							0
Area No. 4 Millbrook Court Circle	12	1	1	1	1	1	1	1							1
Area No. 5 Garages	62	x	x	x	x	x	x	x							x
	134	**25**	**24**	**21**	**20**	**19**	**17**	**17**							**20**

Mulryan Engineering, P.C. **Table No. 7**

Hamlet: Village of Great Neck
Project No. M15-012

Parking Observations taken on:

Tuesday, May 12, 2015

NUMBER OF OCCUPIED PARKING SPACES

	Parking Capacity	10:00 PM	10:15 PM	10:30 PM	10:45 PM	11:00 PM	11:15 PM	11:30 PM							Average
Area No. 6 Middle Neck west side between N Driveway and Millbrook	8	8	8	9	9	9	10	10							9
Area No. 7 Middle Neck west side between Millbrook and S Driveway	3	3	3	3	3	3	3	3							3
Area No. 8 Middle Neck west side between S Driveway and Clover	3	4	4	3	3	3	3	3							3
Area No. 9 Middle Neck east side between Piccadilly and Wooley	6	7	7	7	7	7	6	6							7
Area No. 10 Middle Neck east side between Wooley and S Driveway	10	11	11	10	10	10	10	10							10
Area No. 11 Middle Neck east side between S Driveway and Allenwood	24	22	22	22	22	22	23	23							22
	54	**55**	**55**	**54**	**54**	**54**	**55**	**55**							**55**

NUMBER OF AVAILABLE PARKING SPACES

	Parking Capacity	10:00 PM	10:15 PM	10:30 PM	10:45 PM	11:00 PM	11:15 PM	11:30 PM							Average
Area No. 6 Middle Neck west side between N Driveway and Millbrook	8	0	0	0	0	0	0	0							0
Area No. 7 Middle Neck west side between Millbrook and S Driveway	3	0	0	0	0	0	0	0							0
Area No. 8 Middle Neck west side between S Driveway and Clover	3	0	0	0	0	0	0	0							0
Area No. 9 Middle Neck east side between Piccadilly and Wooley	6	0	0	0	0	0	0	0							0
Area No. 10 Middle Neck east side between Wooley and S Driveway	10	0	0	0	0	0	0	0							0
Area No. 11 Middle Neck east side between S Driveway and Allenwood	24	2	2	2	2	2	1	1							2
	54	**2**	**2**	**2**	**2**	**2**	**1**	**1**							**2**

SECTION NO. 04 .....INTERSECTION CAPACITY ANAYSIS

HIGHWAY CAPACITY ANALYSIS

DESCRIPTION

The level of service and capacity analysis prepared for this project is based on the methodologies presented in the Highway Capacity Manual (HCM 2000), published by the Transportation Research Board. The manual provides a consistent system of techniques for the evaluation of the quality of service on highway and street facilities. The following information is contained within Chapters 10, 16 and 17 of the Highway Capacity Manual.

SIGNALIZED INTERSECTIONS

CAPACITY

Capacity at intersections is defined for each lane group. The lane group capacity is the maximum hourly rate at which vehicles can reasonably be expected to pass through the intersection under prevailing traffic, roadway, and signalization conditions. The flow rate is generally measured or projected for a peak 15-minute period, and capacity is stated in vehicles per hour (vehicles per hour). Traffic conditions include volumes on each approach, the distribution of vehicles by movement (left, through, and right), the vehicle type distribution within each movement, the location and use of bus stops within the intersection area, pedestrian crossing flows, and parking movements on approaches to the intersection. Roadway conditions include the basic geometrics of the intersection, including the number and width of lanes, grades, and lane use allocations (including parking lanes). Signalization conditions include a full definition of the signal phasing, timing, and type of control, and an evaluation of signal progression for each lane group. The analysis of capacity at signalized intersections focuses on the computation of saturation flow rates, capacities, volume to capacity ratios, and level of service for lane groups.

LEVEL OF SERVICE

Level of service for signalized intersections is defined in terms of control delay, which is a measure of driver discomfort, frustration, fuel consumption, and increased travel time. The delay experienced by a motorist is made up of a number of factors that relate to control, geometrics, traffic, and incidents. Total delay is the difference between the travel time actually experienced and the reference travel time that would result during base conditions: in the absence of traffic control, geometric delay, any incidents, and any other vehicles. Specifically, LOS criteria for traffic signals are stated in terms of the average control delay per vehicle, typically for a 15-minute analysis period. Delay is a complex measure and depends on a number of variables, including the quality of progression, the cycle length, the green ratio, and the volume to capacity ratio for the lane group. The critical volume to capacity ratio is an approximate indicator of the overall sufficiency of an intersection. The critical volume to capacity ratio depends on the conflicting critical lane flow rates and the signal phasing.

The average back of queue is another performance measure that is used to analyze a signalized intersection. The back of queue is the number of vehicles that are queued depending on arrival patterns of vehicles and vehicles that do not clear the intersection during a given green phase.

Levels of service are defined to represent reasonable ranges in control delay.

LOS A describes operations with low control delay, up to **10** seconds per vehicle. This LOS occurs when progression is extremely favorable and most vehicles arrive during the green phase. Many vehicles do not stop at all. Short cycle lengths may tend to contribute to low delay values.

LOS B describes operations with control delay greater than **10** and up to **20** seconds per vehicle. This level generally occurs with good progression, short cycle lengths, or both. More vehicles stop than with LOS A, causing higher levels of delay.

LOS C describes operations with control delay greater than **20** and up to **35** seconds per vehicle. These higher delays may result from only fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level. Cycle failure occurs when a given green phase does not serve queued vehicles, and overflows occur. The number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.

LOS D describes operations with control delay greater than **35** and up to **55** seconds per vehicle. At LOS D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, and high volume to capacity ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.

LOS E describes operations with control delay greater than **55** and up to **80** seconds per vehicle. These high delay values generally indicate poor progression, long cycle lengths, and high seconds per vehicle ratios. Individual cycle failures are frequent.

LOS F describes operations with control delay in excess of **80** seconds per vehicle. This level, considered unacceptable to most drivers, often occurs with over-saturation, that is, when arrival flow rates exceed the capacity of lane groups. It may also occur at high volume to capacity ratios with many individual cycle failures. Poor progression and long cycle lengths may also contribute significantly to high delay levels.

Delays in the range of LOS F (unacceptable) can occur while the volume to capacity ratio is below 1.0. Very high delays can occur at such volume to capacity ratios when some combination of the following conditions exists: the cycle length is long, the lane group in question is disadvantaged by the signal timing (has a long red time), and the signal progression for the subject movements is poor. The reverse is also possible (for a limited duration): a saturated lane group (i.e., volume to capacity ratio greater than 1.0) may have low delays if the cycle length is short, or the signal progression is favorable, or both.

Thus, the designation LOS F does not automatically imply that the intersection, approach, or lane group is over capacity, nor does an LOS better than E automatically imply that unused capacity is available.

UNSIGNALIZED INTERSECTIONS

CAPACITY

At two-way stop controlled (unsignalized) intersections, drivers on the controlled approaches are required to select gaps in the major street flow through which to execute crossing or turning maneuvers on the basis of judgment. In the presence of a queue, each driver on the controlled approach must also use some time to move into the front-of-queue position and prepare to evaluate gaps in the major street flow. Thus, the capacity of the controlled legs is based on three factors: the distribution of gaps in the major street traffic stream, driver judgment in selecting gaps through which to execute the desired maneuvers, and the follow-up time required by each driver in a queue.

The basic capacity model assumes that gaps in the conflicting stream are randomly distributed. When traffic signals on the major street are within 0.25 miles of the subject intersection, flows may not be random but will likely have some platoon structure.

Pedestrians crossing an intersection impede lower-ranked minor street vehicles, but only one lane at a time. This is because vehicles performing a given through or turning movement tend to pass in front of or behind pedestrians once a driver's target lane is clear. The important factor is to determine the number of blockages. For the purpose of determining the pedestrian impedance, the pedestrian volume is the sum of individual pedestrians crossing individually and groups of pedestrians crossing together during the analysis time period.

The existence of a raised or striped median or a two-way left-turn lane (TWLTL) on the major street often causes some degree of a gap acceptance phenomenon known as "two-stage gap acceptance". For example, the existence of a raised or striped median causes a significant proportion of the minor street drivers to first cross part of the major street approach and then pause in the middle of the road to wait for another gap in the other approach. If a two-way left-turn lane exists on the major street, the minor street left-turn vehicle usually merges into the two-way left-turn lane first, then seeks a usable gap on the other approach while slowly moving some distance along the two-way left-turn lane. Both of these behaviors can increase capacity.

The geometric elements near the stop line on the stop-controlled approaches of many intersections may result in a higher capacity than the shared-lane capacity equation may predict. This is because, at such approaches, two vehicles may occupy or depart from the stop line simultaneously as a result of a large curb radius, a tapered curb, or a parking prohibition. The magnitude of this effect will depend in part on the turning movement volumes and the resultant probability of two vehicles being simultaneously at the stop line and on the storage length available to feed the second position at the stop line.

Often, two or three movements share a single lane on the minor approach. With this lane sharing, vehicles from different movements do not have simultaneous access to gaps, nor can more than one vehicle from the sharing movements use the same gap, which influences capacity.

The existence of nearby signalized intersections (i.e., traffic signals on the major street within 0.25 miles of the subject intersection) typically causes vehicles to arrive at the intersection in platoons. This influences the size and distribution of available gaps and may cause an increase in the minor street capacity. The greater the number of vehicles traveling in platoons, the higher the minor street capacity for a given opposing volume. This is due to the greater proportion of large gaps that more than one minor street vehicle can use. If signalized intersections exist upstream of the subject intersection in both directions, the effect is much more complex.

LEVEL OF SERVICE

Four measures are used to describe the performance of TWSC intersections: control delay, delay to major street through vehicles, queue length, and v/c ratio. The primary measure that is used to provide an estimate of LOS is control delay. This measure can be estimated for any movement on the minor (i.e., the stop-controlled) street. By summing delay estimates for individual movements, a delay estimate for each minor street movement and minor street approach can be achieved.

For AWSC intersections, the average control delay (in seconds per vehicle) is used as the primary measure of performance. Control delay is the increased time of travel for a vehicle approaching and passing through an AWSC intersection, compared with a free flow vehicle if it were not required to slow or stop at the intersection.

Capacity analysis at TWSC intersections depends on a clear description and understanding of the interaction of drivers on the minor or stop-controlled approach with drivers on the major street. Both gap acceptance and empirical models have been developed to describe this interaction. Procedures described in this chapter rely on a gap acceptance model developed and refined in Germany (I). The concepts from this model are described in Chapter **10.** Exhibit **17-1** illustrates input to and the basic computation order of the method described in this chapter.

Level of service (LOS) for a TWSC intersection is determined by the computed or measured control delay and is defined for each minor movement. LOS is not defined for the intersection as a whole. LOS criteria are given below:

Level of Service Criteria for Unsignalized Intersections	
Level of Service	**Delay (in seconds per vehicle)**
A	≤ 10
B	> 10 and ≤ 15
C	> 15 and ≤ 25
D	> 25 and ≤ 35
E	> 35 and ≤ 50
F	> 50

The LOS criteria for TWSC intersections are somewhat different from the criteria used for signalized intersections primarily because different transportation facilities create different driver perceptions. The expectation is that a signalized intersection is designed to carry higher traffic volumes and experience greater delay than an unsignalized intersection.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	77	37	200	90	52	18	130	636	28	11	721	93
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1976	1900	1824	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	77	37	200	90	52	18	130	636	28	11	721	93
Adj No. of Lanes	0	1	1	0	1	0	1	2	0	0	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	354	142	330	267	133	33	424	1809	80	101	1606	205
Arrive On Green	0.20	0.20	0.20	0.20	0.20	0.20	0.51	0.51	0.51	0.51	0.51	0.51
Sat Flow, veh/h	977	697	1615	602	654	159	654	3523	155	13	3128	399
Grp Volume(v), veh/h	114	0	200	160	0	0	130	326	338	439	0	386
Grp Sat Flow(s),veh/h/ln	1674	0	1615	1415	0	0	654	1805	1873	1882	0	1659
Q Serve(g_s), s	0.0	0.0	4.4	2.0	0.0	0.0	6.1	4.2	4.2	0.0	0.0	5.8
Cycle Q Clear(g_c), s	2.0	0.0	4.4	4.0	0.0	0.0	11.9	4.2	4.2	5.7	0.0	5.8
Prop In Lane	0.68		1.00	0.56		0.11	1.00		0.08	0.03		0.24
Lane Grp Cap(c), veh/h	497	0	330	433	0	0	424	927	962	1061	0	852
V/C Ratio(X)	0.23	0.00	0.61	0.37	0.00	0.00	0.31	0.35	0.35	0.41	0.00	0.45
Avail Cap(c_a), veh/h	1111	0	995	1024	0	0	424	927	962	1061	0	852
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.1	0.0	14.1	13.8	0.0	0.0	9.8	5.6	5.6	6.0	0.0	6.0
Incr Delay (d2), s/veh	0.2	0.0	1.8	0.5	0.0	0.0	1.9	1.0	1.0	1.2	0.0	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	2.1	1.6	0.0	0.0	1.3	2.3	2.3	3.3	0.0	3.0
LnGrp Delay(d),s/veh	13.4	0.0	15.9	14.3	0.0	0.0	11.6	6.7	6.6	7.2	0.0	7.8
LnGrp LOS	B		B	B			B	A	A	A		A
Approach Vol, veh/h		314			160			794			825	
Approach Delay, s/veh		15.0			14.3			7.5			7.5	
Approach LOS		B			B			A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		25.5		13.5		25.5		13.5
Change Period (Y+Rc), s		5.5		5.5		5.5		5.5
Max Green Setting (Gmax), s		20.0		24.0		20.0		24.0
Max Q Clear Time (g_c+I1), s		13.9		6.4		7.8		6.0
Green Ext Time (p_c), s		3.2		1.5		5.0		1.5

Intersection Summary	
HCM 2010 Ctrl Delay	9.1
HCM 2010 LOS	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	49	96	737	40	95	999
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	16	12	11	12	12	11
Total Lost time (s)	5.5		5.5			5.5
Lane Util. Factor	1.00		0.95			0.95
Frt	0.91		0.99			1.00
Flt Protected	0.98		1.00			1.00
Satd. Flow (prot)	1928		3463			3475
Flt Permitted	0.98		1.00			0.81
Satd. Flow (perm)	1928		3463			2841
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	49	96	737	40	95	999
RTOR Reduction (vph)	83	0	4	0	0	0
Lane Group Flow (vph)	62	0	773	0	0	1094
Turn Type	Prot		NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases					6	
Actuated Green, G (s)	6.8		33.0			33.0
Effective Green, g (s)	6.8		33.0			33.0
Actuated g/C Ratio	0.13		0.65			0.65
Clearance Time (s)	5.5		5.5			5.5
Vehicle Extension (s)	3.0		3.0			3.0
Lane Grp Cap (vph)	258		2249			1845
v/s Ratio Prot	c0.03		0.22			
v/s Ratio Perm						c0.39
v/c Ratio	0.24		0.34			0.59
Uniform Delay, d1	19.7		4.0			5.1
Progression Factor	1.00		1.00			1.00
Incremental Delay, d2	0.5		0.4			1.4
Delay (s)	20.2		4.4			6.5
Level of Service	C		A			A
Approach Delay (s)	20.2		4.4			6.5
Approach LOS	C		A			A

Intersection Summary			
HCM 2000 Control Delay	6.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	50.8	Sum of lost time (s)	11.0
Intersection Capacity Utilization	74.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	106	33	671	54	27	870
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	11	12	12	11
Total Lost time (s)	5.5		5.5			5.5
Lane Util. Factor	1.00		0.95			0.95
Frt	0.97		0.99			1.00
Flt Protected	0.96		1.00			1.00
Satd. Flow (prot)	1772		3451			3484
Flt Permitted	0.96		1.00			0.92
Satd. Flow (perm)	1772		3451			3221
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	106	33	671	54	27	870
RTOR Reduction (vph)	28	0	7	0	0	0
Lane Group Flow (vph)	111	0	718	0	0	897
Turn Type	Prot		NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases					6	
Actuated Green, G (s)	7.1		25.0			25.0
Effective Green, g (s)	7.1		25.0			25.0
Actuated g/C Ratio	0.16		0.58			0.58
Clearance Time (s)	5.5		5.5			5.5
Vehicle Extension (s)	3.0		3.0			3.0
Lane Grp Cap (vph)	291		2001			1868
v/s Ratio Prot	c0.06		0.21			
v/s Ratio Perm						c0.28
v/c Ratio	0.38		0.36			0.48
Uniform Delay, d1	16.0		4.8			5.3
Progression Factor	1.00		1.00			1.00
Incremental Delay, d2	0.8		0.5			0.9
Delay (s)	16.9		5.3			6.2
Level of Service	B		A			A
Approach Delay (s)	16.9		5.3			6.2
Approach LOS	B		A			A

Intersection Summary			
HCM 2000 Control Delay	6.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	43.1	Sum of lost time (s)	11.0
Intersection Capacity Utilization	60.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	1	22	0	767	970	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1	22	0	767	970	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1356	487	974	0	-	0
Stage 1	972	-	-	-	-	-
Stage 2	384	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	143	532	716	-	-	-
Stage 1	332	-	-	-	-	-
Stage 2	664	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	143	532	716	-	-	-
Mov Cap-2 Maneuver	143	-	-	-	-	-
Stage 1	332	-	-	-	-	-
Stage 2	664	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.9	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	716	-	476	-	-
HCM Lane V/C Ratio	-	-	0.048	-	-
HCM Control Delay (s)	0	-	12.9	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	6	14	9	669	944	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	6	14	9	669	944	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1300	475	949	0	-	0
Stage 1	947	-	-	-	-	-
Stage 2	353	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	155	541	732	-	-	-
Stage 1	342	-	-	-	-	-
Stage 2	688	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	152	541	732	-	-	-
Mov Cap-2 Maneuver	152	-	-	-	-	-
Stage 1	342	-	-	-	-	-
Stage 2	674	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.6	0.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	732	-	306	-	-
HCM Lane V/C Ratio	0.012	-	0.065	-	-
HCM Control Delay (s)	10	0.1	17.6	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	1	5	0	706	987	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1	5	0	706	987	6

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1343	497	993	0	-	0
Stage 1	990	-	-	-	-	-
Stage 2	353	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	146	524	704	-	-	-
Stage 1	325	-	-	-	-	-
Stage 2	688	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	146	524	704	-	-	-
Mov Cap-2 Maneuver	146	-	-	-	-	-
Stage 1	325	-	-	-	-	-
Stage 2	688	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	704	-	366	-	-
HCM Lane V/C Ratio	-	-	0.016	-	-
HCM Control Delay (s)	0	-	15	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

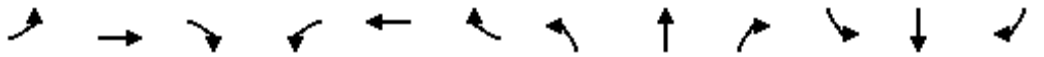
Intersection	
Int Delay, s/veh	1.8

Movement	NBL	NBT	SBT	SBR	NEL	NER
Vol, veh/h	65	662	935	57	32	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	65	662	935	57	32	21

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	992	0	-	0	1425	496
Stage 1	-	-	-	-	964	-
Stage 2	-	-	-	-	461	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	705	-	-	-	129	525
Stage 1	-	-	-	-	335	-
Stage 2	-	-	-	-	607	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	705	-	-	-	110	525
Mov Cap-2 Maneuver	-	-	-	-	110	-
Stage 1	-	-	-	-	335	-
Stage 2	-	-	-	-	518	-

Approach	NB	SB	NE
HCM Control Delay, s	1.5	0	38.3
HCM LOS			E

Minor Lane/Major Mvmt	NELn1	NBL	NBT	SBT	SBR
Capacity (veh/h)	160	705	-	-	-
HCM Lane V/C Ratio	0.331	0.092	-	-	-
HCM Control Delay (s)	38.3	10.6	0.6	-	-
HCM Lane LOS	E	B	A	-	-
HCM 95th %tile Q(veh)	1.4	0.3	-	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	73	25	115	46	33	15	105	605	49	8	520	58
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1976	1900	1824	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	73	25	115	46	33	15	105	605	49	8	520	58
Adj No. of Lanes	0	1	1	0	1	0	1	2	0	0	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	369	104	322	252	162	52	529	1748	141	101	1648	181
Arrive On Green	0.20	0.20	0.20	0.20	0.20	0.20	0.52	0.52	0.52	0.52	0.52	0.52
Sat Flow, veh/h	1038	523	1615	570	813	263	815	3383	274	11	3189	351
Grp Volume(v), veh/h	98	0	115	94	0	0	105	322	332	311	0	275
Grp Sat Flow(s),veh/h/ln	1561	0	1615	1646	0	0	815	1805	1852	1884	0	1667
Q Serve(g_s), s	0.2	0.0	2.4	0.0	0.0	0.0	3.3	4.1	4.1	0.0	0.0	3.7
Cycle Q Clear(g_c), s	1.8	0.0	2.4	1.6	0.0	0.0	7.0	4.1	4.1	3.7	0.0	3.7
Prop In Lane	0.74		1.00	0.49		0.16	1.00		0.15	0.03		0.21
Lane Grp Cap(c), veh/h	473	0	322	466	0	0	529	933	957	1069	0	861
V/C Ratio(X)	0.21	0.00	0.36	0.20	0.00	0.00	0.20	0.35	0.35	0.29	0.00	0.32
Avail Cap(c_a), veh/h	1097	0	1001	1120	0	0	529	933	957	1069	0	861
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.1	0.0	13.4	13.1	0.0	0.0	7.4	5.5	5.5	5.4	0.0	5.4
Incr Delay (d2), s/veh	0.2	0.0	0.7	0.2	0.0	0.0	0.8	1.0	1.0	0.7	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	1.1	0.9	0.0	0.0	0.9	2.2	2.3	2.1	0.0	1.9
LnGrp Delay(d),s/veh	13.3	0.0	14.0	13.3	0.0	0.0	8.3	6.5	6.5	6.1	0.0	6.4
LnGrp LOS	B		B	B			A	A	A	A		A
Approach Vol, veh/h		213			94			759			586	
Approach Delay, s/veh		13.7			13.3			6.8			6.2	
Approach LOS		B			B			A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		25.5		13.2		25.5		13.2
Change Period (Y+Rc), s		5.5		5.5		5.5		5.5
Max Green Setting (Gmax), s		20.0		24.0		20.0		24.0
Max Q Clear Time (g_c+I1), s		9.0		4.4		5.7		3.6
Green Ext Time (p_c), s		3.7		0.9		4.1		0.9

Intersection Summary	
HCM 2010 Ctrl Delay	7.8
HCM 2010 LOS	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	36	60	722	32	46	632
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	16	12	11	12	12	11
Total Lost time (s)	5.5		5.5			5.5
Lane Util. Factor	1.00		0.95			0.95
Frt	0.92		0.99			1.00
Flt Protected	0.98		1.00			1.00
Satd. Flow (prot)	1935		3467			3478
Flt Permitted	0.98		1.00			0.87
Satd. Flow (perm)	1935		3467			3051
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	36	60	722	32	46	632
RTOR Reduction (vph)	54	0	3	0	0	0
Lane Group Flow (vph)	42	0	751	0	0	678
Turn Type	Prot		NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases					6	
Actuated Green, G (s)	4.9		35.5			35.5
Effective Green, g (s)	4.9		35.5			35.5
Actuated g/C Ratio	0.10		0.69			0.69
Clearance Time (s)	5.5		5.5			5.5
Vehicle Extension (s)	3.0		3.0			3.0
Lane Grp Cap (vph)	184		2394			2107
v/s Ratio Prot	c0.02		0.22			
v/s Ratio Perm						c0.22
v/c Ratio	0.23		0.31			0.32
Uniform Delay, d1	21.5		3.1			3.2
Progression Factor	1.00		1.00			1.00
Incremental Delay, d2	0.6		0.3			0.4
Delay (s)	22.1		3.5			3.6
Level of Service	C		A			A
Approach Delay (s)	22.1		3.5			3.6
Approach LOS	C		A			A

Intersection Summary			
HCM 2000 Control Delay	4.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	51.4	Sum of lost time (s)	11.0
Intersection Capacity Utilization	60.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	44	13	773	82	12	635
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	11	12	12	11
Total Lost time (s)	5.5		5.5			5.5
Lane Util. Factor	1.00		0.95			0.95
Frt	0.97		0.99			1.00
Flt Protected	0.96		1.00			1.00
Satd. Flow (prot)	1773		3439			3486
Flt Permitted	0.96		1.00			0.94
Satd. Flow (perm)	1773		3439			3275
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	44	13	773	82	12	635
RTOR Reduction (vph)	12	0	7	0	0	0
Lane Group Flow (vph)	45	0	848	0	0	647
Turn Type	Prot		NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases					6	
Actuated Green, G (s)	3.3		30.9			30.9
Effective Green, g (s)	3.3		30.9			30.9
Actuated g/C Ratio	0.07		0.68			0.68
Clearance Time (s)	5.5		5.5			5.5
Vehicle Extension (s)	3.0		3.0			3.0
Lane Grp Cap (vph)	129		2350			2238
v/s Ratio Prot	c0.03		c0.25			
v/s Ratio Perm						0.20
v/c Ratio	0.35		0.36			0.29
Uniform Delay, d1	19.9		3.0			2.8
Progression Factor	1.00		1.00			1.00
Incremental Delay, d2	1.6		0.4			0.3
Delay (s)	21.6		3.4			3.1
Level of Service	C		A			A
Approach Delay (s)	21.6		3.4			3.1
Approach LOS	C		A			A

Intersection Summary			
HCM 2000 Control Delay	4.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	45.2	Sum of lost time (s)	11.0
Intersection Capacity Utilization	41.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	1	2	4	730	646	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1	2	4	730	646	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1022	326	651	0	-	0
Stage 1	649	-	-	-	-	-
Stage 2	373	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	235	676	945	-	-	-
Stage 1	487	-	-	-	-	-
Stage 2	672	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	233	676	945	-	-	-
Mov Cap-2 Maneuver	233	-	-	-	-	-
Stage 1	487	-	-	-	-	-
Stage 2	667	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	945	-	414	-	-
HCM Lane V/C Ratio	0.004	-	0.007	-	-
HCM Control Delay (s)	8.8	0	13.8	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	2	3	4	714	641	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	2	3	4	714	641	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1008	323	645	0	-	0
Stage 1	643	-	-	-	-	-
Stage 2	365	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	240	679	950	-	-	-
Stage 1	491	-	-	-	-	-
Stage 2	679	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	238	679	950	-	-	-
Mov Cap-2 Maneuver	238	-	-	-	-	-
Stage 1	491	-	-	-	-	-
Stage 2	674	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.4	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	950	-	390	-	-
HCM Lane V/C Ratio	0.004	-	0.013	-	-
HCM Control Delay (s)	8.8	0	14.4	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	0	2	715	671	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	0	2	715	671	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1033	336	671	0	-	0
Stage 1	671	-	-	-	-	-
Stage 2	362	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	232	666	929	-	-	-
Stage 1	475	-	-	-	-	-
Stage 2	681	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	231	666	929	-	-	-
Mov Cap-2 Maneuver	231	-	-	-	-	-
Stage 1	475	-	-	-	-	-
Stage 2	678	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	929	-	-	-	-
HCM Lane V/C Ratio	0.002	-	-	-	-
HCM Control Delay (s)	8.9	0	0	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

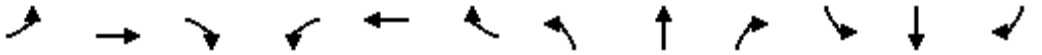
Intersection	
Int Delay, s/veh	0.4

Movement	NBL	NBT	SBT	SBR	NEL	NER
Vol, veh/h	23	758	695	24	5	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	23	758	695	24	5	14

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	719	0	-	0	1132	360
Stage 1	-	-	-	-	707	-
Stage 2	-	-	-	-	425	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	892	-	-	-	200	642
Stage 1	-	-	-	-	455	-
Stage 2	-	-	-	-	633	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	892	-	-	-	191	642
Mov Cap-2 Maneuver	-	-	-	-	191	-
Stage 1	-	-	-	-	455	-
Stage 2	-	-	-	-	605	-

Approach	NB	SB	NE
HCM Control Delay, s	0.5	0	14.5
HCM LOS			B

Minor Lane/Major Mvmt	NELn1	NBL	NBT	SBT	SBR
Capacity (veh/h)	396	892	-	-	-
HCM Lane V/C Ratio	0.048	0.026	-	-	-
HCM Control Delay (s)	14.5	9.1	0.2	-	-
HCM Lane LOS	B	A	A	-	-
HCM 95th %tile Q(veh)	0.2	0.1	-	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	41	20	91	14	9	2	49	351	22	1	387	37
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.94		0.94	0.95		0.94	0.91		0.82	0.90		0.82
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1976	1900	1824	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	41	20	91	14	9	2	49	351	22	1	387	37
Adj No. of Lanes	0	1	1	0	1	0	1	2	0	0	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	471	208	559	397	238	45	423	1385	86	74	1300	122
Arrive On Green	0.37	0.37	0.37	0.37	0.37	0.37	0.41	0.41	0.41	0.41	0.41	0.41
Sat Flow, veh/h	944	563	1516	765	646	123	853	3401	211	1	3194	300
Grp Volume(v), veh/h	61	0	91	25	0	0	49	185	188	228	0	197
Grp Sat Flow(s),veh/h/ln	1507	0	1516	1534	0	0	853	1805	1807	1899	0	1596
Q Serve(g_s), s	0.1	0.0	2.0	0.0	0.0	0.0	2.0	3.3	3.4	0.0	0.0	4.1
Cycle Q Clear(g_c), s	1.0	0.0	2.0	0.4	0.0	0.0	6.1	3.3	3.4	4.0	0.0	4.1
Prop In Lane	0.67		1.00	0.56		0.08	1.00		0.12	0.00		0.19
Lane Grp Cap(c), veh/h	678	0	559	680	0	0	423	735	736	847	0	650
V/C Ratio(X)	0.09	0.00	0.16	0.04	0.00	0.00	0.12	0.25	0.26	0.27	0.00	0.30
Avail Cap(c_a), veh/h	856	0	741	859	0	0	423	735	736	847	0	650
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	10.1	0.0	10.4	9.9	0.0	0.0	11.9	9.6	9.6	9.8	0.0	9.8
Incr Delay (d2), s/veh	0.1	0.0	0.1	0.0	0.0	0.0	0.6	0.8	0.8	0.8	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.8	0.2	0.0	0.0	0.5	1.8	1.8	2.3	0.0	2.0
LnGrp Delay(d),s/veh	10.2	0.0	10.5	9.9	0.0	0.0	12.5	10.4	10.5	10.6	0.0	11.0
LnGrp LOS	B		B	A			B	B	B	B		B
Approach Vol, veh/h		152			25			422			425	
Approach Delay, s/veh		10.4			9.9			10.7			10.8	
Approach LOS		B			A			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		25.5		23.6		25.5		23.6
Change Period (Y+Rc), s		5.5		5.5		5.5		5.5
Max Green Setting (Gmax), s		20.0		24.0		20.0		24.0
Max Q Clear Time (g_c+I1), s		8.1		4.0		6.1		2.4
Green Ext Time (p_c), s		2.3		0.5		2.4		0.5

Intersection Summary	
HCM 2010 Ctrl Delay	10.7
HCM 2010 LOS	B

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	28	27	413	15	28	506
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	16	12	11	12	12	11
Total Lost time (s)	5.5		5.5			5.5
Lane Util. Factor	1.00		0.95			0.95
Frpb, ped/bikes	0.93		1.00			1.00
Flpb, ped/bikes	1.00		1.00			1.00
Frt	0.93		0.99			1.00
Flt Protected	0.98		1.00			1.00
Satd. Flow (prot)	1824		3457			3467
Flt Permitted	0.98		1.00			0.92
Satd. Flow (perm)	1824		3457			3211
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	28	27	413	15	28	506
RTOR Reduction (vph)	25	0	2	0	0	0
Lane Group Flow (vph)	30	0	426	0	0	534
Confl. Peds. (#/hr)	150	200		150	200	
Turn Type	Prot		NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases					6	
Actuated Green, G (s)	3.3		38.8			38.8
Effective Green, g (s)	3.3		38.8			38.8
Actuated g/C Ratio	0.06		0.73			0.73
Clearance Time (s)	5.5		5.5			5.5
Vehicle Extension (s)	3.0		3.0			3.0
Lane Grp Cap (vph)	113		2526			2346
v/s Ratio Prot	c0.02		0.12			
v/s Ratio Perm						c0.17
v/c Ratio	0.26		0.17			0.23
Uniform Delay, d1	23.7		2.2			2.3
Progression Factor	1.00		1.00			1.00
Incremental Delay, d2	1.2		0.1			0.2
Delay (s)	25.0		2.3			2.5
Level of Service	C		A			A
Approach Delay (s)	25.0		2.3			2.5
Approach LOS	C		A			A

Intersection Summary			
HCM 2000 Control Delay	3.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.23		
Actuated Cycle Length (s)	53.1	Sum of lost time (s)	11.0
Intersection Capacity Utilization	64.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	35	9	428	59	6	544
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	11	12	12	11
Total Lost time (s)	5.5		5.5			5.5
Lane Util. Factor	1.00		0.95			0.95
Frpb, ped/bikes	0.99		0.99			1.00
Flpb, ped/bikes	1.00		1.00			1.00
Frt	0.97		0.98			1.00
Flt Protected	0.96		1.00			1.00
Satd. Flow (prot)	1762		3397			3487
Flt Permitted	0.96		1.00			0.95
Satd. Flow (perm)	1762		3397			3317
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	35	9	428	59	6	544
RTOR Reduction (vph)	9	0	8	0	0	0
Lane Group Flow (vph)	35	0	479	0	0	550
Confl. Peds. (#/hr)	25	50		75	75	
Turn Type	Prot		NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases					6	
Actuated Green, G (s)	1.6		33.4			33.4
Effective Green, g (s)	1.6		33.4			33.4
Actuated g/C Ratio	0.03		0.73			0.73
Clearance Time (s)	5.5		5.5			5.5
Vehicle Extension (s)	3.0		3.0			3.0
Lane Grp Cap (vph)	61		2466			2408
v/s Ratio Prot	c0.02		0.14			
v/s Ratio Perm						c0.17
v/c Ratio	0.58		0.19			0.23
Uniform Delay, d1	21.9		2.0			2.1
Progression Factor	1.00		1.00			1.00
Incremental Delay, d2	12.6		0.2			0.2
Delay (s)	34.5		2.2			2.3
Level of Service	C		A			A
Approach Delay (s)	34.5		2.2			2.3
Approach LOS	C		A			A

Intersection Summary			
HCM 2000 Control Delay	3.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.24		
Actuated Cycle Length (s)	46.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	45.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	1	6	0	448	506	2
Conflicting Peds, #/hr	175	175	175	0	0	175
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1	6	0	448	506	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	906	604	683	0	-	0
Stage 1	682	-	-	-	-	-
Stage 2	224	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	279	446	919	-	-	-
Stage 1	469	-	-	-	-	-
Stage 2	798	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	204	330	796	-	-	-
Mov Cap-2 Maneuver	204	-	-	-	-	-
Stage 1	401	-	-	-	-	-
Stage 2	682	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	796	-	303	-	-
HCM Lane V/C Ratio	-	-	0.023	-	-
HCM Control Delay (s)	0	-	17.2	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	5	7	0	427	484	7
Conflicting Peds, #/hr	225	200	200	0	0	225
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	5	7	0	427	484	7

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	927	671	716	0	-	0
Stage 1	713	-	-	-	-	-
Stage 2	214	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	271	404	894	-	-	-
Stage 1	452	-	-	-	-	-
Stage 2	807	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	179	278	757	-	-	-
Mov Cap-2 Maneuver	179	-	-	-	-	-
Stage 1	367	-	-	-	-	-
Stage 2	656	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	757	-	226	-	-
HCM Lane V/C Ratio	-	-	0.053	-	-
HCM Control Delay (s)	0	-	21.8	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	1	1	1	432	496	1
Conflicting Peds, #/hr	225	225	225	0	0	225
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1	1	1	432	496	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	940	699	722	0	-	0
Stage 1	722	-	-	-	-	-
Stage 2	218	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	266	387	889	-	-	-
Stage 1	447	-	-	-	-	-
Stage 2	803	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	175	260	736	-	-	-
Mov Cap-2 Maneuver	175	-	-	-	-	-
Stage 1	363	-	-	-	-	-
Stage 2	651	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	22.4	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	736	-	209	-	-
HCM Lane V/C Ratio	0.001	-	0.01	-	-
HCM Control Delay (s)	9.9	0	22.4	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

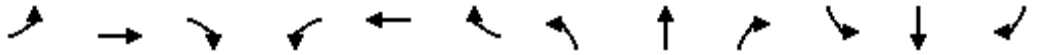
Intersection	
Int Delay, s/veh	1.2

Movement	NBL	NBT	SBT	SBR	NEL	NER
Vol, veh/h	8	448	500	8	11	37
Conflicting Peds, #/hr	200	0	0	200	200	200
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	8	448	500	8	11	37

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	708	0	-	0	944	654
Stage 1	-	-	-	-	704	-
Stage 2	-	-	-	-	240	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	900	-	-	-	264	414
Stage 1	-	-	-	-	457	-
Stage 2	-	-	-	-	783	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	763	-	-	-	181	292
Mov Cap-2 Maneuver	-	-	-	-	181	-
Stage 1	-	-	-	-	381	-
Stage 2	-	-	-	-	643	-

Approach	NB	SB	NE
HCM Control Delay, s	0.3	0	22.3
HCM LOS			C

Minor Lane/Major Mvmt	NELn1	NBL	NBT	SBT	SBR
Capacity (veh/h)	256	763	-	-	-
HCM Lane V/C Ratio	0.188	0.01	-	-	-
HCM Control Delay (s)	22.3	9.8	0.1	-	-
HCM Lane LOS	C	A	A	-	-
HCM 95th %tile Q(veh)	0.7	0	-	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	81	39	211	95	54	19	139	671	29	11	759	97
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1976	1900	1824	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	81	39	211	95	54	19	139	671	29	11	759	97
Adj No. of Lanes	0	1	1	0	1	0	1	2	0	0	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	360	145	337	268	132	33	405	1800	78	100	1599	202
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.51	0.51	0.51	0.51	0.51	0.51
Sat Flow, veh/h	987	697	1615	594	631	156	629	3526	152	12	3132	397
Grp Volume(v), veh/h	120	0	211	168	0	0	139	343	357	461	0	406
Grp Sat Flow(s),veh/h/ln	1684	0	1615	1381	0	0	629	1805	1873	1882	0	1659
Q Serve(g_s), s	0.0	0.0	4.7	2.3	0.0	0.0	7.2	4.5	4.5	0.0	0.0	6.2
Cycle Q Clear(g_c), s	2.1	0.0	4.7	4.4	0.0	0.0	13.4	4.5	4.5	6.1	0.0	6.2
Prop In Lane	0.67		1.00	0.57		0.11	1.00		0.08	0.02		0.24
Lane Grp Cap(c), veh/h	505	0	337	432	0	0	405	922	956	1055	0	847
V/C Ratio(X)	0.24	0.00	0.63	0.39	0.00	0.00	0.34	0.37	0.37	0.44	0.00	0.48
Avail Cap(c_a), veh/h	1107	0	989	1006	0	0	405	922	956	1055	0	847
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.1	0.0	14.1	13.9	0.0	0.0	10.6	5.8	5.8	6.2	0.0	6.2
Incr Delay (d2), s/veh	0.2	0.0	1.9	0.6	0.0	0.0	2.3	1.2	1.1	1.3	0.0	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	2.2	1.7	0.0	0.0	1.5	2.5	2.6	3.6	0.0	3.3
LnGrp Delay(d),s/veh	13.3	0.0	16.0	14.5	0.0	0.0	12.9	6.9	6.9	7.5	0.0	8.2
LnGrp LOS	B		B	B			B	A	A	A		A
Approach Vol, veh/h		331			168			839			867	
Approach Delay, s/veh		15.0			14.5			7.9			7.8	
Approach LOS		B			B			A			A	

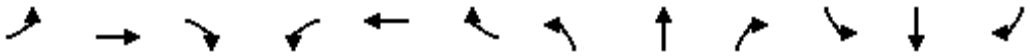
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		25.5		13.7		25.5		13.7
Change Period (Y+Rc), s		5.5		5.5		5.5		5.5
Max Green Setting (Gmax), s		20.0		24.0		20.0		24.0
Max Q Clear Time (g_c+I1), s		15.4		6.7		8.2		6.4
Green Ext Time (p_c), s		2.7		1.6		5.2		1.6

Intersection Summary	
HCM 2010 Ctrl Delay	9.4
HCM 2010 LOS	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	51	101	780	42	100	1052
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	16	12	11	12	12	11
Total Lost time (s)	5.5		5.5			5.5
Lane Util. Factor	1.00		0.95			0.95
Frt	0.91		0.99			1.00
Flt Protected	0.98		1.00			1.00
Satd. Flow (prot)	1928		3463			3475
Flt Permitted	0.98		1.00			0.80
Satd. Flow (perm)	1928		3463			2803
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	51	101	780	42	100	1052
RTOR Reduction (vph)	87	0	4	0	0	0
Lane Group Flow (vph)	65	0	818	0	0	1152
Turn Type	Prot		NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases					6	
Actuated Green, G (s)	6.8		33.0			33.0
Effective Green, g (s)	6.8		33.0			33.0
Actuated g/C Ratio	0.13		0.65			0.65
Clearance Time (s)	5.5		5.5			5.5
Vehicle Extension (s)	3.0		3.0			3.0
Lane Grp Cap (vph)	258		2249			1820
v/s Ratio Prot	c0.03		0.24			
v/s Ratio Perm						c0.41
v/c Ratio	0.25		0.36			0.63
Uniform Delay, d1	19.7		4.1			5.3
Progression Factor	1.00		1.00			1.00
Incremental Delay, d2	0.5		0.5			1.7
Delay (s)	20.2		4.5			7.0
Level of Service	C		A			A
Approach Delay (s)	20.2		4.5			7.0
Approach LOS	C		A			A

Intersection Summary			
HCM 2000 Control Delay	7.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	50.8	Sum of lost time (s)	11.0
Intersection Capacity Utilization	77.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	4	0	8	112	0	35	3	707	56	29	918	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	11	12	12	11	12
Total Lost time (s)		5.0			5.5			5.5			5.5	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frt		0.91			0.97			0.99			1.00	
Flt Protected		0.98			0.96			1.00			1.00	
Satd. Flow (prot)		1701			1771			3451			3484	
Flt Permitted		0.98			0.96			0.95			0.92	
Satd. Flow (perm)		1701			1771			3285			3202	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	4	0	8	112	0	35	3	707	56	29	918	1
RTOR Reduction (vph)	0	12	0	0	109	0	0	7	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	38	0	0	759	0	0	948	0
Turn Type	Split	NA		Split	NA		Perm	NA		Perm	NA	
Protected Phases	4	4		8	8			2			6	
Permitted Phases							2			6		
Actuated Green, G (s)		0.5			6.7			25.2			25.2	
Effective Green, g (s)		0.5			6.7			25.2			25.2	
Actuated g/C Ratio		0.01			0.14			0.52			0.52	
Clearance Time (s)		5.0			5.5			5.5			5.5	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		17			245			1710			1667	
v/s Ratio Prot		c0.00			c0.02							
v/s Ratio Perm								0.23			c0.30	
v/c Ratio		0.01			0.16			0.44			0.57	
Uniform Delay, d1		23.7			18.4			7.2			7.9	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.2			0.3			0.8			1.4	
Delay (s)		23.9			18.7			8.1			9.3	
Level of Service		C			B			A			A	
Approach Delay (s)		23.9			18.7			8.1			9.3	
Approach LOS		C			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	48.4	Sum of lost time (s)	16.0
Intersection Capacity Utilization	70.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	1	23	0	812	1021	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1	23	0	812	1021	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1429	513	1025	0	-	0
Stage 1	1023	-	-	-	-	-
Stage 2	406	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	128	512	685	-	-	-
Stage 1	312	-	-	-	-	-
Stage 2	647	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	128	512	685	-	-	-
Mov Cap-2 Maneuver	128	-	-	-	-	-
Stage 1	312	-	-	-	-	-
Stage 2	647	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.4	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	685	-	455	-	-
HCM Lane V/C Ratio	-	-	0.053	-	-
HCM Control Delay (s)	0	-	13.4	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	6	15	10	709	995	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	6	15	10	709	995	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1373	500	1000	0	-	0
Stage 1	998	-	-	-	-	-
Stage 2	375	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	139	522	700	-	-	-
Stage 1	322	-	-	-	-	-
Stage 2	671	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	136	522	700	-	-	-
Mov Cap-2 Maneuver	136	-	-	-	-	-
Stage 1	322	-	-	-	-	-
Stage 2	655	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	18.5	0.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	700	-	288	-	-
HCM Lane V/C Ratio	0.014	-	0.073	-	-
HCM Control Delay (s)	10.2	0.1	18.5	-	-
HCM Lane LOS	B	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	1	5	0	747	1039	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1	5	0	747	1039	6

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1416	523	1045	0	-	0
Stage 1	1042	-	-	-	-	-
Stage 2	374	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	131	504	673	-	-	-
Stage 1	305	-	-	-	-	-
Stage 2	672	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	131	504	673	-	-	-
Mov Cap-2 Maneuver	131	-	-	-	-	-
Stage 1	305	-	-	-	-	-
Stage 2	672	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.7	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	673	-	342	-	-
HCM Lane V/C Ratio	-	-	0.018	-	-
HCM Control Delay (s)	0	-	15.7	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

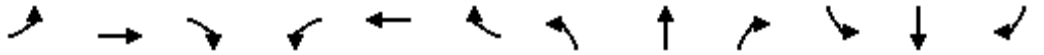
Intersection	
Int Delay, s/veh	1.8

Movement	NBL	NBT	SBT	SBR	NEL	NER
Vol, veh/h	61	699	982	62	31	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	61	699	982	62	31	21

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1044	0	-	0	1485	522
Stage 1	-	-	-	-	1013	-
Stage 2	-	-	-	-	472	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	674	-	-	-	118	505
Stage 1	-	-	-	-	316	-
Stage 2	-	-	-	-	600	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	674	-	-	-	101	505
Mov Cap-2 Maneuver	-	-	-	-	101	-
Stage 1	-	-	-	-	316	-
Stage 2	-	-	-	-	511	-

Approach	NB	SB	NE
HCM Control Delay, s	1.5	0	41.6
HCM LOS			E

Minor Lane/Major Mvmt	NELn1	NBL	NBT	SBT	SBR
Capacity (veh/h)	149	674	-	-	-
HCM Lane V/C Ratio	0.349	0.091	-	-	-
HCM Control Delay (s)	41.6	10.9	0.7	-	-
HCM Lane LOS	E	B	A	-	-
HCM 95th %tile Q(veh)	1.4	0.3	-	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	76	26	125	48	35	15	111	639	51	9	551	61
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1976	1900	1824	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	76	26	125	48	35	15	111	639	51	9	551	61
Adj No. of Lanes	0	1	1	0	1	0	1	2	0	0	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	370	105	323	252	164	50	512	1748	139	102	1645	180
Arrive On Green	0.20	0.20	0.20	0.20	0.20	0.20	0.52	0.52	0.52	0.52	0.52	0.52
Sat Flow, veh/h	1039	522	1615	569	820	251	790	3387	270	13	3188	348
Grp Volume(v), veh/h	102	0	125	98	0	0	111	340	350	329	0	292
Grp Sat Flow(s),veh/h/ln	1562	0	1615	1640	0	0	790	1805	1852	1881	0	1668
Q Serve(g_s), s	0.2	0.0	2.6	0.0	0.0	0.0	3.7	4.4	4.4	0.0	0.0	4.0
Cycle Q Clear(g_c), s	1.8	0.0	2.6	1.7	0.0	0.0	7.7	4.4	4.4	3.9	0.0	4.0
Prop In Lane	0.75		1.00	0.49		0.15	1.00		0.15	0.03		0.21
Lane Grp Cap(c), veh/h	475	0	323	467	0	0	512	931	956	1066	0	860
V/C Ratio(X)	0.21	0.00	0.39	0.21	0.00	0.00	0.22	0.37	0.37	0.31	0.00	0.34
Avail Cap(c_a), veh/h	1095	0	1000	1114	0	0	512	931	956	1066	0	860
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.1	0.0	13.4	13.1	0.0	0.0	7.8	5.6	5.6	5.5	0.0	5.5
Incr Delay (d2), s/veh	0.2	0.0	0.8	0.2	0.0	0.0	1.0	1.1	1.1	0.8	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	1.2	0.9	0.0	0.0	0.9	2.4	2.4	2.2	0.0	2.0
LnGrp Delay(d),s/veh	13.3	0.0	14.2	13.3	0.0	0.0	8.7	6.7	6.7	6.2	0.0	6.6
LnGrp LOS	B		B	B			A	A	A	A		A
Approach Vol, veh/h		227			98			801			621	
Approach Delay, s/veh		13.8			13.3			7.0			6.4	
Approach LOS		B			B			A			A	

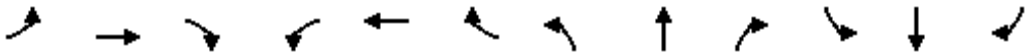
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		25.5		13.3		25.5		13.3
Change Period (Y+Rc), s		5.5		5.5		5.5		5.5
Max Green Setting (Gmax), s		20.0		24.0		20.0		24.0
Max Q Clear Time (g_c+I1), s		9.7		4.6		6.0		3.7
Green Ext Time (p_c), s		3.8		0.9		4.4		0.9

Intersection Summary	
HCM 2010 Ctrl Delay	8.0
HCM 2010 LOS	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	38	63	763	33	49	671
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	16	12	11	12	12	11
Total Lost time (s)	5.5		5.5			5.5
Lane Util. Factor	1.00		0.95			0.95
Frt	0.92		0.99			1.00
Flt Protected	0.98		1.00			1.00
Satd. Flow (prot)	1936		3468			3478
Flt Permitted	0.98		1.00			0.87
Satd. Flow (perm)	1936		3468			3022
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	38	63	763	33	49	671
RTOR Reduction (vph)	55	0	3	0	0	0
Lane Group Flow (vph)	46	0	793	0	0	720
Turn Type	Prot		NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases					6	
Actuated Green, G (s)	6.6		33.8			33.8
Effective Green, g (s)	6.6		33.8			33.8
Actuated g/C Ratio	0.13		0.66			0.66
Clearance Time (s)	5.5		5.5			5.5
Vehicle Extension (s)	3.0		3.0			3.0
Lane Grp Cap (vph)	248		2280			1987
v/s Ratio Prot	c0.02		0.23			
v/s Ratio Perm						c0.24
v/c Ratio	0.19		0.35			0.36
Uniform Delay, d1	20.0		3.9			4.0
Progression Factor	1.00		1.00			1.00
Incremental Delay, d2	0.4		0.4			0.5
Delay (s)	20.4		4.3			4.5
Level of Service	C		A			A
Approach Delay (s)	20.4		4.3			4.5
Approach LOS	C		A			A

Intersection Summary			
HCM 2000 Control Delay	5.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	51.4	Sum of lost time (s)	11.0
Intersection Capacity Utilization	62.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	4	0	8	47	0	15	3	819	86	12	670	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	11	12	12	11	12
Total Lost time (s)		5.0			5.5			5.5			5.5	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frt		0.91			0.97			0.99			1.00	
Flt Protected		0.98			0.96			1.00			1.00	
Satd. Flow (prot)		1701			1771			3440			3486	
Flt Permitted		0.98			0.96			0.95			0.94	
Satd. Flow (perm)		1701			1771			3280			3270	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	4	0	8	47	0	15	3	819	86	12	670	1
RTOR Reduction (vph)	0	12	0	0	58	0	0	7	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	4	0	0	901	0	0	683	0
Turn Type	Split	NA		Split	NA		Perm	NA		Perm	NA	
Protected Phases	4	4		8	8			2			6	
Permitted Phases							2			6		
Actuated Green, G (s)		0.5			3.1			30.6			30.6	
Effective Green, g (s)		0.5			3.1			30.6			30.6	
Actuated g/C Ratio		0.01			0.06			0.61			0.61	
Clearance Time (s)		5.0			5.5			5.5			5.5	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		16			109			1999			1993	
v/s Ratio Prot		c0.00			c0.00							
v/s Ratio Perm								c0.27			0.21	
v/c Ratio		0.01			0.04			0.45			0.34	
Uniform Delay, d1		24.6			22.1			5.3			4.8	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.2			0.1			0.7			0.5	
Delay (s)		24.8			22.3			6.0			5.3	
Level of Service		C			C			A			A	
Approach Delay (s)		24.8			22.3			6.0			5.3	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	6.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	50.2	Sum of lost time (s)	16.0
Intersection Capacity Utilization	43.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	1	2	4	770	686	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1	2	4	770	686	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1082	346	691	0	-	0
Stage 1	689	-	-	-	-	-
Stage 2	393	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	215	656	913	-	-	-
Stage 1	465	-	-	-	-	-
Stage 2	657	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	213	656	913	-	-	-
Mov Cap-2 Maneuver	213	-	-	-	-	-
Stage 1	465	-	-	-	-	-
Stage 2	652	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.4	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	913	-	387	-	-
HCM Lane V/C Ratio	0.004	-	0.008	-	-
HCM Control Delay (s)	9	0	14.4	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	2	3	4	753	681	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	2	3	4	753	681	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1068	343	685	0	-	0
Stage 1	683	-	-	-	-	-
Stage 2	385	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	220	659	918	-	-	-
Stage 1	468	-	-	-	-	-
Stage 2	663	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	218	659	918	-	-	-
Mov Cap-2 Maneuver	218	-	-	-	-	-
Stage 1	468	-	-	-	-	-
Stage 2	658	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	918	-	364	-	-
HCM Lane V/C Ratio	0.004	-	0.014	-	-
HCM Control Delay (s)	8.9	0	15	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	0	2	754	713	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	0	2	754	713	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1094	357	713	0	-	0
Stage 1	713	-	-	-	-	-
Stage 2	381	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	212	645	896	-	-	-
Stage 1	452	-	-	-	-	-
Stage 2	666	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	211	645	896	-	-	-
Mov Cap-2 Maneuver	211	-	-	-	-	-
Stage 1	452	-	-	-	-	-
Stage 2	663	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	896	-	-	-	-
HCM Lane V/C Ratio	0.002	-	-	-	-
HCM Control Delay (s)	9	0	0	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

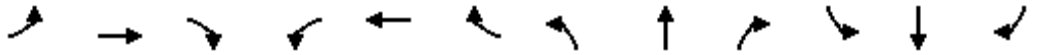
Intersection	
Int Delay, s/veh	0.4

Movement	NBL	NBT	SBT	SBR	NEL	NER
Vol, veh/h	22	798	734	21	3	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	22	798	734	21	3	15

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	755	0	-	0	1188	378
Stage 1	-	-	-	-	745	-
Stage 2	-	-	-	-	443	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	865	-	-	-	184	625
Stage 1	-	-	-	-	435	-
Stage 2	-	-	-	-	620	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	865	-	-	-	176	625
Mov Cap-2 Maneuver	-	-	-	-	176	-
Stage 1	-	-	-	-	435	-
Stage 2	-	-	-	-	591	-

Approach	NB	SB	NE
HCM Control Delay, s	0.4	0	13.6
HCM LOS			B

Minor Lane/Major Mvmt	NELn1	NBL	NBT	SBT	SBR
Capacity (veh/h)	439	865	-	-	-
HCM Lane V/C Ratio	0.041	0.025	-	-	-
HCM Control Delay (s)	13.6	9.3	0.2	-	-
HCM Lane LOS	B	A	A	-	-
HCM 95th %tile Q(veh)	0.1	0.1	-	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	43	21	98	15	10	2	52	371	23	1	409	39
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.94		0.94	0.95		0.94	0.91		0.82	0.90		0.82
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1976	1900	1824	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	43	21	98	15	10	2	52	371	23	1	409	39
Adj No. of Lanes	0	1	1	0	1	0	1	2	0	0	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	471	208	560	394	245	42	413	1385	85	74	1299	122
Arrive On Green	0.37	0.37	0.37	0.37	0.37	0.37	0.41	0.41	0.41	0.41	0.41	0.41
Sat Flow, veh/h	943	563	1517	757	663	114	838	3403	209	1	3194	300
Grp Volume(v), veh/h	64	0	98	27	0	0	52	195	199	241	0	208
Grp Sat Flow(s),veh/h/ln	1506	0	1517	1533	0	0	838	1805	1808	1899	0	1596
Q Serve(g_s), s	0.1	0.0	2.1	0.0	0.0	0.0	2.2	3.5	3.6	0.0	0.0	4.4
Cycle Q Clear(g_c), s	1.1	0.0	2.1	0.4	0.0	0.0	6.6	3.5	3.6	4.2	0.0	4.4
Prop In Lane	0.67		1.00	0.56		0.07	1.00		0.12	0.00		0.19
Lane Grp Cap(c), veh/h	679	0	560	680	0	0	413	734	735	846	0	649
V/C Ratio(X)	0.09	0.00	0.17	0.04	0.00	0.00	0.13	0.27	0.27	0.29	0.00	0.32
Avail Cap(c_a), veh/h	855	0	740	858	0	0	413	734	735	846	0	649
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	10.1	0.0	10.4	9.9	0.0	0.0	12.2	9.7	9.7	9.9	0.0	9.9
Incr Delay (d2), s/veh	0.1	0.0	0.1	0.0	0.0	0.0	0.6	0.9	0.9	0.8	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.9	0.2	0.0	0.0	0.6	1.9	2.0	2.4	0.0	2.1
LnGrp Delay(d),s/veh	10.2	0.0	10.6	9.9	0.0	0.0	12.8	10.6	10.6	10.8	0.0	11.2
LnGrp LOS	B		B	A			B	B	B	B		B
Approach Vol, veh/h		162			27			446			449	
Approach Delay, s/veh		10.4			9.9			10.9			11.0	
Approach LOS		B			A			B			B	

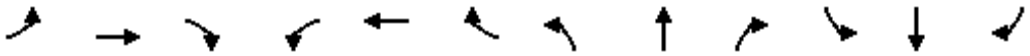
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		25.5		23.7		25.5		23.7
Change Period (Y+Rc), s		5.5		5.5		5.5		5.5
Max Green Setting (Gmax), s		20.0		24.0		20.0		24.0
Max Q Clear Time (g_c+I1), s		8.6		4.1		6.4		2.4
Green Ext Time (p_c), s		2.4		0.5		2.5		0.6

Intersection Summary	
HCM 2010 Ctrl Delay	10.8
HCM 2010 LOS	B

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	29	28	437	16	29	536
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	16	12	11	12	12	11
Total Lost time (s)	5.5		5.5			5.5
Lane Util. Factor	1.00		0.95			0.95
Frpb, ped/bikes	0.93		1.00			1.00
Flpb, ped/bikes	1.00		1.00			1.00
Frt	0.93		0.99			1.00
Flt Protected	0.98		1.00			1.00
Satd. Flow (prot)	1825		3456			3468
Flt Permitted	0.98		1.00			0.92
Satd. Flow (perm)	1825		3456			3207
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	29	28	437	16	29	536
RTOR Reduction (vph)	26	0	2	0	0	0
Lane Group Flow (vph)	31	0	451	0	0	565
Confl. Peds. (#/hr)	150	200		150	200	
Turn Type	Prot		NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases					6	
Actuated Green, G (s)	3.3		38.5			38.5
Effective Green, g (s)	3.3		38.5			38.5
Actuated g/C Ratio	0.06		0.73			0.73
Clearance Time (s)	5.5		5.5			5.5
Vehicle Extension (s)	3.0		3.0			3.0
Lane Grp Cap (vph)	114		2520			2338
v/s Ratio Prot	c0.02		0.13			
v/s Ratio Perm						c0.18
v/c Ratio	0.27		0.18			0.24
Uniform Delay, d1	23.6		2.2			2.4
Progression Factor	1.00		1.00			1.00
Incremental Delay, d2	1.3		0.2			0.2
Delay (s)	24.9		2.4			2.6
Level of Service	C		A			A
Approach Delay (s)	24.9		2.4			2.6
Approach LOS	C		A			A

Intersection Summary			
HCM 2000 Control Delay	3.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.24		
Actuated Cycle Length (s)	52.8	Sum of lost time (s)	11.0
Intersection Capacity Utilization	65.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	3	0	5	36	0	9	8	454	62	6	574	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	11	12	12	11	12
Total Lost time (s)		5.0			5.5			5.5			5.5	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frpb, ped/bikes		0.80			0.99			0.99			1.00	
Flpb, ped/bikes		0.99			1.00			1.00			1.00	
Frt		0.92			0.97			0.98			1.00	
Flt Protected		0.98			0.96			1.00			1.00	
Satd. Flow (prot)		1350			1762			3391			3485	
Flt Permitted		0.98			0.96			0.95			0.95	
Satd. Flow (perm)		1350			1762			3214			3314	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	3	0	5	36	0	9	8	454	62	6	574	1
RTOR Reduction (vph)	0	8	0	0	44	0	0	9	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	1	0	0	515	0	0	581	0
Confl. Peds. (#/hr)	50		25	25		50	175		75	75		175
Turn Type	Split	NA		Split	NA		Perm	NA		Perm	NA	
Protected Phases	4	4		8	8			2			6	
Permitted Phases							2			6		
Actuated Green, G (s)		0.5			1.4			32.6			32.6	
Effective Green, g (s)		0.5			1.4			32.6			32.6	
Actuated g/C Ratio		0.01			0.03			0.65			0.65	
Clearance Time (s)		5.0			5.5			5.5			5.5	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		13			48			2074			2139	
v/s Ratio Prot		c0.00			c0.00							
v/s Ratio Perm								0.16			c0.18	
v/c Ratio		0.01			0.03			0.25			0.27	
Uniform Delay, d1		24.8			23.9			3.8			3.8	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.2			0.2			0.3			0.3	
Delay (s)		24.9			24.1			4.1			4.2	
Level of Service		C			C			A			A	
Approach Delay (s)		24.9			24.1			4.1			4.2	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	5.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.26		
Actuated Cycle Length (s)	50.5	Sum of lost time (s)	16.0
Intersection Capacity Utilization	47.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	1	7	0	475	536	2
Conflicting Peds, #/hr	175	175	175	0	0	175
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1	7	0	475	536	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	950	619	713	0	-	0
Stage 1	712	-	-	-	-	-
Stage 2	238	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	262	436	896	-	-	-
Stage 1	453	-	-	-	-	-
Stage 2	785	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	191	323	776	-	-	-
Mov Cap-2 Maneuver	191	-	-	-	-	-
Stage 1	387	-	-	-	-	-
Stage 2	671	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.5	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	776	-	297	-	-
HCM Lane V/C Ratio	-	-	0.027	-	-
HCM Control Delay (s)	0	-	17.5	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	6	8	0	453	513	8
Conflicting Peds, #/hr	225	200	200	0	0	225
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	6	8	0	453	513	8

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	969	686	746	0	-	0
Stage 1	742	-	-	-	-	-
Stage 2	227	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	255	395	871	-	-	-
Stage 1	437	-	-	-	-	-
Stage 2	795	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	168	272	738	-	-	-
Mov Cap-2 Maneuver	168	-	-	-	-	-
Stage 1	355	-	-	-	-	-
Stage 2	646	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	738	-	215	-	-
HCM Lane V/C Ratio	-	-	0.065	-	-
HCM Control Delay (s)	0	-	22.9	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	1	1	1	457	526	1
Conflicting Peds, #/hr	225	225	225	0	0	225
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1	1	1	457	526	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	983	714	752	0	-	0
Stage 1	752	-	-	-	-	-
Stage 2	231	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	249	378	867	-	-	-
Stage 1	432	-	-	-	-	-
Stage 2	792	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	164	254	718	-	-	-
Mov Cap-2 Maneuver	164	-	-	-	-	-
Stage 1	351	-	-	-	-	-
Stage 2	642	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	23.3	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	718	-	199	-	-
HCM Lane V/C Ratio	0.001	-	0.01	-	-
HCM Control Delay (s)	10	0	23.3	-	-
HCM Lane LOS	B	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

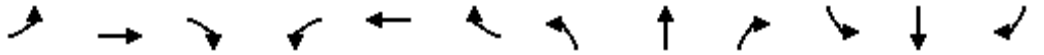
Intersection	
Int Delay, s/veh	1

Movement	NBL	NBT	SBT	SBR	NEL	NER
Vol, veh/h	8	473	528	6	9	32
Conflicting Peds, #/hr	200	0	0	200	200	200
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	8	473	528	6	9	32

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	734	0	-	0	984	667
Stage 1	-	-	-	-	731	-
Stage 2	-	-	-	-	253	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	880	-	-	-	249	406
Stage 1	-	-	-	-	443	-
Stage 2	-	-	-	-	772	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	746	-	-	-	170	287
Mov Cap-2 Maneuver	-	-	-	-	170	-
Stage 1	-	-	-	-	369	-
Stage 2	-	-	-	-	634	-

Approach	NB	SB	NE
HCM Control Delay, s	0.3	0	22.3
HCM LOS			C

Minor Lane/Major Mvmt	NELn1	NBL	NBT	SBT	SBR
Capacity (veh/h)	249	746	-	-	-
HCM Lane V/C Ratio	0.165	0.011	-	-	-
HCM Control Delay (s)	22.3	9.9	0.1	-	-
HCM Lane LOS	C	A	A	-	-
HCM 95th %tile Q(veh)	0.6	0	-	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	81	39	212	95	54	19	139	674	29	11	764	97
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1976	1900	1824	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	81	39	212	95	54	19	139	674	29	11	764	97
Adj No. of Lanes	0	1	1	0	1	0	1	2	0	0	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	360	146	338	268	132	33	403	1799	77	100	1599	201
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.51	0.51	0.51	0.51	0.51	0.51
Sat Flow, veh/h	987	696	1615	594	633	156	626	3527	152	12	3135	394
Grp Volume(v), veh/h	120	0	212	168	0	0	139	345	358	464	0	408
Grp Sat Flow(s),veh/h/ln	1683	0	1615	1383	0	0	626	1805	1873	1882	0	1659
Q Serve(g_s), s	0.0	0.0	4.7	2.3	0.0	0.0	7.3	4.5	4.5	0.0	0.0	6.3
Cycle Q Clear(g_c), s	2.1	0.0	4.7	4.4	0.0	0.0	13.5	4.5	4.5	6.2	0.0	6.3
Prop In Lane	0.67		1.00	0.57		0.11	1.00		0.08	0.02		0.24
Lane Grp Cap(c), veh/h	506	0	338	433	0	0	403	921	956	1054	0	847
V/C Ratio(X)	0.24	0.00	0.63	0.39	0.00	0.00	0.34	0.37	0.37	0.44	0.00	0.48
Avail Cap(c_a), veh/h	1106	0	989	1005	0	0	403	921	956	1054	0	847
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.1	0.0	14.1	13.9	0.0	0.0	10.6	5.8	5.8	6.2	0.0	6.2
Incr Delay (d2), s/veh	0.2	0.0	1.9	0.6	0.0	0.0	2.3	1.2	1.1	1.3	0.0	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	2.2	1.7	0.0	0.0	1.5	2.5	2.6	3.6	0.0	3.3
LnGrp Delay(d),s/veh	13.3	0.0	16.0	14.5	0.0	0.0	13.0	7.0	6.9	7.6	0.0	8.2
LnGrp LOS	B		B	B			B	A	A	A		A
Approach Vol, veh/h		332			168			842			872	
Approach Delay, s/veh		15.1			14.5			8.0			7.9	
Approach LOS		B			B			A			A	

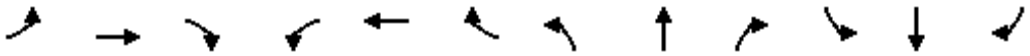
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		25.5		13.7		25.5		13.7
Change Period (Y+Rc), s		5.5		5.5		5.5		5.5
Max Green Setting (Gmax), s		20.0		24.0		20.0		24.0
Max Q Clear Time (g_c+I1), s		15.5		6.7		8.3		6.4
Green Ext Time (p_c), s		2.7		1.6		5.2		1.6

Intersection Summary	
HCM 2010 Ctrl Delay	9.5
HCM 2010 LOS	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	51	101	780	42	100	1081
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	16	12	11	12	12	11
Total Lost time (s)	5.5		5.5			5.5
Lane Util. Factor	1.00		0.95			0.95
Frt	0.91		0.99			1.00
Flt Protected	0.98		1.00			1.00
Satd. Flow (prot)	1928		3463			3475
Flt Permitted	0.98		1.00			0.81
Satd. Flow (perm)	1928		3463			2811
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	51	101	780	42	100	1081
RTOR Reduction (vph)	87	0	4	0	0	0
Lane Group Flow (vph)	65	0	818	0	0	1181
Turn Type	Prot		NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases					6	
Actuated Green, G (s)	6.8		33.0			33.0
Effective Green, g (s)	6.8		33.0			33.0
Actuated g/C Ratio	0.13		0.65			0.65
Clearance Time (s)	5.5		5.5			5.5
Vehicle Extension (s)	3.0		3.0			3.0
Lane Grp Cap (vph)	258		2249			1826
v/s Ratio Prot	c0.03		0.24			
v/s Ratio Perm						c0.42
v/c Ratio	0.25		0.36			0.65
Uniform Delay, d1	19.7		4.1			5.4
Progression Factor	1.00		1.00			1.00
Incremental Delay, d2	0.5		0.5			1.8
Delay (s)	20.2		4.5			7.2
Level of Service	C		A			A
Approach Delay (s)	20.2		4.5			7.2
Approach LOS	C		A			A

Intersection Summary			
HCM 2000 Control Delay	7.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	50.8	Sum of lost time (s)	11.0
Intersection Capacity Utilization	78.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	4	0	8	112	0	35	3	708	56	29	941	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	11	12	12	11	12
Total Lost time (s)		5.0			5.5			5.5			5.5	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frt		0.91			0.97			0.99			1.00	
Flt Protected		0.98			0.96			1.00			1.00	
Satd. Flow (prot)		1701			1771			3451			3484	
Flt Permitted		0.98			0.96			0.95			0.92	
Satd. Flow (perm)		1701			1771			3285			3205	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	4	0	8	112	0	35	3	708	56	29	941	1
RTOR Reduction (vph)	0	12	0	0	109	0	0	6	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	38	0	0	761	0	0	971	0
Turn Type	Split	NA		Split	NA		Perm	NA		Perm	NA	
Protected Phases	4	4		8	8			2			6	
Permitted Phases							2			6		
Actuated Green, G (s)		0.5			6.7			25.2			25.2	
Effective Green, g (s)		0.5			6.7			25.2			25.2	
Actuated g/C Ratio		0.01			0.14			0.52			0.52	
Clearance Time (s)		5.0			5.5			5.5			5.5	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		17			245			1710			1668	
v/s Ratio Prot		c0.00			c0.02							
v/s Ratio Perm								0.23			c0.30	
v/c Ratio		0.01			0.16			0.44			0.58	
Uniform Delay, d1		23.7			18.4			7.2			8.0	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.2			0.3			0.8			1.5	
Delay (s)		23.9			18.7			8.1			9.5	
Level of Service		C			B			A			A	
Approach Delay (s)		23.9			18.7			8.1			9.5	
Approach LOS		C			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	48.4	Sum of lost time (s)	16.0
Intersection Capacity Utilization	71.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	11	65	0	812	1028	0
Future Vol, veh/h	11	65	0	812	1028	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	11	65	0	812	1028	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1434	514	1028	0	-	0
Stage 1	1028	-	-	-	-	-
Stage 2	406	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	127	511	683	-	-	-
Stage 1	310	-	-	-	-	-
Stage 2	647	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	127	511	683	-	-	-
Mov Cap-2 Maneuver	127	-	-	-	-	-
Stage 1	310	-	-	-	-	-
Stage 2	647	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.9	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	683	-	355	-	-
HCM Lane V/C Ratio	-	-	0.214	-	-
HCM Control Delay (s)	0	-	17.9	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.8	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	7	5	709	1024	2
Future Vol, veh/h	3	7	5	709	1024	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	3	7	5	709	1024	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1390	513	1026	0	-	0
Stage 1	1025	-	-	-	-	-
Stage 2	365	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	136	512	685	-	-	-
Stage 1	312	-	-	-	-	-
Stage 2	679	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	134	512	685	-	-	-
Mov Cap-2 Maneuver	134	-	-	-	-	-
Stage 1	308	-	-	-	-	-
Stage 2	679	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	18.5	0.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	685	-	277	-	-
HCM Lane V/C Ratio	0.007	-	0.036	-	-
HCM Control Delay (s)	10.3	0.1	18.5	-	-
HCM Lane LOS	B	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	6	747	1062	31
Future Vol, veh/h	0	0	6	747	1062	31
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	0	6	747	1062	31

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1464	547	1093	0	-	0
Stage 1	1078	-	-	-	-	-
Stage 2	386	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	121	486	646	-	-	-
Stage 1	292	-	-	-	-	-
Stage 2	662	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	119	486	646	-	-	-
Mov Cap-2 Maneuver	119	-	-	-	-	-
Stage 1	287	-	-	-	-	-
Stage 2	662	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	646	-	-	-	-
HCM Lane V/C Ratio	0.009	-	-	-	-
HCM Control Delay (s)	10.6	0.1	0	-	-
HCM Lane LOS	B	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

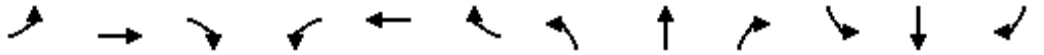
Intersection	
Int Delay, s/veh	1.8

Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	61	700	1005	62	31	21
Future Vol, veh/h	61	700	1005	62	31	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	61	700	1005	62	31	21

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1067	0	-	0	1508	534
Stage 1	-	-	-	-	1036	-
Stage 2	-	-	-	-	472	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	661	-	-	-	114	496
Stage 1	-	-	-	-	308	-
Stage 2	-	-	-	-	600	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	661	-	-	-	97	496
Mov Cap-2 Maneuver	-	-	-	-	97	-
Stage 1	-	-	-	-	261	-
Stage 2	-	-	-	-	600	-

Approach	NB	SB	NE
HCM Control Delay, s	1.5	0	43.5
HCM LOS			E

Minor Lane/Major Mvmt	NELn1	NBL	NBT	SBT	SBR
Capacity (veh/h)	144	661	-	-	-
HCM Lane V/C Ratio	0.361	0.092	-	-	-
HCM Control Delay (s)	43.5	11	0.7	-	-
HCM Lane LOS	E	B	A	-	-
HCM 95th %tile Q(veh)	1.5	0.3	-	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	76	26	127	49	35	15	112	643	52	9	561	61
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1976	1900	1824	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	76	26	127	49	35	15	112	643	52	9	561	61
Adj No. of Lanes	0	1	1	0	1	0	1	2	0	0	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	370	105	324	254	162	50	507	1746	141	102	1648	177
Arrive On Green	0.20	0.20	0.20	0.20	0.20	0.20	0.52	0.52	0.52	0.52	0.52	0.52
Sat Flow, veh/h	1040	522	1615	577	811	248	782	3383	273	12	3194	343
Grp Volume(v), veh/h	102	0	127	99	0	0	112	343	352	334	0	297
Grp Sat Flow(s),veh/h/ln	1562	0	1615	1635	0	0	782	1805	1852	1881	0	1668
Q Serve(g_s), s	0.2	0.0	2.6	0.0	0.0	0.0	3.8	4.4	4.4	0.0	0.0	4.1
Cycle Q Clear(g_c), s	1.8	0.0	2.6	1.7	0.0	0.0	7.9	4.4	4.4	4.0	0.0	4.1
Prop In Lane	0.75		1.00	0.49		0.15	1.00		0.15	0.03		0.21
Lane Grp Cap(c), veh/h	475	0	324	466	0	0	507	931	955	1066	0	861
V/C Ratio(X)	0.21	0.00	0.39	0.21	0.00	0.00	0.22	0.37	0.37	0.31	0.00	0.34
Avail Cap(c_a), veh/h	1095	0	1000	1112	0	0	507	931	955	1066	0	861
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.1	0.0	13.5	13.1	0.0	0.0	7.8	5.6	5.6	5.5	0.0	5.5
Incr Delay (d2), s/veh	0.2	0.0	0.8	0.2	0.0	0.0	1.0	1.1	1.1	0.8	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	1.2	0.9	0.0	0.0	1.0	2.4	2.4	2.3	0.0	2.1
LnGrp Delay(d),s/veh	13.3	0.0	14.2	13.3	0.0	0.0	8.8	6.7	6.7	6.3	0.0	6.6
LnGrp LOS	B		B	B			A	A	A	A		A
Approach Vol, veh/h		229			99			807			631	
Approach Delay, s/veh		13.8			13.3			7.0			6.4	
Approach LOS		B			B			A			A	

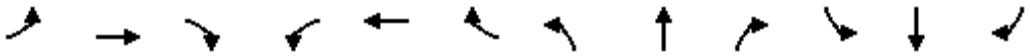
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		25.5		13.3		25.5		13.3
Change Period (Y+Rc), s		5.5		5.5		5.5		5.5
Max Green Setting (Gmax), s		20.0		24.0		20.0		24.0
Max Q Clear Time (g_c+I1), s		9.9		4.6		6.1		3.7
Green Ext Time (p_c), s		3.9		0.9		4.5		1.0

Intersection Summary	
HCM 2010 Ctrl Delay	8.0
HCM 2010 LOS	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	38	63	763	33	49	695
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	16	12	11	12	12	11
Total Lost time (s)	5.5		5.5			5.5
Lane Util. Factor	1.00		0.95			0.95
Frt	0.92		0.99			1.00
Flt Protected	0.98		1.00			1.00
Satd. Flow (prot)	1936		3468			3478
Flt Permitted	0.98		1.00			0.87
Satd. Flow (perm)	1936		3468			3029
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	38	63	763	33	49	695
RTOR Reduction (vph)	55	0	3	0	0	0
Lane Group Flow (vph)	46	0	793	0	0	744
Turn Type	Prot		NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases					6	
Actuated Green, G (s)	6.6		33.8			33.8
Effective Green, g (s)	6.6		33.8			33.8
Actuated g/C Ratio	0.13		0.66			0.66
Clearance Time (s)	5.5		5.5			5.5
Vehicle Extension (s)	3.0		3.0			3.0
Lane Grp Cap (vph)	248		2280			1991
v/s Ratio Prot	c0.02		0.23			
v/s Ratio Perm						c0.25
v/c Ratio	0.19		0.35			0.37
Uniform Delay, d1	20.0		3.9			4.0
Progression Factor	1.00		1.00			1.00
Incremental Delay, d2	0.4		0.4			0.5
Delay (s)	20.4		4.3			4.5
Level of Service	C		A			A
Approach Delay (s)	20.4		4.3			4.5
Approach LOS	C		A			A

Intersection Summary			
HCM 2000 Control Delay	5.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	51.4	Sum of lost time (s)	11.0
Intersection Capacity Utilization	63.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	4	0	8	47	0	13	3	832	86	12	680	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	11	12	12	11	12
Total Lost time (s)		5.0			5.5			5.5			5.5	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frt		0.91			0.97			0.99			1.00	
Flt Protected		0.98			0.96			1.00			1.00	
Satd. Flow (prot)		1701			1775			3440			3486	
Flt Permitted		0.98			0.96			0.95			0.94	
Satd. Flow (perm)		1701			1775			3280			3270	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	4	0	8	47	0	13	3	832	86	12	680	1
RTOR Reduction (vph)	0	12	0	0	56	0	0	7	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	4	0	0	914	0	0	693	0
Turn Type	Split	NA		Split	NA		Perm	NA		Perm	NA	
Protected Phases	4	4		8	8			2			6	
Permitted Phases							2			6		
Actuated Green, G (s)		0.5			3.1			30.8			30.8	
Effective Green, g (s)		0.5			3.1			30.8			30.8	
Actuated g/C Ratio		0.01			0.06			0.61			0.61	
Clearance Time (s)		5.0			5.5			5.5			5.5	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		16			109			2004			1998	
v/s Ratio Prot		c0.00			c0.00							
v/s Ratio Perm								c0.28			0.21	
v/c Ratio		0.01			0.03			0.46			0.35	
Uniform Delay, d1		24.7			22.2			5.3			4.8	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.2			0.1			0.8			0.5	
Delay (s)		24.9			22.4			6.0			5.3	
Level of Service		C			C			A			A	
Approach Delay (s)		24.9			22.4			6.0			5.3	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	6.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	50.4	Sum of lost time (s)	16.0
Intersection Capacity Utilization	44.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	14	27	0	770	700	0
Future Vol, veh/h	14	27	0	770	700	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	14	27	0	770	700	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1085	350	700	0	-	0
Stage 1	700	-	-	-	-	-
Stage 2	385	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	214	652	906	-	-	-
Stage 1	459	-	-	-	-	-
Stage 2	663	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	214	652	906	-	-	-
Mov Cap-2 Maneuver	214	-	-	-	-	-
Stage 1	459	-	-	-	-	-
Stage 2	663	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.5	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	906	-	384	-	-
HCM Lane V/C Ratio	-	-	0.107	-	-
HCM Control Delay (s)	0	-	15.5	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.4	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	2	2	753	704	2
Future Vol, veh/h	1	2	2	753	704	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1	2	2	753	704	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1086	353	706	0	-	0
Stage 1	705	-	-	-	-	-
Stage 2	381	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	214	649	902	-	-	-
Stage 1	456	-	-	-	-	-
Stage 2	666	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	213	649	902	-	-	-
Mov Cap-2 Maneuver	213	-	-	-	-	-
Stage 1	454	-	-	-	-	-
Stage 2	666	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.4	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	902	-	386	-	-
HCM Lane V/C Ratio	0.002	-	0.008	-	-
HCM Control Delay (s)	9	0	14.4	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	46	754	723	45
Future Vol, veh/h	0	0	46	754	723	45
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	0	46	754	723	45

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1215	384	768	0	-	0
Stage 1	746	-	-	-	-	-
Stage 2	469	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	177	620	855	-	-	-
Stage 1	435	-	-	-	-	-
Stage 2	602	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	161	620	855	-	-	-
Mov Cap-2 Maneuver	161	-	-	-	-	-
Stage 1	395	-	-	-	-	-
Stage 2	602	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0.9	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	855	-	-	-	-
HCM Lane V/C Ratio	0.054	-	-	-	-
HCM Control Delay (s)	9.5	0.4	0	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	-	-

Intersection	
Int Delay, s/veh	0.4

Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	22	812	744	21	3	15
Future Vol, veh/h	22	812	744	21	3	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	22	812	744	21	3	15

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	765	0	-	0	1205	383
Stage 1	-	-	-	-	755	-
Stage 2	-	-	-	-	450	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	857	-	-	-	179	621
Stage 1	-	-	-	-	430	-
Stage 2	-	-	-	-	615	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	857	-	-	-	171	621
Mov Cap-2 Maneuver	-	-	-	-	171	-
Stage 1	-	-	-	-	410	-
Stage 2	-	-	-	-	615	-

Approach	NB	SB	NE
HCM Control Delay, s	0.4	0	13.7
HCM LOS			B

Minor Lane/Major Mvmt	NELn1	NBL	NBT	SBT	SBR
Capacity (veh/h)	432	857	-	-	-
HCM Lane V/C Ratio	0.042	0.026	-	-	-
HCM Control Delay (s)	13.7	9.3	0.2	-	-
HCM Lane LOS	B	A	A	-	-
HCM 95th %tile Q(veh)	0.1	0.1	-	-	-

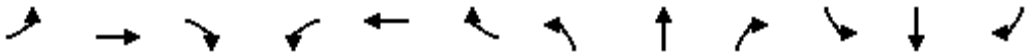
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	43	21	100	16	10	2	53	376	23	1	421	39
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.94		0.94	0.95		0.94	0.91		0.82	0.90		0.82
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1976	1900	1824	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	43	21	100	16	10	2	53	376	23	1	421	39
Adj No. of Lanes	0	1	1	0	1	0	1	2	0	0	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	471	208	560	402	235	40	408	1386	84	74	1304	119
Arrive On Green	0.37	0.37	0.37	0.37	0.37	0.37	0.41	0.41	0.41	0.41	0.41	0.41
Sat Flow, veh/h	943	563	1517	778	635	109	830	3407	207	1	3205	293
Grp Volume(v), veh/h	64	0	100	28	0	0	53	198	201	248	0	213
Grp Sat Flow(s),veh/h/ln	1506	0	1517	1521	0	0	830	1805	1809	1899	0	1599
Q Serve(g_s), s	0.1	0.0	2.2	0.0	0.0	0.0	2.3	3.6	3.7	0.0	0.0	4.5
Cycle Q Clear(g_c), s	1.1	0.0	2.2	0.5	0.0	0.0	6.8	3.6	3.7	4.4	0.0	4.5
Prop In Lane	0.67		1.00	0.57		0.07	1.00		0.11	0.00		0.18
Lane Grp Cap(c), veh/h	679	0	560	677	0	0	408	734	736	846	0	651
V/C Ratio(X)	0.09	0.00	0.18	0.04	0.00	0.00	0.13	0.27	0.27	0.29	0.00	0.33
Avail Cap(c_a), veh/h	855	0	740	853	0	0	408	734	736	846	0	651
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	10.1	0.0	10.5	9.9	0.0	0.0	12.3	9.7	9.7	9.9	0.0	10.0
Incr Delay (d2), s/veh	0.1	0.0	0.2	0.0	0.0	0.0	0.7	0.9	0.9	0.9	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.9	0.2	0.0	0.0	0.6	1.9	2.0	2.5	0.0	2.2
LnGrp Delay(d),s/veh	10.2	0.0	10.6	9.9	0.0	0.0	13.0	10.6	10.7	10.8	0.0	11.3
LnGrp LOS	B		B	A			B	B	B	B		B
Approach Vol, veh/h		164			28			452			461	
Approach Delay, s/veh		10.4			9.9			10.9			11.1	
Approach LOS		B			A			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		25.5		23.7		25.5		23.7
Change Period (Y+Rc), s		5.5		5.5		5.5		5.5
Max Green Setting (Gmax), s		20.0		24.0		20.0		24.0
Max Q Clear Time (g_c+I1), s		8.8		4.2		6.5		2.5
Green Ext Time (p_c), s		2.4		0.5		2.6		0.6

Intersection Summary	
HCM 2010 Ctrl Delay	10.9
HCM 2010 LOS	B

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	29	28	437	16	29	563
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	16	12	11	12	12	11
Total Lost time (s)	5.5		5.5			5.5
Lane Util. Factor	1.00		0.95			0.95
Frpb, ped/bikes	0.93		1.00			1.00
Flpb, ped/bikes	1.00		1.00			1.00
Frt	0.93		0.99			1.00
Flt Protected	0.98		1.00			1.00
Satd. Flow (prot)	1825		3456			3469
Flt Permitted	0.98		1.00			0.92
Satd. Flow (perm)	1825		3456			3212
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	29	28	437	16	29	563
RTOR Reduction (vph)	26	0	2	0	0	0
Lane Group Flow (vph)	31	0	451	0	0	592
Confl. Peds. (#/hr)	150	200		150	200	
Turn Type	Prot		NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases					6	
Actuated Green, G (s)	3.3		38.5			38.5
Effective Green, g (s)	3.3		38.5			38.5
Actuated g/C Ratio	0.06		0.73			0.73
Clearance Time (s)	5.5		5.5			5.5
Vehicle Extension (s)	3.0		3.0			3.0
Lane Grp Cap (vph)	114		2520			2342
v/s Ratio Prot	c0.02		0.13			
v/s Ratio Perm						c0.18
v/c Ratio	0.27		0.18			0.25
Uniform Delay, d1	23.6		2.2			2.4
Progression Factor	1.00		1.00			1.00
Incremental Delay, d2	1.3		0.2			0.3
Delay (s)	24.9		2.4			2.6
Level of Service	C		A			A
Approach Delay (s)	24.9		2.4			2.6
Approach LOS	C		A			A

Intersection Summary			
HCM 2000 Control Delay	3.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.25		
Actuated Cycle Length (s)	52.8	Sum of lost time (s)	11.0
Intersection Capacity Utilization	66.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	3	0	5	36	0	9	8	456	62	6	585	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	11	12	12	11	12
Total Lost time (s)		5.0			5.5			5.5			5.5	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frpb, ped/bikes		0.80			0.99			0.99			1.00	
Flpb, ped/bikes		0.99			1.00			1.00			1.00	
Frt		0.92			0.97			0.98			1.00	
Flt Protected		0.98			0.96			1.00			1.00	
Satd. Flow (prot)		1350			1762			3391			3485	
Flt Permitted		0.98			0.96			0.95			0.95	
Satd. Flow (perm)		1350			1762			3214			3315	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	3	0	5	36	0	9	8	456	62	6	585	1
RTOR Reduction (vph)	0	8	0	0	44	0	0	9	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	1	0	0	517	0	0	592	0
Confl. Peds. (#/hr)	50		25	25		50	175		75	75		175
Turn Type	Split	NA		Split	NA		Perm	NA		Perm	NA	
Protected Phases	4	4		8	8			2			6	
Permitted Phases							2			6		
Actuated Green, G (s)		0.5			1.4			32.6			32.6	
Effective Green, g (s)		0.5			1.4			32.6			32.6	
Actuated g/C Ratio		0.01			0.03			0.65			0.65	
Clearance Time (s)		5.0			5.5			5.5			5.5	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		13			48			2074			2139	
v/s Ratio Prot		c0.00			c0.00							
v/s Ratio Perm								0.16			c0.18	
v/c Ratio		0.01			0.03			0.25			0.28	
Uniform Delay, d1		24.8			23.9			3.8			3.9	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.2			0.2			0.3			0.3	
Delay (s)		24.9			24.1			4.1			4.2	
Level of Service		C			C			A			A	
Approach Delay (s)		24.9			24.1			4.1			4.2	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	5.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.26		
Actuated Cycle Length (s)	50.5	Sum of lost time (s)	16.0
Intersection Capacity Utilization	47.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	17	32	0	475	551	0
Future Vol, veh/h	17	32	0	475	551	0
Conflicting Peds, #/hr	175	175	175	0	0	175
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	17	32	0	475	551	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1139	626	726	0	-	0
Stage 1	726	-	-	-	-	-
Stage 2	413	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	198	432	886	-	-	-
Stage 1	445	-	-	-	-	-
Stage 2	642	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	144	320	757	-	-	-
Mov Cap-2 Maneuver	144	-	-	-	-	-
Stage 1	380	-	-	-	-	-
Stage 2	548	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	25.4	0	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	757	-	225	-	-
HCM Lane V/C Ratio	-	-	0.218	-	-
HCM Control Delay (s)	0	-	25.4	-	-
HCM Lane LOS	A	-	D	-	-
HCM 95th %tile Q(veh)	0	-	0.8	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	4	0	453	540	4
Future Vol, veh/h	3	4	0	453	540	4
Conflicting Peds, #/hr	225	200	200	0	0	225
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	3	4	0	453	540	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1219	697	769	0	-	0
Stage 1	767	-	-	-	-	-
Stage 2	452	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	176	388	854	-	-	-
Stage 1	424	-	-	-	-	-
Stage 2	614	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	116	267	694	-	-	-
Mov Cap-2 Maneuver	116	-	-	-	-	-
Stage 1	345	-	-	-	-	-
Stage 2	499	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	26.9	0	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	694	-	171	-	-
HCM Lane V/C Ratio	-	-	0.041	-	-
HCM Control Delay (s)	0	-	26.9	-	-
HCM Lane LOS	A	-	D	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	6	457	537	51
Future Vol, veh/h	0	0	6	457	537	51
Conflicting Peds, #/hr	225	225	225	0	0	225
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	0	6	457	537	51

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1254	744	813	0	-	0
Stage 1	788	-	-	-	-	-
Stage 2	466	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	167	362	823	-	-	-
Stage 1	414	-	-	-	-	-
Stage 2	604	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	109	244	669	-	-	-
Mov Cap-2 Maneuver	109	-	-	-	-	-
Stage 1	332	-	-	-	-	-
Stage 2	491	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	669	-	-	-	-
HCM Lane V/C Ratio	0.009	-	-	-	-
HCM Control Delay (s)	10.4	0.1	0	-	-
HCM Lane LOS	B	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	1.1

Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	8	475	539	6	9	32
Future Vol, veh/h	8	475	539	6	9	32
Conflicting Peds, #/hr	200	0	0	200	200	200
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	8	475	539	6	9	32

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	745	0	-	0	1196	673
Stage 1	-	-	-	-	742	-
Stage 2	-	-	-	-	454	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	872	-	-	-	182	402
Stage 1	-	-	-	-	437	-
Stage 2	-	-	-	-	612	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	727	-	-	-	124	284
Mov Cap-2 Maneuver	-	-	-	-	124	-
Stage 1	-	-	-	-	359	-
Stage 2	-	-	-	-	510	-

Approach	NB	SB	NE
HCM Control Delay, s	0.3	0	25
HCM LOS			D

Minor Lane/Major Mvmt	NELn1	NBL	NBT	SBT	SBR
Capacity (veh/h)	221	727	-	-	-
HCM Lane V/C Ratio	0.186	0.011	-	-	-
HCM Control Delay (s)	25	10	0.1	-	-
HCM Lane LOS	D	B	A	-	-
HCM 95th %tile Q(veh)	0.7	0	-	-	-