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February 23, 2018

VIA UPS

Ms. Alla Bares
Ak Property Holding, Inc.
730 Columbus Avenue, Apt. 3D
New York, NY 10025

Re: Traffic Evaluation
25 Townsend Street
13 Lot Single-Family Subdivision
City of Beacon, Dutchess County, NY
MC Project No. 18000702A

Dear Ms. Bares:

Maser Consulting has conducted an evaluation of the potential traffic impacts associated with the proposed 13 Lot Single-Family Subdivision located at 25 Townsend Street in the City of Beacon, Dutchess County, NY (the “Site”). As shown on the Site Location Map (Exhibit No. 1) provided below, the site is located north of Fishkill Avenue (NYS Route 52) at the end of Townsend Street and the Site currently contains the former Knights of Columbus building and parking lot. The proposed subdivision consists of 13 single-family homes along an extension of Townsend Street proposed to dead-end at a cul-de-sac (the “Proposed Development”). The following is a summary of the procedures utilized to assess any potential future traffic impacts associated with Proposed Development of the Site.

EXHIBIT NO. 1 – SITE LOCATION MAP





1. Existing Conditions

In order to assess the existing traffic conditions in the vicinity of the proposed subdivision, manual turning movement traffic counts were collected at the Fishkill Avenue and Townsend Street intersection by representatives of Maser Consulting, P.A. on Wednesday, February 21, 2018 during the PM Peak Hours to determine the existing traffic volume conditions in the vicinity of the Site. These traffic counts were compared to traffic volume data obtained from the NYSDOT for NYS Route 52 in the vicinity of Townsend Street. Based on this information, the Existing Traffic Volumes were established for the Weekday Peak AM and Weekday Peak PM Hours at the intersection as identified in the Table No. 2 on the following page.

The following is a brief description of the roadways located within the study area.

- Fishkill Avenue (NYS Route 52) – Fishkill Avenue is generally a two-lane roadway under the jurisdiction of the NYSDOT with one lane in each direction in the vicinity of the Site and shoulders on both sides. Fishkill Avenue has an unsignalized intersection with Townsend Street and has sidewalks along the west side of the roadway. The posted speed limit in the vicinity of the Site is 30 mph and the roadway mainly serves commercial and residential uses.
- Townsend Street - Townsend Street intersects with Fishkill Avenue at an unsignalized “T” shaped intersection. Townsend Street generally traverses in an east/west direction and serves primarily residential land uses with some commercial land uses closer to its intersection with Fishkill Avenue (i.e. Citgo Gas Station, Dunkin’ Donuts). Townsend Street currently terminates at a dead end with the Site’s existing driveway being the continuation of the roadway. The speed limit in the vicinity of the site is 30 mph and there are no sidewalks along the roadway. At its intersection with Fishkill Avenue, good sight distances are provided with no obstructions to views in either direction for vehicles exiting Townsend Street.



2. Future Traffic Conditions

Estimates of the amount of traffic to be generated by the Proposed Development during each of the Peak Hours were developed based on information published by the Institute of Transportation Engineers (ITE) as contained in the report entitled “Trip Generation”, 10th Edition, 2017, based on Land Use Category – 210 – Single-Family Detached Housing. Table No. 1 below summarizes the trip generation rates and corresponding site generated traffic volumes for the Weekday Peak one-hour periods during the AM and Peak PM Hours.

TABLE NO. 1 HOURLY TRIP GENERATION RATES (HTGR) AND ANTICIPATED SITE GENERATED TRAFFIC VOLUMES					
TIME PERIOD	ENTRY		EXIT		TOTAL
	HTGR ¹	VOLUME	HTGR ¹	VOLUME	
AM PEAK HOUR	0.31	4	0.77	10	14
PM PEAK HOUR	0.69	9	0.38	5	14

NOTES:

1. THE HOURLY TRIP GENERATION RATES (HTGR) ARE BASED ON DATA PUBLISHED BY THE INSTITUTE OF TRANSPORTATION ENGINEERS (ITE) AS CONTAINED IN THE TRIP GENERATION HANDBOOK, 10TH EDITION, 2017. ITE LAND USE CODE – 210 – SINGLE-FAMILY DETACHED HOUSING.

The above project generated traffic volumes were added to the 2018 Existing Traffic Volumes to obtain the Future Build Traffic Volume conditions, which also include for five years of background traffic growth at 2.0% per year. Table No. 2, below, summarizes the 2018 Existing and 2023 Build Traffic Volumes at the Fishkill Avenue/Townsend Street intersection.



TABLE NO. 2 FISHKILL AVENUE AT TOWNSEND STREET EXISTING AND FUTURE TRAFFIC VOLUMES						
INTERSECTION APPROACH	EXISTING 2018 TRAFFIC VOLUMES		PROJECT GENERATED TRAFFIC VOLUMES		FUTURE 2023 BUILDTRAFFIC VOLUMES ¹	
	AM PEAK HOUR	PM PEAK HOUR	AM PEAK HOUR	PM PEAK HOUR	AM PEAK HOUR	PM PEAK HOUR
EB LEFT	20	19	5	2	27	23
EB RIGHT	16	21	5	3	23	26
NB LEFT	18	19	2	5	22	25
NB THROUGH	480	528	0	0	528	627
SB THROUGH	455	501	0	0	501	596
SB RIGHT	16	18	2	4	20	31
TOTAL	1005	1195	14	14	1120	1329
NOTES:						
1. FUTURE 2023 BUILD TRAFFIC VOLUMES INCLUDES BACKGROUND TRAFFIC GROWTH OF 2% PER YEAR FOR 5 YEARS AS WELL AS THE PROJECT GENERATED TRAFFIC VOLUMES.						

As indicated in Table No. 1 above, the Proposed Development will generate approximately 14 Peak Hour vehicle trips during both the AM and PM Peak Hours. This equates to a less than 1.5% increase in traffic volumes during the AM and PM Peak Hours at the NYS Route 52/Townsend Street intersection compared to existing conditions, which is not considered a significant increase in traffic volumes.

Furthermore, capacity analyses, which take into consideration appropriate truck percentages, pedestrian activity, roadway grades and other factors for the NYS Route 52/Townsend Street intersection utilizing the procedures identified in the Highway Capacity Manual 6th Edition dated October 2016 to determine the Levels of Service and average vehicle delays. These analyses were computed for the 2018 Existing and Future 2023 Build Traffic Volume conditions. Table No. 3 below, summarizes the results of the capacity analysis for the Existing and Future Build Conditions. Copies of the capacity analyses, which also indicate the existing geometrics (including lane widths) and other characteristics for the intersection are attached.



TABLE NO. 3 LEVEL OF SERVICE SUMMARY TABLE FISHKILL AVENUE AT TOWNSEND STREET					
INTERSECTION APPROACH		EXISTING CONDITIONS		FUTURE BUILD CONDITIONS	
		AM	PM	AM	PM
FISHKILL AVENUE	NB	A[8.4]	A[8.8]	A[8.7]	A[9.1]
TOWNSEND STREET	EB	C[15.9]	C[18.0]	C[17.8]	C[21.0]

NOTES:

1. THE ABOVE REPRESENTS THE LEVEL OF SERVICE AND VEHICLE DELAY IN SECONDS, C [16.2], FOR EACH KEY APPROACH OF THE UNSIGNALIZED INTERSECTIONS.

As indicated in the above table, the Fishkill Avenue and Townsend Street intersection currently operates at a Level of Service “C” or better during the AM and PM Peak Hours. It is anticipated that with the additional traffic associated with the proposed project, similar Levels of Service will be maintained in the future. As a result, the Proposed Development is not anticipated to have a significant impact on traffic operating conditions in the vicinity of the Site.

Very truly yours,

MASER CONSULTING P.A.

Phillip J. Grealy, Ph.D., P.E.
 Principal/Department Manager

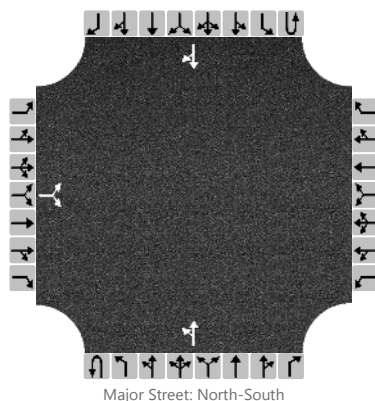
Richard G. D'Andrea, P.E., PTOE
 Senior Associate/Project Manager

PJG/ces
 Enclosures –
 cc: T. Palmer

HCS7 Two-Way Stop-Control Report

General Information		Site Information	
Analyst	RGD	Intersection	Route 52 & Townsend St
Agency/Co.	Maser Consulting	Jurisdiction	City of Beacon
Date Performed	2/23/2018	East/West Street	Townsend Street
Analysis Year	2018	North/South Street	NYS Route 52
Time Analyzed	AM Peak Hour	Peak Hour Factor	0.92
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	25 Townsend Street - 18000702A		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound							
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R				
Movement																				
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6				
Number of Lanes		0	0	0		0	0	0	0	0	1	0	0	0	1	0				
Configuration			LR								LT						TR			
Volume, V (veh/h)		20		16						18	480					455	16			
Percent Heavy Vehicles (%)		3		3						3										
Proportion Time Blocked																				
Percent Grade (%)		-3																		
Right Turn Channelized		No					No					No					No			
Median Type/Storage		Undivided																		

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1							
Critical Headway (sec)		5.83		5.93						4.13							
Base Follow-Up Headway (sec)		3.5		3.3						2.2							
Follow-Up Headway (sec)		3.53		3.33						2.23							

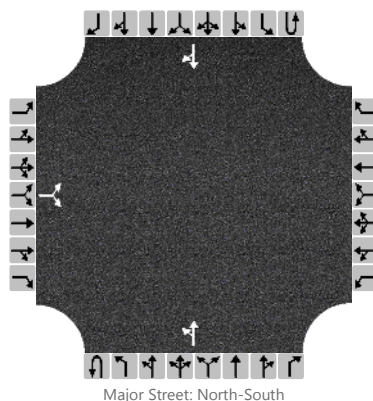
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			39							20							
Capacity, c (veh/h)			370							1047							
v/c Ratio			0.11							0.02							
95% Queue Length, Q ₉₅ (veh)			0.4							0.1							
Control Delay (s/veh)			15.9							8.5							
Level of Service, LOS			C							A							
Approach Delay (s/veh)		15.9								0.5							
Approach LOS		C								A							

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General Information				Site Information			
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Analysis Year	2018			North/South Street	NYS Route 52		
Time Analyzed	PM Peak Hour			Peak Hour Factor	0.92		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	25 Townsend Street - 18000702A						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	0	0		0	1	0		0	1	0
Configuration			LR							LT						TR
Volume, V (veh/h)		19		21						19	570				542	24
Percent Heavy Vehicles (%)		3		3						3						
Proportion Time Blocked																
Percent Grade (%)		-3														
Right Turn Channelized		No				No				No				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		5.83		5.93						4.13						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.53		3.33						2.23						

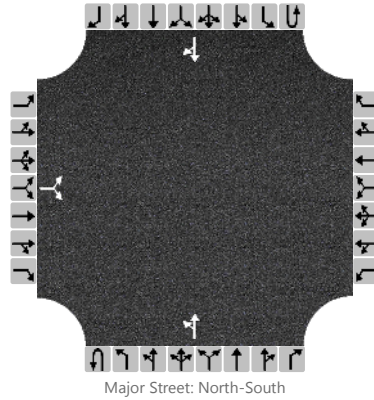
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			44							21						
Capacity, c (veh/h)			320							959						
v/c Ratio			0.14							0.02						
95% Queue Length, Q ₉₅ (veh)			0.5							0.1						
Control Delay (s/veh)			18.0							8.8						
Level of Service, LOS			C							A						
Approach Delay (s/veh)		18.0								0.6						
Approach LOS		C														

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Date Performed	2/23/2018			East/West Street	Townsend Street		
Analysis Year	2023			North/South Street	NYS Route 52		
Time Analyzed	AM Peak Hour			Peak Hour Factor	0.92		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	25 Townsend Street - 18000702A						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	0	0		0	1	0		0	1	0
Configuration			LR							LT						TR
Volume, V (veh/h)		27		23						22	528				501	20
Percent Heavy Vehicles (%)		3		3						3						
Proportion Time Blocked																
Percent Grade (%)		-3														
Right Turn Channelized		No				No				No				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		5.83		5.93						4.13						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.53		3.33						2.23						

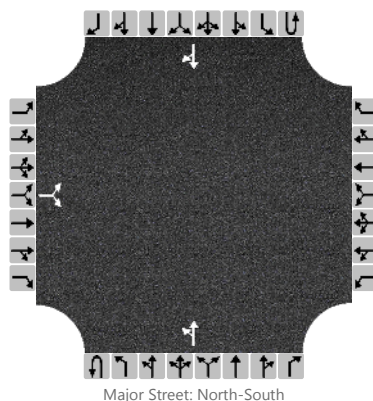
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			54							24						
Capacity, c (veh/h)			334							999						
v/c Ratio			0.16							0.02						
95% Queue Length, Q ₉₅ (veh)			0.6							0.1						
Control Delay (s/veh)			17.8							8.7						
Level of Service, LOS			C							A						
Approach Delay (s/veh)		17.8								0.6						
Approach LOS		C														

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Agency/Co.	Maser Consulting			Jurisdiction	City of Beacon		
Date Performed	2/23/2018			East/West Street	Townsend Street		
Analysis Year	2023			North/South Street	NYS Route 52		
Time Analyzed	PM Peak Hour			Peak Hour Factor	0.92		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	25 Townsend Street - 18000702A						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	0	0		0	1	0		0	1	0
Configuration			LR							LT						TR
Volume, V (veh/h)		23		26						25	627				596	31
Percent Heavy Vehicles (%)		3		3						3						
Proportion Time Blocked																
Percent Grade (%)		-3														
Right Turn Channelized		No				No				No				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		5.83		5.93						4.13						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.53		3.33						2.23						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			53							27						
Capacity, c (veh/h)			278							905						
v/c Ratio			0.19							0.03						
95% Queue Length, Q ₉₅ (veh)			0.7							0.1						
Control Delay (s/veh)			21.0							9.1						
Level of Service, LOS			C							A						
Approach Delay (s/veh)		21.0								0.8						
Approach LOS		C														