FREDERICK P. CLARK ASSOCIATES, INC.
PLANNING, TRANSPORTATION, ENVIRONMENT AND DEVELOPMENT
RYE, NEW YORK FAIRFIELD, CONNECTICUT

DAVID H. STOLMAN
AICP, PP
PRESIDENT

MICHAEL A. GALANTE
EXECUTIVE
VICE PRESIDENT

41 RUANE STREET
FAIRFIELD
CONNECTICUT 06824
203 255-3100
FAX: 203 254-2139

RYE, NEW YORK
914 967-6540

HUDSON VALLEY
845 297-6056

LONG ISLAND
516 364-4544

www.fpclark.com

email@fpclark.com

January 4, 2017

Mr. Jeremy Ginsberg
Planning and Zoning Director
Darien Town Hall
2 Renshaw Road
Darien, Connecticut 06820

Subject: **Traffic Impact and Parking Study Preliminary Review, Noroton Heights Shopping Center Redevelopment, Darien, Connecticut**

Dear Mr. Ginsberg:

As requested, we have conducted a preliminary review of the Traffic Impact & Parking Study prepared for the Noroton Heights Shopping Center (NHSC) redevelopment by Tighe & Bond, dated November 18, 2016. The following sections provide a brief description of the proposed redevelopment and a request of the Applicant's Traffic Consultant for additional information necessary to complete this review.

Project Description

The Traffic Impact & Parking Study was prepared for the proposed NHSC located in the Noroton Heights section of the Town of Darien. The existing Site currently comprises approximately 75,257 square feet of mixed-use space. The proposed redevelopment project comprises the existing Palmer's Market building located on the east end of the Site, 33,127 square feet of shopping center retail space (a proposed increase of approximately 2,500 square feet), and 59 residential units.

The existing easterly full-movement driveway to Heights Road, which currently provides access to the lower level shops beneath Palmer's Market will remain. The existing easterly ingress only driveway on Heights Road will be shifted approximately 135 feet west (towards the existing bank) and converted to full access. The existing westerly ingress only driveway and full-movement access drive will remain. Finally, the existing full-movement access drive to Hollow Tree Ridge Road will be removed. The proposed Site will provide 401 parking spaces including 10 handicap accessible spaces. (Plans show 401 spaces, Parking Study indicates 402). The proposed redevelopment project is expected to be completed in 2019 according to Applicant. Figure 1 prepared by Clark Associates is attached and provides a reference for the site location.

The Applicant's traffic analysis indicates that a development of this type and size will generate a net of 31, 56 and 55 more vehicle trip ends than the existing NHSC

development during the weekday morning, Friday (weekday) afternoon and Saturday midday peak hours.

Review for Completeness

Clark Associates requests the following information from the Applicant's Traffic Consultant in order to complete their review of the Traffic Impact & Parking Study prepared for the NHSC redevelopment.

1. *Section 1.0 Introduction* – States that the Shopping Center site currently comprises approximately 75,527 square feet mixed-use development. To our knowledge the existing mixed-use development comprises the 40,800 square-foot Palmer's Market plus the current uses under the building and computer shop, two buildings comprising 30,627 square feet mixed retail, commercial and restaurant use and a 4,100 square-foot bank which is located on an adjacent parcel not owned by the Applicant but shares parking with the Site.

   The Applicant's Traffic Consultant should provide a list containing the existing size and type of each individual land-use (shopping center, restaurant, etc.) within the overall mixed-use development as the existing site traffic generation is largely dependent on this unique mix of land uses.

2. *Section 2.3 Traffic Volumes* – More details related to the development of the existing (baseline) traffic volumes are needed in order to determine their appropriateness. It is unclear as to whether the 2015 existing (baseline) traffic volumes, based on recent manual intersection turning movement count data collected at Study Area intersections, were balanced to latest available Automatic Traffic Recorder (ATR) data available from the Connecticut Department of Transportation (ConnDOT). Clark Associates found ConnDOT data to be available for 2014 and 2011 within the Study Area. A comparison of the Tighe & Bond 2015 existing (baseline) traffic volumes and the available State data indicates that the baseline traffic volumes are lower than the 2014 and/or 2011 traffic volumes and should be adjusted at the following locations within the Study Area during the weekday morning peak hour:

   - Noroton Avenue, North of Maple Street/Hecker Avenue (Station #135);
   - Ledge Road, East of Noroton Avenue (Station #172); and,
   - Noroton Avenue, South of Ledge Road/I-95 Southbound On-Ramp (Station #179).

   And during the Friday (weekday) afternoon peak hour:

   - Heights Road, East of Hollow Tree Ridge Road (Station #81);
   - Noroton Avenue, North of Maple Street/Hecker Avenue (Station #135);
   - Noroton Avenue, South of Ledge Road/I-95 Southbound On-Ramp (Station #179); and

- Hollow Tree Ridge Road, North of West Avenue (Station #2061).

As part of the traffic counting program, an ATR count was conducted by Tighe & Bond in the vicinity of the Site frontage for a 24-hour period, commencing at 12:00 P.M. on Friday, February 27 and ending at 12:00 P.M. on Saturday, February 28, 2016. While the ATR was conducted for a 24-hour period, it failed to capture either an entire weekday and/or Saturday. Therefore, it is our opinion that the data cannot be used in a meaningful way to determine the peaking characteristics of the Study Area roadways during a typical weekday and/or Saturday. The ATR count data collected as part of the Study should support the peak periods for which the manual turning movement counts were conducted and summarized. Clark Associates recommends conducting an ATR for a one week period, which includes an entire Saturday.

It is our opinion that the Applicant's Traffic Consultant should count all existing NHSC access drives to be included in the capacity analysis/micro-simulation analysis and existing site traffic generation analysis during the Study Area peak hours. Also, the Applicant's Traffic Consultant should consider including the peak hour traffic volumes for the nearby intersections of Edgerton Street and Heights Road with the Federal Realty Development Site access drives (which will be included in the Federal Realty Development Traffic Study) and counting the intersection of Heights Road with the Noroton Heights Metro-North Railroad Station access drives during Study peak hours in order to accurately evaluate existing conditions and future traffic operations on Heights Road. Finally, the Applicant should clarify whether the 2015 existing (baseline) traffic volumes were/will be submitted to the Office of State Traffic Administration for review and approval.

3. *Section 2.4 Capacity and Queue Analyses – Existing Conditions* – It should be noted that Clark Associates conducted a field investigation in order to calibrate and validate the Synchro 9.0 capacity analysis models and offer comments for the preliminary review.

   It is our opinion that the capacity analyses should include all NHSC access drives and the intersections of Heights Road with the Federal Development and Noroton Heights Metro-North Railroad Station access drives in order to evaluate the impacts of vehicle queuing during the weekday and Saturday peak hours on Heights Road, which is a limited capacity two-lane roadway. There is some concern that vehicle queuing may potentially restrict access to and from the existing Site during peak hours.

   The capacity analyses for existing conditions provided in Section 8: Table 1 includes the Measures of Effectiveness, Level of Service (LOS) and Delay; however, does not include the volume-to-capacity (v/c) ratio which is critical to understanding the degree of saturation of the Study Area intersections. Similarly, Section 8: Table 2 does not include the storage length for

each lane group or approach lane to intersections which is necessary to interpret the results of the storage/queue analysis. This additional data should be included in both Tables 1 and 2 to facilitate the substantiate review.

A copy of the Traffic Signal Timing Plans or copy of the Traffic Signal Timing Field Observations for each signalized intersection should be provided for verification of the inputs into the Synchro 9.0 capacity analysis models for the weekday morning, Friday (weekday) afternoon or Saturday midday peak hours.

The Traffic Signal Timings input into the Synchro 9.0 capacity analysis model for the Noroton Avenue corridor should be revised for all three peak hours in order to match the plans provided by ConnDOT; which include the appropriate control type, cycle length, splits and offsets in addition to several other parameters.

4. *4.1 Site Access* – Based on our understanding, the existing easterly full-movement driveway to Heights Road, which currently provides access to the physical therapy and personal training lower level shops beneath Palmer's Market, will remain. The existing easterly ingress only driveway on Heights Road will be shifted approximately 135 feet west (towards the bank) and converted to full access. The existing westerly ingress only driveway and full-movement access drive will remain. Finally, the existing full-movement access drive to Hollow Tree Ridge Road will be removed. As the existing and future proposed access configurations to this Site are quite complex, the Applicant's Traffic Consultant should provided all needed Figures as part of the Study which graphically illustrate the existing and future proposed access configurations, including all relevant pavement markings and signage.

5. *4.3 Trip Generation* – Site traffic generated volumes for the Noroton Heights Shopping Center were developed using the industry standard Institute of Transportation Engineers (ITE) "Trip Generation" Manual, 9th Edition, 2012. Table 4 provides a summary of the trip generation by the retail and residential land uses. The Table should provide a detailed summary of the trip generation by individual land-use similar to Table 5 "Parking Demand Projections Summary" which further reduces the development to its constituent land uses. Table 4 should also provide a summary of the total site traffic generation for the existing development and the total proposed site traffic generation in order to make appropriate comparisons between the two.

6. *4.5 Driveway Redistribution* – The Applicant's Traffic Consultant did not include the existing NHSC development access drives as part of the recent manual traffic counting program. Therefore, the existing Shopping Center Site traffic distribution remains unknown. It is unclear how the Applicant's Traffic Consultant distributed/redistributed the future Site traffic for the proposed Shopping Center redevelopment if the existing Site traffic patterns were not defined. It

is our recommendation that the Applicant's Traffic Consultant count the existing Shopping Center site access drives not only to distribute and assign the proposed site traffic generation to the future driveway configuration but also to confirm the existing level of site traffic generation.

7. *Section 5.1 Capacity and Queue Analyses – Combined Conditions* – Table 1, which includes the capacity analyses for the 2019 Background and 2019 Combined conditions (with and without traffic related to the Federal Redevelopment, respectively), should also include an assessment of the project impacts; specifically, whether there will be any changes to intersection overall Level of Service (LOS) or the Level of Service of any approach or lane group for traffic signal controlled intersections. Similarly, Table 1 should also include an assessment of project impacts for TWO-WAY STOP controlled (TWSC) intersections for each critical movement or STOP controlled approach lane. Finally, the assessment of project impacts should also include the increase in average total delay per vehicle for signalized intersections and the average control delay per vehicle for TWSC intersections. An example is provided below:

					WEEKDAY MORNING PEAK HOUR							
					2019 Background			2019 Combined			Project Impacts	
INTERSECTION	CONTROL TYPE	APPROACH	STORAGE/ LINK LENGTH (FEET)	PHYSICAL UNITS	LOS/ Delay	V/C Ratio	Queue Length (Feet)	LOS/ Delay	V/C Ratio	Queue Length (Feet)	Change in LOS	Project Delay (secs)
West Avenue at Hollow Tree Ridge Road	Traffic Signal	Highview Road	500+	EB LTR	C/26.2		80/299	C/26.5		79/299	No	0.3
		Highview Road	500+	WB LTR	B/18.4		56/202	B/18.5		56/202	No	0.1
		College Road	715	NB LTR	C/26.3		76/283	C/26.4		76/285	No	0.1
		College Road	305	SB LTR	C/25.6		73/273	C/25.4		73/274	No	-0.2
				Overall	C/24.2		–	C/24.3		–	No	0.1

Findings

Tighe & Bond has provided a Traffic Study & Parking Study which is generally consistent with industry standard methodology; however, it does require a significant amount of additional information in order to complete the review. The Applicant's Traffic Consultant should provide all requested information in order for Clark Associates to proceed with the substantive review.

Sincerely,

Michael A. Galante
Executive Vice President

Attachment

g:\859.036 noroton heights shopping center, heights road, darien\word\nhc16-001.gsb.docx:ev
1/4/17