



January 10, 2020

Christopher Wider, Chairman
Town of Norfolk – Zoning Board of Appeals
One Liberty Lane
Norfolk, MA 02056

Re: Norfolk, MA – The Residences at Norfolk Station,
194 Main Street
Traffic Assessment Review

Dear Chairman Wider:

BETA Group, Inc. (BETA) has reviewed the *Residences at Norfolk Station, Response to Peer Review Comments* letter dated December 23, 2019 by Green International Affiliates, Inc. (Green), which responds to several comments submitted by BETA in their letter dated November 25, 2019. This letter serves as a review of the responses provided by Green. Where referenced, the term “Applicant” refers to either the Applicant itself or its design consultants.

BETA Comment 1: Speed Data was not collected to validate travel speeds on Main Street. We recommend that the Applicant provide speed data to confirm actual (85th%) speeds.

Green Response: The original assessment was focused on the available distances that were available and given the posted 30 mph speed limits, it was determined that more than sufficient distances were available as well as the location of the proposed site drive appropriate relative to sight distances. As noted in their comment letter, BETA concurs that available sight distances meet the criteria for at least 40 mph. Subsequent to our original assessment letter, data was obtained from a 2017 study that had collected speed data west of the project site. The data, which is attached, confirms both the actual speed data showing that west of the site, the average and 85th percentile speeds approaching the site from the west are approximately 35 mph and 40 mph, respectively. The data does not reflect motorists approaching the site from the east.

BETA Response: Speed data from 2017 was provided that showed 85th percentile speeds of slightly higher than 40 mph in both directions. The measured 350 feet of available stopping sight distance is acceptable based on AASHTO guidelines. Comment resolved.

BETA Comment 2: Parking supply exceeds Town of Norfolk by-law requirements and exceeds average rates set forth in the Institute of Transportation Engineers (ITE) *Parking Generation Manual, 5th Edition*.

No Response Required

BETA Comment 3: BETA notes that this site falls within ITE LUC 221 – Multi-Family Housing (Mid-Rise) given the building is intended to be three floors. The trip generation estimates based on LUC 221 are lower than those presented by the Applicant. As such, BETA finds the Applicant’s analysis to be conservative.

No Response Required

BETA Comment 4: While BETA generally concurs that the Commuter Rail will reduce the number of vehicle trips to and from the site, no backup was provided for these estimated trip reductions. We recommend that the Applicant provide a source for the referenced potential trip reduction.

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Green Response: Due to the project's location within approximately 700 feet of the commuter rail station, it is likely that there would be a number of walk trips to the train station during the commuter times. Based on the historical census work trip data indicates that approximately 8% (and potentially as high as 15%) of Norfolk residents commute by public transportation (i.e. commuter rail). Reference sheets from the census bureau are attached to this letter.

With respect to other trips over the course of the day, it is likely that a good portion of these trips could also become a walking trip given the project's proximity to town hall, the library, banks and other commercial establishments located in Norfolk center. There is no data source readily available to predict the potential percent of non-peak period, non-work trips that could be made by walking and the assessment letter provided a plausible assumption.

However, the trip estimates presented for the proposed project and the conclusions of potential traffic impact did NOT take into account any potential reduction of trips due to walk trips made for work or non-work purposes. Any amount of walk related trips would result in reducing the number of vehicle trips generated by the project.

BETA Response: The Applicant provided backup data from the US Census that supports modal split percentages for commuting (home to work trips). Comment resolved.

BETA Comment 5: While BETA finds this methodology to be acceptable when sites are currently vacant or otherwise not operating; the Applicant did not clearly specify the Land Uses and units (e.g. number of seats, square footage, etc.) used to estimate the number of Existing trips for the site. Please provide clarification to justify the estimates provided in Table 2 on Page 3 of the Traffic Assessment.

Green Response: As described in our letter dated November 8, 2019, the current site houses a sit down casual restaurant that serves breakfast and lunch (approx. 50 seats) and a barber shop. A bank used to be located in the building. The rest of the building was assumed to be office space. There is also a single family residence on the site. In addition, there is a structure that has been used to store vehicles. The storage garage was assumed to generate no traffic on an average day. ITE models were used to develop trip generation estimates for these current uses where models existed including the restaurant, bank and single family home. In regards to the barbershop (2 seats), assumption were made for computing the potential traffic generation. The calculation sheets are attached to this letter.

BETA Response: The Applicant provided backup trip generation estimates for the existing site which reflect the data shown in Table 2 of the *Traffic Assessment*. Comment resolved.

BETA Comment 6: Sight distance requirements should be based on existing travel speeds, which were not provided. BETA evaluated the AASHTO table and found 350 feet to be adequate for 40 mph.

BETA Comment 7: The above recommended distances assume a level roadway. Sight distance calculations should account for the approach grade of the roadway.

Green Response (to above two comments): BETA Found that the 350 feet available to and from the east was adequate for 40 miles per hour (actually closer to 42 mph criteria). For 30 mph posted speeds, the minimum stopping and intersection sight distance criterion would be 200 feet. For 40 mph, 305 feet is the minimum required. The distances to and from the east could be increased slightly (approx. 30 feet) due to the small downgrade from the MBTA overpass towards the site.

As noted above, the average and 85th percentile speeds approaching the site from the west are 35 mph and 40 mph. While we do not have the data east of the site, we believe based on experience in the immediate area that motorists approaching the site from the east (the town center) are generally traveling

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at lower speeds than points west of #194 Main Street – conceivably closer to a 30 mph on average and 35 mph for 85th percentile speed. Nonetheless, the measured sight distances in relation to the proposed site drive location were more than 500 feet to and from the west and approximately 350 feet to and from the east. Based on these observations, the measure sight distance in each direction meet and exceed the required distances for safety purposes under presumed, measured and posted speeds.

BETA Response: See Response to BETA Comment 1. Comment resolved.

BETA Comment 8: BETA supports recommendations A, B, and D.

Green Response: BETA has indicated concurrence with the above recommendations based on their letter and follow-up discussion. An additional action that could be incorporated to this project would be the installation of a speed display feedback sign on Main Street east of the site and facing the westbound direction.

BETA Response: BETA supports the installation of a speed feedback sign on Main Street.

If we can be of any further assistance regarding this matter, please contact us at our office.

Very truly yours,
BETA Group, Inc.



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