



ENGINEERING SUCCESS **TOGETHER**

July 12, 2016

Michael Kulesza, Chairman
Town of Norfolk – ZBA
1 Liberty Lane
Norfolk, MA 02056

Re: Norfolk, MA – Lakeland Farms Townhouse Community
Traffic Peer Review

Dear Mr. Kulesza:

BETA Group, Inc. (BETA) has conducted a review of the traffic memorandum for the subject project, a 40-unit townhouse project proposed at 84 Cleveland Street in Norfolk, MA. This letter is provided to outline findings, comments and recommendations.

BASIS OF REVIEW

BETA received the following items:

- Traffic Memorandum entitled: Norfolk Traffic Impact Analysis – Study Findings, dated June 2, 2016, prepared by WSP/Parsons Brinkerhoff (PB), Boston, MA

Review by BETA will include the above items along with the following:

- Town of Norfolk Zoning By-Laws, Amended through May 2012
- Site visit on July 11, 2016
- Applicable federal and state regulations

INTRODUCTION

The project site consists of a parcel located on the south side of Cleveland Street approximately one mile north/northeast of Route 115 (Rockwood Road) in Norfolk. The parcel is 8.8± acres, and currently contains a single family dwelling, detached garage, and numerous farm structures that were used when the property was operated as Brambly Farms. The project proposes to build a 40-unit townhouse community, containing a mix of twenty (20) single-family and ten (10) duplex-style townhomes. Thirty (30) units will be priced at “market” rate, while ten (10) will be moderate income affordable homes. Homes will range in size from 1,642 sq. ft. to 2,460 sq. ft. The community will be serviced by town water, an on-site shared sewage disposal system, propane gas, cable and electricity.

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FINDINGS, COMMENTS AND RECOMMENDATIONS

TRAFFIC

The study area includes Cleveland Street in the vicinity of the proposed site drive, and the intersection of Cleveland Street and Fruit Street, located approximately 1,500 feet east of the proposed site drive. The memorandum generally follows MassDOT Transportation Impact Assessment (TIA) guidelines and is consistent with industry standard practices.

- T1. The study area should be expanded to include the intersections of Cleveland Street at Route 115, Holbrook Street at Route 115, Cleveland Street at Seekonk Street, and Fruit Street at Seekonk Street. Traffic volumes show that Cleveland Street is a commuter route, which in turn suggests these nearby intersections with arterial roadways will be utilized by site-generated traffic.

Traffic volume data were collected in May 2016. Automatic Traffic Recorder (ATR) counts reveal 2,560 vehicles per day (vpd) over a 24-hour period on Cleveland Street near the proposed site. The morning peak hour occurred from 7:00 AM to 8:00 AM when approximately 280 vehicles passed by the proposed site, showing a heavy directional split consistent with commuting patterns (235 vehicles, or 84% of peak hour traffic, were heading eastbound). The weekday evening peak hour occurred from 5:00 PM to 6:00 PM and showed a heavy westbound directional split, with 160 vehicles (67% of the total 240 vehicles headed westbound). Turning movement counts (TMCs) were conducted at the intersection of Cleveland Street and Fruit Street for peak periods, from 7:00 AM to 9:00 AM and from 4:00 PM to 6:00 PM.

Speed information was collected by ATR and shows that the 85th percentile speed on Cleveland Street is 41 mph in both directions in the vicinity of the project site. This exceeds the 35 mph posted speed limit on Cleveland Street.

- T2. Crash data and a crash analysis should be provided for Cleveland Street.
- T3. The study should include an evaluation of geometric characteristics of Cleveland Street, including roadway width, pavement condition and horizontal and vertical geometry.

Project-generated traffic volumes were determined by utilizing trip generation statistics published by the Institute of Transportation Engineers (ITE) using Land Use Code (LUC) 230, Residential Condominium/Townhouse. BETA finds this land use code appropriate for the proposed site use. The development is expected to generate 230 daily trips, including 18 (3 entering, 15 exiting) in the weekday morning peak hour, and 21 (14 entering, 7 exiting) in the weekday evening peak hour.

Trips were assigned to the study area based on existing traffic patterns, US Census Journey to Work information, and engineering judgment. BETA concurs with this methodology. 30 percent of site traffic is expected to travel to and from points west, with the remaining 70 percent expected to travel to and from points east.

- T4. Clarify why the average rate was used instead of the fitted curve regression equations for trip generation calculations. Using the regression equations would result in a more conservative trip generation analysis.

The project "Build" condition was determined by adding distributed trips to the 2016 existing condition peak hour traffic volumes. Operational analysis was conducted for the study area intersections, and indicate that all movements at the intersection of Cleveland Street and Fruit Street and at the intersection of Cleveland Street and the site drive will operate at level of service (LOS) B or better with the addition of site related traffic.

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T5. Capacity analysis including queue analysis should be provided for the expanded study area suggested in comment T1.

Stopping sight distance (SSD) was measured for the site drive and was found to exceed AASHTO recommended values based on both the regulatory speed and the measured 85th percentile speed.

T6. Sight distance should be measured for the expanded study area suggested in comment T1, to assess conditions expected to be encountered for future townhouse residents accessing area arterial roadways.

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

Very truly yours,
BETA Group, Inc.

A handwritten signature in blue ink that reads "Greg E. Lucas". The signature is written in a cursive, flowing style.

Greg E. Lucas, P.E., PTOE
Project Manager

Job No: 4980