



ENGINEERING SUCCESS TOGETHER

May 22, 2017

Michael Kulesza, Chairman
Town of Norfolk – Zoning Board of Appeals
One Liberty Lane
Norfolk, MA 02056

Re: Norfolk, MA – The Village at Norfolk
Traffic Peer Review – Second Comment Letter

Dear Mr. Kulesza:

BETA Group, Inc. (BETA) has conducted a review of the October 2016 Traffic Impact and Access Study prepared for 32 residential townhouses proposed to be located at 25 Rockwood Road in Norfolk, Massachusetts. Our comments and recommendations were summarized in an April 12, 2017 letter. In response to our traffic peer review letter, the applicant's traffic engineering consultant (Green International Affiliates, Inc.) developed a May 11, 2017 letter. We have reviewed this supplemental document and held a conference call with Green International Affiliates, Inc. on May 22, 2017 to discuss our comments. Generally, we have come to agreement regarding these comments pending the submission of additional supporting data by the applicant.

FINDINGS, COMMENTS AND RECOMMENDATIONS

Original T1

Comment: For the Rockwood Road, Union Street, and Main Street roundabout, traffic counts were obtained from a separate traffic study (Boyde's Crossing) that were collected in April 2014. In accordance with MassDOT's *Transportation Impact Assessment Guidelines*, however, traffic counts used from other sources should be no more than 2 years old on the submittal date of the traffic study unless otherwise approved. Since the traffic study was prepared in October 2016 and submitted in January 2017, the traffic counts for the Rockwood Road roundabout (April 2014) are considered to be outdated. As such, it is recommended that more recent traffic counts be collected.

Response: The MassDOT Guidelines are a guide and suggest the age of the data. However, there are many instances where data greater than two years old are acceptable for use including areas where little has changed during the timeframe. In this case, the Boyde's Crossing study was completed by Green [Green International Affiliates, Inc.] and while that project went through some site design and applicant changes in 2015, all the data and analysis was deemed appropriate by the town's peer review consultant on that project. For the Village [The Village at Norfolk] project, new data was collected along Rockwood Road including the intersection the intersection of Rockwood Road at Ware Drive but not the roundabout. Since we had just recently completed the Boyde's Crossing study that used the roundabout data as a foundation, it appeared to be reasonable to continue that for the current project for consistency purposes. Comparison of volumes at the Ware Road intersection with the section near the roundabout showed general consistency. The base data was adjusted to

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the current year by applying growth factors. Other than the Boyde's Crossing project, there has not been any other recent substantive changes in land uses in the general vicinity of the center and Boyde's is only under construction at the present time. In conclusion, it is our opinion that no additional traffic counts are necessary at this time in order to evaluate The Village at Norfolk project.

Supplemental
Comment:

Although MassDOT has accepted traffic counts that are more than 2 years old on occasion, spot traffic counts are typically required to confirm the negligibility of historical fluctuation in traffic volumes. Based on a comparison of the traffic volumes presented in the traffic study (Figures 2 and 3), the traffic volumes entering/exiting the Ware Drive intersection along Rockwood Road to/from the south are between 17-35% higher (55-74 vehicles southbound and 72-107 vehicles northbound) than the traffic volumes entering/exiting the Main Street/Union Street roundabout along Rockwood Road to/from the north. This comparison suggests that additional justification is needed to support the methodology of using the 2014 traffic counts at the roundabout with a 1% annual growth rate.

As discussed with Green International Affiliates, Inc. on May 22, 2017, the consultant should justify the traffic-volume differences along this section of Rockwood Road. Green International suggests that the difference may be accounted for by vehicles entering/exiting the adjacent parking lots. They will review the parking lot access/egress and occupancy to determine if this adequately accounts for the difference in the count data. If so the volume data used in the study for the roundabout could be considered acceptable. If not, the traffic volumes at the Main Street/Union Street roundabout should be adjusted with more recent traffic volumes. We will confirm this once the data is provided.

Original T2
Comment:

Upon review of the trip-generation calculations provided in the Traffic Impact and Access Study, the proposed development is anticipated to generate slightly less vehicle trips during the Saturday Midday peak hour than the Weekday AM and Weekday PM peak hours. It is recommended that the Applicant confirm that the Saturday Midday peak hour is not a critical time period for the proposed development based on the combination of site trips and adjacent street traffic volumes.

Response:

It is accepted practice throughout the Commonwealth including the MassDOT that traffic impact studies for residential only projects evaluate the weekday AM and PM peak hour conditions. The MassDOT guidelines specifically state this and suggest weekend analysis would be likely required for retail uses or special events that occur on the weekend. The weekday AM and PM analyses periods generally coincide with the peak commuter traffic and will overlap with either school related trips or a household personal trips that occur late in the typical day. The Village at Norfolk is strictly a residential development and as indicated by Beta, is expected to have slightly lower trip generated on the Saturday peak hour than during the weekday peak hours. In addition, based on extensive familiarity and living experience near Norfolk, it is our opinion that the Saturday midday peak hour traffic flows in the Center are generally significantly less intense than during the weekday AM and PM peak hours due to light commuter rail activity, the town hall closed, no school, etc. For

these reasons, the weekday peak hours represent the most critical time period for analysis of this specific type of project in this location and it is our opinion that Saturday analysis is unwarranted for this project. (Further note: the Boyde's Crossing study focused on the weekday peak hours only).

Supplemental
Comment:

Standard traffic engineering practice is to evaluate the impacts of a development during the time periods that would result in the highest cumulative directional demands (i.e., the combination of adjacent street traffic and site trips). During the April 19, 2017 public meeting, we suggested that the applicant's traffic engineering consultant research traffic volumes to show if the Saturday Middy is a critical time period in the area.

As discussed with Green International Affiliates, Inc. on May 22, 2017, the consultant should coordinate with Town of Norfolk and MAPC officials to research available traffic volumes along Rockwood Road on a weekday and on a Saturday. They have agreed to contact MAPC to inquire as to available traffic information for Saturday. If this information shows that volumes on the adjacent street network are generally lower during Saturday mid-day than peak weekday then the analysis period would be considered acceptable. We will confirm this once the data is provided.

Original T3
Comment:

The Traffic Impact and Access Study used historical traffic-volume data from MassDOT Permanent Count Station #6189 to determine if the traffic counts should be adjusted to account for seasonal fluctuation. The MassDOT Permanent Count Station selected is located on Interstate 95 (I-95)/Route 128 in Dedham and the Traffic Impact and Access Study states that there are no other count stations in closer proximity to the site that could provide better seasonal variation data. Based on a review of the historical traffic volume for MassDOT Permanent Count Station #6189, the most recent traffic counts provided on MassDOT's Transportation Data Management System were collected in 2010.

A review of MassDOT Permanent Count Stations near the Town of Norfolk, however, revealed that there are locations that appear to be closer to the project site than the count station used: Bellingham (#6125 on I-495), Franklin (#6126 on I-495), Wrentham (#6127 on I-495), Wrentham (#6128 on I-495), Foxborough (#6247 on I-495), Mansfield (#10 on I-495), Foxborough (#6248 on I-95), Foxborough (#6093 on I-95), and Sharon (#6242 I-95). It is recommended that the Applicant provide support as to why MassDOT Count Station #6189 is more applicable for the seasonal fluctuation assessment than the other closer locations that have more recent traffic counts.

Response:

We did not use the permanent count stations on I-495, as I-495 tends to have a high variability throughout the year due to seasonal recreational traffic (i.e. Cap traffic). While I-495 is geographically close to Norfolk, the seasonal traffic patterns experienced on I-495 are not representative of the seasonal variation in traffic on local roadways in the Town of Norfolk. Furthermore, many of the "continuous count" maintained by MassDOT provide insufficient data to obtain average monthly conditions throughout the year, and therefore insufficient data to develop an appropriate seasonal adjustment factor. This includes many

of the count stations mentioned along I-495, as well as those on I-95. For example, the “continuous count” Station 6248 in Foxborough provides no data for four months of 2016 and provides no data for eight months of 2015. Without data from all months from the year, the “average monthly” conditions [are] unknown.

Supplemental

Comment: Our preliminary review of the available historical traffic-volume data from the nine other MassDOT Permanent Count Stations revealed that the September traffic counts would generally be representative of above-average month traffic-volume conditions. Therefore, no further comment required.

Original T4

Comment: The speed limit along Rockwood Road is posted at 35 mph north of the site and 25 mph south of the site. Based on speed data collected along Rockwood Road adjacent to the site, vehicles speeds along Rockwood Road southbound are generally consistent with the posted speed limit (average = 33 mph, 85th percentile = 37 mph). Along Rockwood Road northbound, however, vehicles were observed to travel faster than the posted speed limit (average = 32 mph, 85th percentile = 37 mph).

Due to the faster vehicle speeds along Rockwood Road northbound adjacent to the site (32-48% higher than the posted speed limit), it is recommended that the Applicant coordinate with the Norfolk Planner, Director of Public Works, and Police Department in determining speed reduction measures that should be considered.

Response: We believe the statement above is incorrect but primarily due to the report not being sufficiently clear in describing some of the field data and observations. As indicated in the traffic study, the traffic recorder was located approximately 500 feet north of the project site. In this section of road, northbound speeds are increasing as one is past the center and beginning to enter the 35 mph zone. At that specific location on Rockwood Road, the speed data are generally consistent with our expectations, as vehicles traveling northbound had enough distance to accelerate in the posted 35 MPH speed zone, while vehicles traveling southbound are beginning to slow down as they get closer to the center of Town. The southbound traffic is still traveling more in the 35 mph zone prior to beginning slowing approaching the Center and the 25 mph zone. After spending several hours in the project area, it can be reasonably concluded that travel speeds become significantly lower in the more immediate area of the proposed site drive as the 25 mph sign and RR crossing warning sign are viewed and crossing the tracks is on a slight upgrade. We expect that the existing speeds *at the site driveway location* are somewhat lower than measured by the ATR that again, was located 500 feet to the north in the 35 mph zone. Between the roundabout and the RR tracks, NB and SB travel speeds are generally lower (20 mph to 30 mph) due to the roundabout, the shops with parking directly off the street, the train station and other commercial drives in this section.

Original recommendations in the traffic report include adding or relocating signs to provide better advance warning to southbound motorists of the lower “village” traffic speed regulation and the RR crossing. The applicant remains committed to these actions but is also

open to discussing additional actions with the town with the objective of encouraging reduced travel speeds.

As requested, we will coordinate further with the Norfolk Town Planner, the Director of Public Works, and the Police Department to discuss any appropriate speed reduction measures on Rockwood Road.

Supplemental

Comment: At the April 19, 2017 public meeting, the applicant's traffic engineering consultant provided a similar response in that the speed study provided in the traffic study was conducted at a location not adjacent to the proposed site driveway. The consultant also committed to conducting speed observations along Rockwood Road closer to the subject site to provide a more accurate representation of vehicle speeds for the sight distance evaluation.

As discussed with Green International Affiliates, Inc. on May 22, 2017, the consultant will collect field data using speed runs to determine travel speeds along Rockwood Road adjacent to the site in accordance with standard traffic engineering practice. Once provided and reviewed, it is recommended that the updated speed data be used in the sight distance evaluation.

Original T5

Comment: The Rockwood Road, Union Street, and Main Street roundabout was noted to have experienced approximately 5 reported collisions per year and a crash rate higher than the district-wide average. In accordance with MassDOT guidelines, collision diagrams should be prepared for locations experiencing more than 3 incidents per year to help identify crash patterns, trends, possible causes, and geometric deficiencies in an effort to develop appropriate safety measures. It is recommended that the Applicant coordinate with the Norfolk Planner, Director of Public Works, and Police Department to identify concerns and develop measures that could potentially improve safety.

Response: It is our opinion that there is not a major safety issue currently at the roundabout. While the average crash rate at the existing roundabout is a little higher than the MassDOT District 5 average crash rate, crashes at roundabouts tend to be lower in severity relative to crashes [at] other locations. This general characteristic of minor crashes is consistent with the data at this location, as there were no injury crashes during the three-year period that was examined. In addition, up to now, MassDOT has not compiled crash statistics categorized by roundabout vs. unsignalized intersections which are very different in operating characteristics. In this case, we are comparing crash experience at the roundabout with crash experience at STOP controlled intersections throughout the District.

However, in light of the existing crash history at this location, we have initiated coordination with Town staff on this location. We will continue to discuss the potential for minor safety enhancements at this location with the Norfolk Town Planner, the Director of Public Works, and the Police Department. This could include signage or pavement markings consistent with current industry guidelines and current best practice for roundabouts. We hope to have concluded these discussions by the next meeting.

Supplemental
Comment: No further comment required.

Original T6
Comment: An annual average traffic-growth percentage was determined based on MassDOT historical traffic-volume data locations in Stoughton, Sutton, and Westborough. These historical data revealed that traffic volumes have increased annually by approximately 1% between 2007 and 2015. Since there were no MassDOT historical traffic data provided in the Town of Norfolk, it is recommended that coordination efforts be held with the Norfolk Planner and Metropolitan Area Planning Council (MAPC) staff to confirm an appropriate growth rate for this area.

Response: It was not clearly stated in the original traffic report that in developing the future No-Build conditions, the planning board was contacted to identify any relevant projects that were in the process of local review and approvals. At the time, only Boyde's Crossing was approved and near the 25 Rockwood Road project. In addition, background growth rate of one percent was determined from review of MassDOT count data as well as being consistent with what was used in the Boyde's Crossing study on the previous year.

Supplemental
Comment: The applicant's traffic engineering consultant has not stated whether this growth rate has been confirmed with the Norfolk Town Planner. The reason to validate this growth rate is that the MassDOT data reviewed by the consultant were from communities other than Norfolk. As discussed with Green International Affiliates, Inc. on May 22, 2017, the consultant will coordinate with the Norfolk Town Planner to determine if the 1% annual growth rate is appropriate for this area. We have no further comment if the Town Planner accepts this growth rate.

Original T7
Comment: It is recommended that the Applicant coordinate with the Norfolk Planner and MAPC staff to determine whether additional developments should be considered within the future traffic-volume projections.

Response: Again, the town's planning board was contacted during the initial study research to identify other potential developments to include in the future conditions.

Supplemental
Comment: No further comment required.

Original T8
Comment: While we do not disagree with the methodology in determining the different trip-generating characteristics of a residential development in close proximity to public transportation, the referenced census data were not provided within the Traffic Impact and Access Study for review. Based on our research of the 2011 to 2015 American Community Survey (ACS) data

for the Town of Norfolk, only 1% of Norfolk residents were noted to utilize public transportation (excluding taxi cabs) to commute to work. Therefore, it is recommended that the Applicant justify the use of a 7.9% reduction in the trip-generation estimates for the proposed development.

Response: As discussed below, our research of census work trip data indicates that 7.9% of Norfolk residents use transit and in this case would be the train for commuting. Several more percent may walk or bike to work. Given the location of the proposed project, the 7.9% adjustment to vehicle trip generation based on suburban models where there is virtually no transit use is more than reasonable.

The 7.9% public transportation rate is from the 2000 US Census data. The data were inadvertently left out of the TIAS appendix, but are attached to this letter for reference. In light of this comment, we have reviewed the 2011-2015 American Community Survey (ACS) data for the Town of Norfolk. These newer data indicate that the percentage of residents using public transportation (excluding taxicabs) was 12.7% [h]igher than the 7.9% used in the TIAS. We also note that both the 2000 US Census data and the 2011-2015 ACS data are based on data for all residents of Norfolk. Given the proposed project's proximity to the MBTA Commuter Rail station, it can be expected that the proportion of commuters from the project site will be higher than the Town of Norfolk as a whole. The 2011-2015 ACS data are also attached to this letter for ease of reference.

A 1% [use] of transit by the Norfolk commuting population does not appear to make common sense given the amount of train riders and the demands in the MBTA and town parking lots for commuters. Finally, the percent reduction noted above was used in the Boyde's Crossing analysis and the peer review consultant for that project found it to be more than reasonable.

Supplemental Comment: Although there is a difference with the percent of Norfolk residents who utilize public transportation from various sources, we stated at the April 19, 2017 public meeting that a 1 to 8% trip credit associated with public transportation would not have a significant impact on the adjacent roadway system. Due to the location of the nearby MBTA Commuter Rail Station to the subject site, the applicant's traffic engineering consultant reasons that an even higher percentage of site trips could utilize public transportation. As a result, the consultant is indicating the importance of providing pedestrian connectivity between the site and the MBTA Commuter Rail Station. No further comment required.

Original T9 Comment: In the vicinity of the site, there is a sidewalk along the east side of Rockwood Road without pedestrian amenities provided along the west side of the roadway where the project site is located. As identified in the Traffic Impact and Access Study, there will be pedestrian interaction between the proposed residential development and the MBTA Commuter Rail Station and there may be safety concerns with pedestrian crossing the Rockwood Road corridor. Therefore, the Traffic Impact and Access Study recommends that pedestrian connectivity be provided if public right-of-way is available by constructing a sidewalk along

the west side of Rockwood Road southerly from the site driveway to the existing sidewalk at Ware Drive.

We concur that the Applicant should pursue this non-motorized transportation improvement by conducting survey along the Rockwood Road corridor between the site driveway and Ware Drive to demonstrate that a sidewalk can be constructed in this area. It is recommended that the Applicant coordinate these efforts and the construction of the sidewalk with the Norfolk Planner and Director of Public Works.

Response: As requested, the DPW was contacted and indicated that there is likely room within the road layout to construct a sidewalk, however, there may not be room sufficient to provide a 3 foot grass strip and berm with the sidewalk. As a result, the sidewalk may need to be located adjacent to the street and vertical granite curb used instead. A final determination will be made at the time of final design and the preparation of construction drawings.

Supplemental Comment: The applicant's traffic engineering consultant has detailed within the traffic study and associated response to comments letter the importance of providing pedestrian connectivity between the site and the MBTA Commuter Rail Station. As discussed with Green International Affiliates, Inc. on May 22, 2017, the applicant should commit to constructing a sidewalk along the west side of Rockwood Road between the proposed site driveway and Ware Drive.

Original T10 Comment: Based on a field visit, the sight lines to and from the north of the driveway appear to be limited by existing vegetation, the topography of the property, and the horizontal curvature of Rockwood Road. It is recommended that a Sight Distance and Sight Line Profile Plan be prepared to demonstrate that sight lines would be available to meet minimum AASHTO requirements to provide safety for the future residents of the townhouse development as well as for the traveling public along this section of Rockwood Road. The areas of vegetation and property regrading should also be identified on the plan.

Response: Based on our initial analysis, we determined that the safe sight distance criteria can be satisfied with respect to the site drive with certain actions including clearing some of the vegetation, appropriate grading of the site drive, and ensuring that any new signage, landscaping and walls do not affect motorist visibility. As requested, additional survey was obtained and a plan profile prepared that confirmed that adequate visibility will exist. The plans indicate the areas where vegetation clearing and regrading will be necessary.

Supplemental Comment: In accordance with standard traffic engineering practice, the Stopping Sight Distance (SSD) is measured from a vehicle on the major roadway (at an eye height of 3.5 feet) to an object height at the approximate location of the driveway (2 feet above street level). The SSD is the minimum distance required for a vehicle traveling at a certain speed to safely stop before reaching a stationary object in its path. The Intersection Sight Distance (ISD) is measured from a vehicle at the approximate location of the driveway (at an eye height of

3.5 feet) to an approaching vehicle along the major roadway (at an eye height of 3.5 feet). The ISD is provided on the minor street approach to allow the driver of a stopped vehicle the sufficient view of the major roadway to decide when to enter.

Based on a review of the Sight Distance Plan provided by Outback Engineering, Incorporated (Sheet OE-3012), it appears that the sight distances have been measured and depicted incorrectly. The plan confuses the requirements of the SSD and the ISD, as the ISD measurement should be provided from the driveway (at an eye height of 3.5 feet) to an approaching vehicle (at an eye height of 3.5 feet) and not to an object height of 2 feet. In addition, it appears that the sight lines cross into a neighboring property to the north and through a retaining wall. Further, sight distances have not been provided to/from the south along Rockwood Road.

As discussed with Green International Affiliates, Inc. on May 22, 2017, the applicant's traffic engineering consultant will work with the applicant's site engineer to modify the Sight Distance Plan to accurately portray the SSD and ISD measurements in conformance with industry standards. In addition, the areas of vegetation and property regrading will be identified on the plan. Once completed, the updated Sight Distance Plan should be reviewed for accuracy, safety, and impacts to abutting properties.

Original T11

Comment: To ensure the safe and efficient flow of traffic to and from the site, it is recommended that proposed plantings, vegetation, landscaping, and signing along the site frontage be kept low to the ground (no more than 3.0 feet above street level) or set back sufficiently from the edge of the site driveway and along the western side of Rockwood Road so as not to inhibit available sight lines.

Response: We concur with this recommendation that is also consistent with our original recommendation to the applicant. This line of sight area can be added to the final set of site plans.

Supplemental

Comment: No further comment required.

Original T12

Comment: The Boardman Street eastbound approach to the Rockwood Road intersection currently experiences long delays (LOS F) during the Weekday AM and Weekday PM peak hours. With the addition of future traffic-volume growth without the residential development (2023 No-Build), this delay is anticipated to be exacerbated to a point of reaching capacity ($v/c = 1.00$) during the Weekday AM peak hour. Under 2023 Build traffic-volume conditions during the Weekday AM peak hour, the Boardman Street eastbound approach operates over capacity ($v/c > 1.00$). Therefore, it is recommended that the Applicant coordinate with the Norfolk Planner and Director of Public Works to develop and implement mitigation measures to improve operations and offset the project's impacts at this intersection.

Response: While we concur that the peak hour analysis indicates that long delays are experienced on the Boardman Street approaches to Rockwood Road, our experience at this intersection is that actual delays are not nearly as long as the standard LOS analysis calculations would indicate. Also, our experience and general familiarity of the intersection indicates that the long delays occur for a relatively short duration during the peak morning and afternoon periods and that during off-peak times, the intersection operates fairly well with moderate or short delays. In addition, the proposed development project is adding a small amount of traffic through this intersection.

However, as suggested by the review, we have initiated further discussions with the town staff. It is our understanding that in the past, police officer control was used at the intersection for portions of the morning and afternoon peak periods. There may have also been suggestions in the past of possible signalization, however, it is not clear if signal warrant criteria are satisfied or if that is the type of solution that should be considered for this location. We will continue to discuss this location with the DPW and police department to determine if any reasonable short term actions are feasible and can be supported in relation to the proposed development project.

Supplemental

Comment: Although the applicant's traffic engineering consultant has suggested that the computer analysis results produce longer delays than as observed in the field at the Rockwood Road and Boardman Street intersection, no data have been provided to support this claim (e.g., delay study, queue observations, gap study).

As discussed with Green International Affiliates, Inc. on May 22, 2017, the consultant will conduct a traffic signal warrant analysis for this intersection in accordance with Manual on Uniform Traffic Control Devices (MUTCD) guidelines using the available traffic-count information previously collected for the proposed development. This information then can be used by the Town of Norfolk in developing potential improvements in the future. Once submitted, the traffic signal warrant analysis will be reviewed.

Original T13

Comment: Since the traffic counts collected in April 2014 for the Rockwood Road, Union Street, and Main Street roundabout were not provided with the Traffic Impact and Access Study, the input values (e.g., traffic volumes, peak hour factors, percent of heavy vehicles) used for intersection analysis purposes could not be reviewed for accuracy. If the Town of Norfolk determines that the Applicant needs to provide updated traffic counts at the roundabout (see Comment T1), it is recommended that the Applicant provide updated intersection analyses for this location.

Response: see previous response. The April 2014 traffic count data for the existing roundabout were provided in the TIAS, as the first two pages in Appendix A. These traffic counts were conducted by Green International Affiliates staff engineers.

Supplemental



Comment: Based on the copy of the traffic study provided to us for review, the first page in Appendix A is a roadway map that identifies the traffic-count locations prepared by Precision Data Industries, LLC. The next 10 pages of Appendix A consist of the Automatic Traffic Recorder (ATR) count sheets produced by Precision Data Industries, LLC. Therefore, our copy of the traffic study does not include the roundabout count sheets.

As discussed with Green International Affiliates, Inc. on May 22, 2017, the consultant will provide the roundabout count sheets. These counts were provided on May 22nd and will be reviewed.

Original T14

Comment: As recommended in the Traffic Impact and Access Study, a Reduced Speed Limit Ahead (W3-5) sign would be posted facing Rockwood Road southbound vehicles approximately 100 feet in advance of the posted speed limit reduction from 35 mph to 25 mph. An Intersection Warning (W2-1) sign would be posted on the Rockwood Road northbound and southbound approaches to the Boardman Street intersection. Pedestrian Crossing (W11-2 and W16-7P) signs would be posted at the striped crosswalks on Rockwood Road at Boardman Street, 700 feet south of Boardman Street, and at Ware Drive.

In addition, the Applicant should develop and propose measures to reduce vehicle speeds along the Rockwood Road corridor (see Comment T4); alleviate safety issues at the Rockwood Road, Union Street, and Main Street roundabout (see Comment T5); provide pedestrian facilities along the west side of Rockwood Road (see Comment T9); ensure available sight lines at the site driveway in accordance with AASHTO requirements (see Comments T10 and T11); and improve vehicular operations at the Rockwood Road and Boardman Street intersection (see Comment T12).

Response: n/a

Comment: We note that the applicant's traffic consultant has initiated discussions with the Town concerning offsite traffic issues (see comment (T12)). We recommend this coordination continue as the project design advances to ensure that recommendations for improvements can be coordinated with the development.

Additional

Response: While not included in the traffic peer review comment letter, the ability of large vehicle movement throughout and entering the project site was discussed at the public hearing. Subsequently, we completed an evaluation of these movements and confirmed that the current design of the internal roadway and its intersection with Rockwood Road will adequately accommodate large vehicle movement including the fire apparatus (ladder truck). Diagrams illustrating this evaluation are attached [to the response to comments letter].

Comment: Based on a review of these Ladder Truck Turning Movements plans prepared by Green International Affiliates, Inc., an emergency vehicle (or a large vehicle) will be required to

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cross the double yellow centerline into oncoming traffic along Rockwood Road. This safety concern is shown on the plan for a truck turning right from the proposed site driveway onto Rockwood Road southbound and on the plan for a truck turning right from Rockwood Road southbound onto the proposed site driveway.

As discussed with Green International Affiliates, Inc. on May 22, 2017, ideally truck turns should be contained within the appropriate travel lane. Although in certain circumstances encroachment into the opposing travel lane is acceptable. The applicant's traffic engineering consultant has agreed to work with the applicant's site engineer to identify opportunities to modify the site driveway layout to improve truck turning maneuvers. The turning movement plans will be updated accordingly. Once received, the updated plans will be reviewed.

If we can be of any further assistance regarding this matter, please contact me.

Very truly yours,
BETA Group, Inc.


Jason R. Plourde, P.E., PTP
Project Manager

cc: Ray Goff – Norfolk Town Planner
Amy Brady – Norfolk Zoning Clerk

Job No: 4980

