

Ref: 8975

June 11, 2024

Lisa Schwarz, Assistant Director
Town of Andover
36 Bartlett Street
Andover, MA 01810

Re: VAI Response to Traffic Engineering Peer Review #3
Town Yard Redevelopment
Andover, Massachusetts

Dear Lisa:

Vanasse & Associates, Inc. (VAI) has provided responses to comments that were raised in the June 3, 2024 *Traffic Engineering Peer Review #3* letter prepared by The Engineering Corp (TEC) concerning their review of the May 24, 2024 *VAI Response to Traffic Engineering Peer Review #2* letter that was been prepared by VAI in support the proposed Town Yard redevelopment to be located in Andover, Massachusetts (hereafter referred to as the “Project”). Listed below are the comments that were identified by TEC in the subject letter that pertain to the April 18, 2024 Letter and March 18, 2024 report and require a response, followed by our response on behalf of the Project proponent.

The TEC comments included a section on the Transportation Impact Assessment (TIA) and a section on Initial Site Plan Comments. Responses to the TIA comments were prepared by VAI and responses to the site plan comments were prepared by the Morin-Cameron Group, the Project site engineer. Only comments that remain open or that were discussed by TEC have been included in this letter.

Traffic Impact Assessment Comments

Comment 8: *MassDOT crash records were evaluated for the years 2016-2020, the latest available 5-year period of complete data and have been described in the TIA. Of the eight (8) study area intersections studied, three (3) were shown to have crash rates above 0.57 crashes per million entering vehicles (MEV) for unsignalized intersections (MassDOT District 4 rate). These intersections include Pearson Street / Lewis Street [Site Driveway] / Depot Pizza Parking Driveway (0.86 crashes per MEV), Essex Street / School Street (0.64 crashes per MEV), and Essex Street / Brook Street / Ridge Street (1.25 crashes per MEV). The TIA does not describe direct off-site mitigation by the Applicant to reduce these crash rates or directly address safety at these locations. Although off-site mitigation is further described in subsequent comments, the Applicant should work with the Town to evaluate and implement, at a minimum, short-term / low-cost safety improvement countermeasures at these key locations.*

VAI Response: The intersections noted to have crash rates above the MassDOT average crash rates are projected to be improved by the MassWorks grant project.

TEC Response: *It is possible the Town Yard redevelopment could occur with or without the Mass Works project. TEC understands that the Mass Works project is funded and still in the design stage; however, until design is complete, and the construction is commenced, there is no guarantee that the project will be completed. With the understanding that any commitments to mitigation may be moot upon this, the Applicant should work with the Town to evaluate and implement, at a minimum, short-term / low-cost safety improvement countermeasures at these key locations.*

VAI Response: Due to the Project's minor effects, the Project should not be required to implement improvements at these intersections. At the Essex Street/School Street intersection and the Essex Street/Ridge Street/Brook Street intersection, the Project adds 2 to 3 trips without the closure of Pearson Street and this shows negligible impacts from the Project. In the event of the closure of Pearson Street, the Project sends 18 to 23 trips through these intersections; however, the closure of Pearson Street would likely coincide with the implementation of the MassWorks improvements at these locations. No improvements are necessary at the intersection of Pearson Street / Lewis Street [Site Driveway] / Depot Pizza Parking Driveway, as 2 crashes in 5 years is not significant, regardless of the crash rate.

TEC Response: *TEC understands that the Mass Works Infrastructure Project is funded and still in the design stage; however, until the design is completed, and the construction is commenced there is no guarantee that the project will be completed. TEC recommends that the Town consider a condition of approval that if, and only if, funding to the Mass Works grant is retracted by the Commonwealth of Massachusetts, the Applicant should provide for the completion of design plans and specifications, and/or the equivalent funding for, matching the existing scope of improvements identified in the Mass Works Infrastructure Project as currently funded and conceptualized. This recommendation does NOT include funding related to construction of improvements related to the Mass Works Infrastructure Project. Further, the Town should consider a condition of approval that if, and only if, funding to the Mass Works grant is retracted by the Commonwealth of Massachusetts, the Applicant should provide funding for the closure of Pearson Street at Lewis Street consistent with the Mass Works Infrastructure Project which is a direct need in relation to the subject development.*

VAI Response: VAI disagrees with TEC. The MassWorks grant application states that the MassWorks funding is required to pay for enhanced municipal infrastructure to support the redevelopment of the Town Yard Project, and provides an opinion that without the grant, the Town Yard development is not feasible. The application also notes that 25 percent design has been completed, and if the grant is received, 75 percent and 100 percent design will occur. This includes design and construction costs and includes the closure of Pearson Street through one of three potential design options. This indicates the design efforts noted in the comment are either in the process of being incurred or have already been incurred and paid out of the MassWorks grant funds. There are no additional fees that MINCO will pay related to any component of the MassWorks project.

Comment 13: *The Applicant has provided stopping sight distance (SSD) and intersection sight distance (ISD) measurements for the Site Driveway along Pearson Street. The results are shown in Table 8 of the TIA and have been compared to recommended values obtained from A Policy on Geometric Design of Highways and Streets, 7th Edition, American Association of State Highway and Transportation Officials (AASHTO),*



2018. The measured distances have been shown in the TIA to exceed these values, except for the ISD for vehicles looking west while exiting the site (111 feet). However, Table 8 contains notes stating that three of the four measured distances have been determined if parked cars to the east were removed and if a hedge to the west were cut. The fourth measured distance of 241 feet (SSD approaching from the west) is questionable since Pearson Street is roughly 100 feet from its intersection with Essex Street to the site driveway. A distance of 241 feet could only be attained by measuring further west along Essex Street, which places the limit about 150 feet from the railroad tracks. At this point, the sight distance is further affected by a concrete retaining wall in the parking area of Ann's Cleaners at #2 Railroad Street, as well as a railroad signal gate and utility poles on Pearson Street near the proposed site driveway. The Applicant should provide a graphical depiction, preferably in the form of a sight triangle sheet in the site plans, of the sight lines for this driveway. Sight lines to the east along Pearson Street should not cross over the head-in parking stalls proposed along the northerly side of the roadway.

VAI Response: The sight distance graphic for this intersection (SD-1) is included in the Appendix to this letter and in the updated TIA.

TEC Response: TEC acknowledges the sight line graphic SD-1 provided; however, the Applicant has not addressed sight line related items towards the west or the tracks in the above comment. TEC acknowledges that these sight lines may be moot based on the Mass Works project; however, there is no guarantee that the project will be completed even if funded.

VAI Response: See updated Figures SD-1A and SD-1B in the Appendix to this letter depicting sight distances east and west of the driveway assuming Pearson Street remains continuous to Essex Street.

TEC Response: TEC acknowledges the revised sight line graphic depicting the 165-foot sight line looking west and has no further comment whereas the minimum sight distance in this direction in on the order of 155-feet by AASHTO standards that will be further assisted by the uphill nature of movements for this direction and the slower turning speeds to this section of Pearson Street. To the east, the sightline shows 150 feet on the downhill section of Pearson Street which is less than AASHTO minimum recommendations for safe operations. TEC notes that the sight line in this direction will be limited by the angled parking proposed as part of the development and the relocated utility pole along the exact sightline. Further, the 14.5-foot back from the edge of travel way shown on the graphic should be transposed closer to the new curb line in the absence of a marked shoulder; however, this is only slightly impactful to the overall position of the sightline.

TEC would recommend the following modification(s) that could be considered:

- a) Assuming this is the relocated position of the utility pole defined in the site plans (relocated needed as existing pole is behind the proposed angled parking spaces), change the relocated position of the utility pole out of the sight triangle. Typically, a single utility pole is not an 'obstruction' for sightline; however, the pole is directly on the sightline itself located back on a presumed back corner of a parked vehicle.
- b) Consider signing the first parking space adjacent to the driveway as a compact space typically resulting in a shorter vehicle length allowing the



sightline to push more towards the site and extend past 155-feet.

- c) *Consider the removal of the first parking space adjacent to the driveway, under the agreement of the Board, length allowing the sightline to push more towards the site and extend past 155-feet.*

TEC assumes the numerical notation of the measurements are accurate; however, the call-out is pointing to the sightline itself as opposed to the vehicle path distance along Pearson Street. There is no need to revise the graphics as part of the TIA; however, this should be corrected if sight triangles are provided or further requested in the site plan set. Other than the recommendations above, no further response required.

VAI Response: As a condition of approval the Applicant will revise the first parking spaces as a compact parking space as noted above.

Comment 16: *Narratives on the traffic operational analysis results for all study locations have been provided in the TIA as well as summary tables for 2023 Existing, 2030 No-Build, and 2030 Build conditions. Overall, the signalized results show levels of service (LOS) C or better for the subject signalized intersections; however, there are individual movements (Railroad Street eastbound) at the intersection of North Main Street / Railroad Street / Private Driveway / Retail Plaza that are shown to operate at LOS E for 2030 No-Build and Build conditions. The Applicant should coordinate with the Town on opportunities at 75% occupancy to reevaluate the operations at this location in the field to adjust traffic signal timings as necessary.*

VAI Response: The locations noted are expected to be improved through the MassWorks project which is expected to begin construction in fall 2024 or spring 2025 and should be complete prior to 2030; therefore, there is no need for additional evaluation.

TEC Response: *Note that the location in question is the intersection of North Main Street / Railroad Street / Private Driveway / Retail Plaza which is not part of the Mass Works project. Comment not addressed.*

VAI Response: As noted in the initial comment, the Project does not change the LOS of this individual movement since the Project is not expected to add traffic to this movement. Accordingly, there is no need for additional evaluation.

TEC Response: *TEC recommends that the Town consider a condition of approval that requires the Applicant to reevaluate the operations at this location in the field to optimize traffic signal timings as necessary in consultation with the Town.*

VAI Response: VAI disagrees with TEC. The greatest impact of the Project results in a 0.1 second increase to both the Route 28 approaches during the weekday evening peak hour and no increases to the Railroad Street eastbound approach during this or the weekday morning peak hour. No additional evaluation is required as a result of the Project.

Comment 17: *Most of the individual movements at unsignalized intersections are at LOS D or better; however, some of the approaches at the Essex Street / Pearson Street / Railroad Street / Dundee Park Drive intersection are shown to operate at LOS D, E, or F, depending on the condition analyzed. A LOS of "D" or better is generally defined as "acceptable" operating conditions. Additional off-site mitigation should be explored and considered to improve the LOS E and F conditions noted. At a minimum, the*



Applicant should evaluate opportunities to modify the traffic control at this location. These enhancements may be an expansion of Mass Works improvements proposed at the location.

A Traffic Signal Warrant Analysis (TSWA) was conducted for the Essex Street / Pearson Street / Railroad Street / Dundee Park Drive intersection. A design speed of 25 MPH was used, and traffic volumes were adjusted downward to average month conditions for 2023 Existing and 2030 Build. The TIA indicates that a traffic signal is not warranted under 2023 Existing or 2030 Build conditions. TEC generally concurs with the analysis parameters and results. The Applicant should provide supporting documentation showing the traffic volume adjustments in the Appendix.

VAI Response: As noted above, the Essex Street/Railroad Street/Dundee Park Drive intersection is expected to be improved through the MassWorks project which includes cutting off Pearson Street prior to this intersection. The traffic signal warrant analysis of the reconfigured intersection that was provided in the TIA indicated a signal was not warranted. Therefore, options to improve operations at this location are limited to changes in unsignalized control. Currently the intersection operates with Essex Street under free flow conditions. Implementing all-way stop control will deteriorate operations on Essex Street and may not improve operations for Railroad Street or Pearson Street. Due to the location of this intersection a roundabout is not feasible. Supporting documentation for the traffic volume adjustments is in the Appendix to the updated TIA.

TEC Response: *TEC understands that the Mass Works project is funded and still in the design stage; however, until design is complete, and the construction is commenced, there is no guarantee that the project will be completed. With the understanding that any commitments to mitigation may be moot upon this, the Applicant should work with the Town to evaluate opportunities to modify the traffic control at this location. These enhancements may be an expansion of Mass Works improvements proposed at the location.*

VAI Response: See response to Comment 8. The Project should not be required to provide mitigation where impacts are negligible.

TEC Response: *See TEC's response to Comment #8 and Comment #16.*

VAI Response: See responses to Comment 8 and Comment 16 above. There is no further discussion needed on the MassWorks project mitigation.

Comment 21: *TEC suggests the following additional off-site mitigation that the Applicant should evaluate in conjunction with the Town of Andover:*

- *Several unsignalized intersections have crash rates higher than the MassDOT District 4 average (0.57 per MEV). The Applicant has not offered any mitigation to address short-term / low-cost safety issues at these locations. The Applicant should work with the Town to evaluate and implement, at a minimum, short-term / low-cost safety improvement countermeasures at these key locations.*
- *The Applicant should coordinate with the Town on opportunities at 75% occupancy to reevaluate the operations at this location in the field to adjust*



traffic signal timings as necessary.

- *Additional off-site mitigation should be explored and considered to improve the LOS E and F conditions noted at the several intersection locations within the study area. At a minimum, the Applicant should evaluate opportunities to modify the traffic control at this location. These enhancements may be an expansion of Mass Works improvements proposed at the location.*
- *The Applicant should explore opportunities to extend sight lines as necessary from each key driveway location, including the intersection of Lewis Street / Buxton Court, based on the resulting sight triangle described in Comments #13 and #14.*
- *The analysis indicates that the Project will result in minimal impacts to traffic at the study intersection. Is the Applicant referring only to the site driveway or to all the intersections in the TIA? As noted in Comment #17 above, there are individual movements that will experience LOS "E" and "F". The Applicant has not offered any mitigation to address these issues.*

VAI Response: Many of the comments made here have been responded to previously. The MassWorks project is expected to address operations and safety at the intersections noted. Based on discussions with Town Staff, the town and their MassWorks consultant are working on the design and construction was indicated by Town Staff to start as early as fall 2024 or spring 2025. It should be noted that the Project was instrumental to the Town receiving the MassWorks grant that provided funds for the proposed improvements in the area.

TEC Response: *Comment not addressed. TEC understands that the Mass Works project is funded and still in the design stage; however, until design is complete, and the construction is commenced, there is no guarantee that the project will be completed. With the understanding that any commitments to mitigation may be moot upon this, the Applicant should work with the Town to evaluate opportunities for off-site mitigation as noted above.*

VAI Response: See responses to Comment 8 and Comment 16.

TEC Response: *See TEC's response to Comment #8 and Comment #16.*

VAI Response: See responses to Comment 8 and Comment 16 above.

Comment 23: *Note that the Mass Works Infrastructure Project is in a conceptual stage and has been programmed in direct support of the subject redevelopment project. Whereas the funding and construction of the project is not guaranteed at this time, The Applicant should discuss with the Town and commit to other off-site mitigation within the limits of the Mass Works project should the infrastructure not be completed.*

VAI Response: Based on comments from Town Staff, the town has received the MassWorks grant and their consultant has begun working on the preferred design with the start of construction identified as fall 2024 or spring 2025. The MassWorks project includes improvements to many of the intersections in the study area including the closure of Pearson Street.

TEC Response: *Comment not addressed. TEC understands that the Mass Works project is funded and still in the design stage; however, until design is complete, and the construction is*



commenced, there is no guarantee that the project will be completed. With the understanding that any commitments to mitigation may be moot upon this, the Applicant should work with the Town to evaluate opportunities for off-site mitigation as noted above.

VAI Response: See responses to Comment 8 and Comment 16.

TEC Response: See *TEC's response to Comment #8 and Comment #16.*

VAI Response: See responses to Comment 8 and Comment 16 above. There is no further discussion needed on the MassWorks project mitigation.

Initial Site Plan Comments

Comment 27: *The garage parking layout sheet of the plans should be enhanced with the location of columns and other internal obstructions which may impact parking space locations and the ability for vehicles to access/egress individual parking spaces.*

VAI Response: The structural drawing showing the location of the columns and other internal obstruction will be provided once completed.

TEC Response: *The Town should consider as a condition of approval that review of the garage parking plan be completed to access the location of columns and other internal obstructions which may impact parking space locations and the ability for vehicles to access/egress individual parking spaces.*

VAI Response: A building permit application including plans prepared by a Registered Architect will be submitted to the building inspector for review.

TEC Response: *Applicant's response appears to be in support of this condition of approval whereas the Building Inspector will review necessary plans prepared by a Registered Architect. TEC has not further response other than the notation for a condition of approval as originally noted.*

VAI Response: The Applicant is stating a step in the town review process for the design plans. No additional review beyond that of the building inspector is required.

Comment 43: *There are discrepancies between the TIA and Plan Sheet C4.2 for the sight distance measurements shown at the Pearson Street access driveway.*

VAI Response: The TIA reflected existing conditions sight distances while Sheet C4.2 reflected proposed conditions. However, due to changes noted previously, Plan Sheet C4.2 was updated.

TEC Response: *Note that the same discrepancy exists where the TIA responses to comment Figure SD-1 denotes 150-feet and the plan sheet C4.2 denotes 140-feet.*

VAI Response: The Site Plan has been updated to depict the 150 feet sight distance.

TEC Response: *See response to Comment #13.*

VAI Response: See response to Comment 13 above. There is no further discussion needed on this issue.



Comment 47: *Although snow storage areas are shown on the plan, the Applicant should provide a snow removal and parking management plan for Town staff review.*

VAI Response: We suggest that as a condition of approval to be attained prior to the issuance of a Building Occupancy Permit.

TEC Response: *TEC agrees that a snow removal and parking management plan should be, at a minimum, provided as a condition of approval to be attained prior to the issuance of a Building Occupancy Permit.*

VAI Response: No further response required.

TEC Response: *Acknowledge. See condition of approval request noted in comment.*

VAI Response: No further response required.

NEW Comments

Comment 48: *As the Applicant is relying heavily on the various trip credits for mode split, public transportation use, and internal capture, the Applicant should commit to a traffic monitoring program to ensure that the Project impacts are consistent with those predicted in the Project's permitting process, evaluate the effectiveness of the TDM measures in meeting the mode share targets, and assess the need for additional off-site improvements or TDM measures. As part of the monitoring program, the Applicant will complete the following tasks following 70% occupancy of the residential building and following full occupancy of the proposed mixed-use tenants:*

- *Collect manual Turning Movement Counts (TMCs) during the weekday morning (7:00 AM to 9:00 AM) and weekday evening (4:00 to 6:00 PM) at the following intersections:*
 - *Route 28 / Lewis Street*
 - *Route 28 / Person Street*
 - *Route 28 / Elm Street [Elm Square]*
 - *Railroad Street / Essex Street / Dundee Park*
- *Collect ATR data for a continuous 7-day week-long period along each Buxton Court and Pearson Street positioned at locations to capture site related trips only.*
- *Collect parking demand counts during the peak parking demand periods for the specific land use areas, including:*
 - *Residential - 5:00 AM to 9:00 AM;*
 - *Other Site Uses - 10:00 AM to 1:00 PM; and*
- *Collect motor vehicle crash reports from the Town of Andover Police Department for the most recent one-year period to ascertain changes in crash frequency, crash trends, and severity at the monitored locations.*



Compare the TMCs collected above with those projected within the TIA for the Project to determine whether the total vehicles entering each intersection exceeds the volumes projected.

- *Perform a capacity and queuing analysis using Synchro analysis software to evaluate the traffic operations at each of the intersections listed above and compare to the operations projected in the TIA prepared for the Project.*
- *Assess whether additional mitigation is necessary at any of the study intersections and identify measures to improve operations and/or reduce vehicular traffic volumes. The need or evaluation for further mitigation will be conditioned upon:*
 - *The measured site generated traffic volumes for the Project exceed the projected site generated traffic volumes established in this TIA, or subsequent revisions as presented to the Town of Andover, by more than 10 percent (i.e., 110 percent of the projected site generated traffic volumes).*
 - *One or more of the movements at the monitored intersections is identified to be operating at or over capacity (defined as a V/C ratio equal to or exceeds 1.00).*
 - *There is a pronounced increase in the frequency of occurrence of motor vehicle crashes at a monitored location and the calculated motor vehicle crash rate exceeds the MassDOT average crash rate for similar locations.*

Corrective actions to reduce the unmitigated impact of the Project should be proposed and implemented based on the thresholds listed above. The corrective actions should be documented in the TMP, approved and coordinated with the Town if desired; and be undertaken by the Applicant subject to receipt of all necessary rights, permits, and approvals.

- *Assess whether the constructed parking supply is adequate for the parking demand as observed; and*
- *Prepare a memorandum summarizing the results of the TMCs, ATRs, parking demand counts, traffic impact analysis for submission to the Town of Andover.*

VAI Response: As shown in the alternative analysis summarized in this letter, the Project does not require the application of the various trip-generation adjustments to result in minimal impact to the intersections closest to the Project. This conservative analysis was conducted to demonstrate that the Project impact at these locations can be accommodated with minimal increases in delays. This does not change the expectation that the traffic impact of the Project is expected to be even smaller given the proximity to the commuter rail, as discussed in previous submittals.

Accordingly, the Applicant has considered the above request for traffic monitoring of the Project but is concerned that there is a potential for additional background development and/or roadway modifications to affect operations at the study area intersections, unrelated to the Project. The only real measure of the Project-related



impact on the area would be how the actual vehicle trip generation compares with the estimated values. The Applicant will therefore conduct ATR counts of Buxton Court and the site driveway to Pearson Street to capture Project-related traffic volumes for a seven-day period as well as parking utilization counts of the garage, surface parking, and community building parking on Pearson Street for one weekday and one weekend day during typical overnight (10:00 PM and 4:00 AM) for residential demands and weekday evening (4:00 and 7:00 PM) and Saturday midday (11:00 AM and 3:00 PM). While there will still be non-Project related traffic in this count program, the majority of trips should be related to the Project. This information will be summarized in a memo to the Town planning and engineering staff. As noted previously, since the Project is not relying on trip adjustments and reduction in trip generation to demonstrate a low overall traffic impact, the trip generation and parking information will be provided for informational purposes only.

TEC Response: *TEC is amendable to the reduced scope of traffic monitoring as laid out in the Applicant's response; however, in addition to the tasks as outlined in the response, TEC would recommend as condition of approval that the other noted Traffic Monitoring Program tasks outlined in the original TEC comment be completed if the measured site generated traffic volumes for the Project exceed the projected site generated traffic volumes established in this TIA, or subsequent revisions as presented to the Town of Andover, by more than 10 percent (i.e., 110 percent of the projected site generated traffic volumes. Note that trip generation from the angled parking spaces will need to be collect from the parking related counts as these trips will not access/egress the driveway locations.*

VAI Response: As stated previously, the monitoring effort will be provided for information purposes only. Since the analysis provided with the previous peer review response of May 24, 2024 indicated no trip adjustments are necessary to show negligible impacts, there is no need to continue the review of trip generation of this project. It is noted that the angled parking spaces on Pearson Street will be a separate category of trip generation since these spaces will be available for various purposes and not just for the community building.

We trust that this information is responsive to the comments that were identified in the June 3, 2024 document prepared by TEC concerning their review of the May 24, 2024 Letter. If you should have any questions or would like to discuss our responses in more detail, please feel free to contact me.

Sincerely,

VANASSE & ASSOCIATES, INC.

Scott W. Thornton

Scott W. Thornton, P.E.
Partner

Professional Engineer in CT, MA, and NH

Cc: File

