



October 4, 2018

Ref: 14363.00

Mr. Richard Seegal, Chair
Zoning Board of Appeals
Town of Wellesley
525 Washington Street
Wellesley, MA 02482

Re: Transportation Peer Review Commentary
Wellesley Park
148 Weston Road
Wellesley, Massachusetts

Dear Mr. Seegal and members of the Zoning Board of Appeals:

VHB/Vanasse Hangen Brustlin, Inc. (VHB) has performed a technical 'peer' review of the Traffic Impact and Access Study and associated site plans for the proposed residential development to be located at 148 Weston Road in Wellesley, Massachusetts. The project known as the "Wellesley Park" as proposed is a development of 55 apartment units being serviced by 67 parking spaces on a site located off of Weston Road (the "Project"). As part of this review effort, VHB reviewed the following documents:

Traffic Impact Assessment "Wellesley Park, 148 Weston Road, Delanson Circle, Wellesley Massachusetts; dated February 2018 and prepared by Vanasse & Associates, Inc.

"148 Weston Road, Wellesley, MA 02482 Planning Board Submission"; dated February 15, 2018 prepared by EMBARC Architects, Mckenzie Engineering Group, and Verant Landscape Architecture.

VHB also visited the project site on September 24, 2018 and to review and observe the traffic conditions in and around the project site and to verify and compare the results presented in the report with what was occurring in the field.

Preface

For the purposes of this review, it was assumed that the project meets the eligibility criteria for a comprehensive permit and VHB therefore does not provide commentary on this subject matter. VHB does not offer commentary on the actual site plan, other than how it relates to transportation-related issues. It is assumed that another firm and/or Town staff will focus on reviewing the application for typical site/civil engineering purposed (utilities, drainage and grading, environmental, etc.). The focus of this review is

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exclusively on the engineering and technical merits of the traffic study as well as the driveway and roadway plans submitted in support of the Comprehensive Permit application.

Review of the Transportation Information

In general, the traffic report and supporting plans have been prepared in a professional manner that is generally consistent with standard engineering practices. As part of this effort, VHB has conducted a detailed, point-by-point evaluation of the study and its supporting documentation. It is our professional opinion that the information contained in the report is both technically accurate and portrays the likely impacts of the project on the surrounding roadway system.

VHB has identified additional informational needs that focus on the existing conditions, the proposed parking for the Project, and its commitments. The expectation is that these requests will provide the opportunity to clarify inconsistencies, provide additional insight, and/or address technical issues raised during the course of this review. The applicant should be prepared to address, discuss, and/or respond to these topics as they all have to do with either public safety and/or site design considerations.

Detailed Discussion of Findings on the Traffic Study

The following comments are provided to the Board for their consideration as they relate to the Applicants Traffic Study. This evaluation follows the headings of each of the chapters in the Study for clarity.

VHB offers technical comments after each section and, if additional information is needed or requested, the comment may also include **bold text** stating why and what information would be helpful to the Board.

1.0 Introduction

As noted in the Traffic Study, the currently vacant site will be developed to include 55 residential apartment units and will provide 67 parking spaces, 60 of which will be located under the apartment building and six will be located in the open air on the access driveway. This results in a parking ratio of 1.22 spaces/unit. The Study notes that this ratio complies with Section XXI (Off-Street Parking) of the Town of Wellesley's Zoning By-Law. Access to the 60-underground parking space garage will be provided from the Site Driveway, off of Weston Road.

The Study identified some intersections that would likely be impacted by the project. VHB has reviewed these locations and the distribution of Project-related traffic on the roadway network. Given the projected volumes expected to be generated by the development and the likely distribution of traffic onto the surrounding roadways, it is VHB's opinion the study area selected appears to be reasonable and within industry standards. Note that any changes to site access may result in this assumption being revisited.

Lastly, the study methodology notes that the project's traffic study was performed in accordance with MassDOT standards, the Town of Wellesley's PSI standards, and within the standards of the normal Traffic



Engineering and Transportation Planning profession. VHB concurs that the study was done in a professional manner and is consistent with these guidelines.

Comment #1 (PARKING): *The site is located in the Single Residence 15 (SR15) zoning district.*

The Town's Zoning By-Law Section XXI (Off-Street Parking) does not specifically state parking ratios for Apartment uses in this district. In fact, Apartment uses are not allowed in these districts. Therefore, the Applicant's claim that the Project complies with the Town's zoning By-Laws is inaccurate.

For apartment uses, parking is defined in the following districts in the By Laws as follows:

- *Business A or Industrial A District: 1 space/unit for Apartment Houses.*
- *Limited Apartment District: 1.5 spaces/dwelling unit of two bedrooms or less and two parking spaces for each dwelling unit providing three bedrooms or more;*
- *Linden Street Corridor Overlay District: 2.5 spaces per one, two, or three-bedroom unit.*

While the 1.22 space/unit ratio meets the zoning in Business A and Industrial A, it does not meet the By-Law for the other apartment-based codes.

It has been VHBs experience that parking ratios of about 1.4-1.5 spaces per unit are the minimum for a suburban residential apartment complex such as this one. Parking on relatively isolated sites that don't have nearby off-street parking availability needs to account for residents, visitors, and deliveries. If it is the Applicants intent to use a rate as low as 1.22 spaces/unit, they should provide detailed information on their parking plan and provide justification on where such a low of a rate has been used in a suburban environment successfully. Failure to provide adequate parking on a site such as this one could have spill over impacts into the surrounding neighborhoods.

2.0 Existing Conditions

For the most part, the applicant describes the existing roadway and intersections accurately in it's narrative.

Comment #2 (EXISTING CONDITIONS): *Weston Road is describes as being under Town jurisdiction within the study area; however, there is a small section of the roadway, over the MBTA tracks that is under MassDOT jurisdiction.*

The peak hour and daily traffic volumes collected at the study area intersections appear to be done in an acceptable manner. The volume (both pedestrian and vehicular) and speed data provided in the study's appendix is consistent with the traffic networks provided in the report and those generally observed by VHB staff during their site visit.



Comment #3 (EXISTING CONDITIONS): Table 2 lists the peak hours as 8:00 – 9:00 AM and 4:15 – 5:15 PM, and indicates that the volumes came from Figure 3: 2018 Existing Peak Hour Traffic Volumes. However, the morning peak hour listed in Figure 3 is 7:15 – 8:15 AM. Please confirm which hour was used for the weekday morning peak hour volumes.

Comment #4 (TRAFFIC VOLUMES): Because the proposed residential development is likely to generate traffic during weekends at a similar rate as on weekdays; coupled with the fact that the area surrounding the development is heavily influenced by the retail developments along Linden Street, the applicant should provide some basic information demonstrating that the weekend conditions experience less traffic (or is comparable) to the weekday conditions.

The Pedestrian and Bicycle Facilities section details the results of the field inventory conducted and the pedestrian and bicycle volumes collected as part of the TMC. The description and supporting Figures are consistent with inventory conducted by VHB staff during their site visit.

The Public Transportation section discusses the various transit options near the project site. This includes routes for both the MBTA Commuter Rail via the Worcester/Framingham line as well as Route #8 of the MWRTA. The area appears to be well served by transit options (which is discussed later in the trip generation section). The applicant should note that the MWRTA bus line #8 no longer travels along Weston Street, serving only Route 16 on the other side of the train tracks with a planned stop at the intersection of Central Street and Cross Street.

The Motor Vehicle Crash Data section provides information on the crash history of the various area locations selected for study. Two study area intersections experience crash rates higher than the District 6 average (Weston Road at Linden Street and Weston Road at Central Street). Central street, to the east of Weston Road, is included as part of a high crash cluster for 2013-2015. There was a fatal collision at the intersection of Weston Road at Linden Street involving a truck that struck a bicyclist along Weston Road. The applicant makes a commitment to fund and facilitate Roadside Safety Audits at both of these locations.

3.0 Future Conditions

The Study uses a seven-year traffic projection horizon, which is typical for a development of this type and is consistent with MassDOT traffic impact assessment guidelines.

The 2025 No Build traffic conditions were developed by assigning the background traffic growth a 1% rate per year (essentially 7% over the course of the seven-year period) and considers the transportation impacts of two potential developments near the project:

- Sports Complex located at 900 Worcester Road in Wellesley (130,000 sf sports center with fields, ice rinks, and pool services along with a health club component)
- Wellesley Crossing, located at 8 Delanson Circle in Wellesley (90-unit residential development)



Based on feedback from the Town of Wellesley, there are no other projects in the vicinity of the Site that have open applications with the Town.

The study goes on to note that based on feedback from the Town of Wellesley and MassDOT, there are no specific roadway projects that will be taking place in the Study Area over the course of the next seven years which might impact roadway capacity/operations.

The traffic study determined project-related trips using procedures consistent with Institute of Transportation Engineers (ITE) guidelines. The study also considers the impact of the various transit services and a robust ped/bike environment in the immediate vicinity of the Project site. In summary, the project would be expected to generate approximately 300 daily, 20 morning peak hour, and 25 evening peak hour unadjusted vehicle trips using the ITE's Trip Generation¹.

When taking into account transit (10%), bike/ped (10%), and vehicle occupancy (1.13 passengers/automobile) adjustments, the site is expected to generate 240 automobile daily trips, 16 morning automobile trips, and 20 evening peak hour automobile trips. Table 5 of the Traffic Study highlights this information in tabular form.

Trip Distribution was developed using journey-to-work data and was refined based on observations of traffic during the commuter peak hours. Figure 7 of the Traffic Study reflects the results of this evaluation.

***Comment #5** VHB concurs with the manner in which all the above data is presented. The information is consistent with the recommended practices of the ITE and the resulting ped, bike, and automobile trips all appear to be accurately presented.*

4.0 Intersection Capacity Analysis

Utilizing the observed roadway geometry, the traffic volumes – both existing and projected – and the appropriate traffic control at each location; the Study analyzed the impacts of the Project at each of the study area intersections. The Study utilizes the most appropriate version of the highway capacity software and presents an accurate description of the Level of Service terms.

In reviewing the operational analysis, the following information was presented:

- **Weston Road at Central Street (Signalized):** Under 2025 Build conditions (with the addition of Project-related traffic), traffic operations are expected to remain at LOS F during the morning peak hour and LOS E during the evening peak hour. The results indicate that there will be minor increased in delays (less than one second) over the 2025 No-Build conditions (without the addition of Project-related traffic) for the majority of the movements. The southbound Weston Road approach is expected to experience an increase of 9 seconds of delay during the morning peak hour and 8 seconds of delay during the evening peak hour. The Proponent is proposing improvement to this location to mitigate the impacts.

¹ *Trip Generation*, 10th Edition; Institute of Transportation Engineers; Washington DC; 2017



- **Weston Road at Linden Street (unsignalized):** This unsignalized T-intersection has traditionally been operationally challenged from a congestion perspective. Impacts are minimal at this location, with 10 or less project-related trips being added during either of the commuter peak hours. Under 2025 Build conditions (with the addition of Project-related traffic), left-turn movements from Linden Street operate at LOS F with only minor increases in delays (less than one second) over the 2025 No-Build conditions (without the addition of Project-related traffic).
- **Weston Road at Howe Street (unsignalized):** Under 2025 Build conditions (with the addition of Project-related traffic), all movements will operate at LOS C or better with minor decreases in delays when compared to the 2025 No-Build conditions (without the addition of Project-related traffic).
- **Weston Road at the Project Site Driveway (unsignalized):** Under 2025 Build conditions (with the addition of Project-related traffic), the Project Site Driveways is expected to operate at LOS D during the morning peak hour and LOS C during the evening peak hour.

In addition to level of service result, the Tables 9 and 10 of the report documents the expected (calculated) vehicle queuing at each of the study area intersections. VHB observed typical vehicle delays and queuing and visually confirmed that the existing information contained within the study is accurately representative of the actual conditions in the field.

While we are generally in agreement with the methodology that was used to develop the analysis, we have the following comments.

Comment #6 (TRAFFIC OPERATIONS): *At the intersection of Weston Road and Central Street, the northbound Weston Road right-turn is under STOP control; however, in the analysis, this movement is modeled as a permissive movement under the control of the signal. Please confirm that modeling this movement as signalized instead of free does not significantly change the analysis results.*

Comment #7 (TRAFFIC OPERATIONS): *The intersection of Weston Road at Linden Road is unsignalized with flashing lights until the pedestrian phase is activated and all vehicular movements are stopped. The intersection was analyzed as a standard unsignalized intersection. While the operational analysis appears to be reflective of the operations, it would be helpful if the Applicant could provide some insight on the impact of the project of additional pedestrian calls and their impact on the signal operations.*

5.0 Sight Distance Evaluation

Table 11 from the Traffic Study presents the sight distance information for the proposed driveway along Weston Road. The text notes that the sight distance exceeds the recommended minimum AASHTO sight distances for a 35mph speed along Weston Road for the Stopping Sight Distance measurements. The



Intersection Sight Distance is met looking to the north from the Project Site Driveway; however, vegetation would need to be trimmed back to meet sight distance minimums looking to the south. both the Intersection and Stopping Sight Distance measurements. The Proponent has recommended that this vegetation, within the public right of way, should be trimmed to provide the required sight lines. VHB confirmed these distances appear accurate, and agrees with the recommendation to trim back existing vegetation.

Comment #8 (SIGHT DISTANCE): *We are in general agreement with the methodology that was used to develop the analysis and the findings. The applicant should illustrate sight triangle areas for the Project site driveway on the Site Plans along with a note to indicate: "Signs, landscaping and other features located within sight triangle areas shall be designed, installed and maintained so as not to exceed 2.5-feet in height. Snow windrows located within sight triangle areas that exceed 3.5-feet in height or that would otherwise inhibit sight lines shall be promptly removed."*

6.0 Conclusions & Recommendations

VHB has reviewed the traffic study's conclusions and generally agree with the six conclusion points raised in the beginning of this section. Moreover, VHB generally concurs that the project in-and-of itself will not likely result in a significant impact (increase) on motorist delays or vehicle queuing.

The Study makes a number of recommendations with respect to Project Access, Off-Site locations, and with respect to Traffic Demand Management as well. VHB has reviewed all the Project recommendations and offers the following commentary:

Project Access

There are 11 bulleted recommendations presented in this section of the Traffic Study. VHB agrees with each of the recommendations and notes the following:

- The first bullet notes that "the Project site driveway should be a minimum of 18-feet wide and a maximum of 24-feet wide". *VHB notes that the site plans show a 24-foot wide driveway.*
- The fourth bullet notes that "all signs and pavement markings to be installed within the Project site shall conform to the applicable standards of the Manual of Uniform Traffic Controls (MUTCD)". *VHB notes that the site plans do not have a similar note.*

Comment #9 (SIGNAGE): *The Applicant should add a similar note to the site plans that all signs and pavements markings within the Site should conform to the MUTCD.*

- The fifth bullet notes that "consideration should be given to installing a sidewalk along the Project site frontage on Weston Road and extending to the crosswalk at Linden Street". *VHB notes that the site plans do not show a sidewalk in this location.*



Comment #10 (SIDEWALKS): *Given the general pedestrian nature of a residential project such as the one being proposed; coupled with the applicant's assumption that at least 10 percent of the project's impacts will be pedestrian in nature, the Applicant should evaluate and provide a sidewalk connection from within the site to the surrounding pedestrian network. There is currently no proposed pedestrian connection from the Site to existing public pedestrian infrastructure illustrated on the site plans. The applicant should also commit to the design, permitting, and construction of the pedestrian connection to the greater existing network.*

- The seventh bullet notes that "a school bus waiting area should be provided at an appropriate location..."

Comment #11 (PICK UP/DROP OFF LOCATIONS): *The Applicant should provide an update to the Board on the discussions with the Town's School Department on the placement of a school bus and other transit services such as the RIDE, Council on Aging, and paratransit operators. Care should be given to identifying locations where a stopped vehicle will not negatively influence traffic flow along Weston Road.*

- The final bullet notes the consideration of electric vehicle charging stations within the parking facility.

Comment #12 (ELECTRIC VEHICLE CHARGING STATION): *The Applicant should provide an update to the Board on the number and location of any electric vehicle charging stations within the garage.*

Off-Site

There are two intersections where recommendations are noted. The applicant has committed/recommended the following at each of these locations:

- Weston Road at Linden Street – The applicant will "facilitate the completion of a Road Safety Audit (RSA) in order to identify improvement strategies for this intersection".
- **Comment #13 (WESTON ROAD and LINDEN STREET):** *At the conclusion of the Road Safety Audit (RSA), the Applicant should identify what, if any, identified safety issues may be impacted and/or exacerbated by the development of the proposed Project and incorporate the recommended solutions into the design of this intersections operations. Given the severity of the safety issues at this location and the fatality that occurred, the RSA should have a specific focus on the pedestrian and bicyclist infrastructure at this location as well as the more traditional vehicular environment as well.*
- Weston Road at Central Street – The applicant will "facilitate the completion of a Road Safety Audit (RSA) in order to identify improvement strategies for this intersection". Additionally, the applicant will design and implement an optimal traffic signal timing plan to improve operations.



Comment #14 (WESTON ROAD and CENTRAL STREET SIGNAL IMPROVEMENTS) : During the design of the traffic signal timing plan for the intersection of Weston Road at Central Street, the applicant should confirm that existing pedestrian and vehicular clearance times are adequate and conform to current MUTCD standards, and update if necessary.

Transportation Demand Management

The Study outlines a number of Transportation Demand Management (TDM) measures that should be implemented, including the following:

- The owner of the property should become a member of MassRIDES;
- Post information regarding public transportation services in a central location and made available to interested residents;
- Distribute a "welcome packet" of information to new residents outlining the available transportation services in the area;
- Link the site to the public pedestrian network surrounding the site;
- Provide a secure mail-drop area in a central location; and
- Provide secure bicycle parking consisting of exterior convenient bicycle parking and weather protected bicycle parking in a secure area of the building.

Comment #15 (TDM RECOMMENDATIONS): There are a number of recommendations in the TDM section (and throughout the Study in general). Should the Board elect to consider applying conditions to the Project's approval, the recommendations outlined within the TDM section (and elsewhere) should be memorialized.

VHB is in general agreement with the commitments that were outlined in the Traffic Study. In reviewing the recommendations and comparing them with the site plans, VHB would suggest the following actions also be considered:

- ***Comment #16 (BICYCLE PARKING ACCESS): The architectural plans illustrate bicycle parking in the southern corners of the parking garage. The Applicant should identify how bicyclists will access these spaces from the outside and how visitors to the facility will utilize this secured parking area. If visitors/guests cannot access these spaces, then public bike storage should be provided outside the garage area for these users.***



COMMENTS ON THE SITE PLAN

In reviewing the site plan from a transportation and circulation perspective, VHB offers the following comments (note: specific issues relating to site/civil engineering aspect of the plan review are not directly covered as part of this effort):

- **Comment #17:** As noted previously in Comment #1, the applicant should demonstrate how the parking rate of 1.22 spaces per unit is reasonable for this specific suburban location and what, if any, parking management plans would be implemented to assure that the requested number of spaces is sufficient to accommodate project parking demands. Parking demand should account for resident and visitor parking needs. Parking demand information for comparable project sites that are in similar suburban locations would also be helpful.
- **Comment #18:** Additional detail should be provided as it relates to the underground parking structure, providing a turning radius graphic for vehicles entering, exiting and maneuvering through the garage. Spaces at the end of the underground parking line should demonstrate how a driver would be able to access and egress from these spaces.
- **Comment #19:** The Applicant should describe the intent and usage of the "amenity" building located along the site frontage with Weston Road. If it has the potential to generate traffic and/or parking from off-site users, a narrative of how this would be utilized would also be helpful.
- **Comment #20:** The Applicant should provide a Vehicle Tracking© (or a similar analysis technique) for delivery vehicles which demonstrates how loading truck movements through the site can be managed without impacting parking and/or other static objects within the site. Turning radius for delivery trucks should be noted and the Applicant should present a detailed move-in management plan so that multiple trucks don't arrive at the same time for the move-in areas (if limited by space).
- **Comment #21:** The Applicant should provide information on how and where refuse/garbage pickup for the Apartment units will take place. A Vehicle Tracking© (or similar) turning radius assessment for refuse/garbage trucks should be identified on the plan.
- **Comment #22:** The Applicant should coordinate with the Town of Wellesley Fire Department for sign requirements for fire lanes within the site and their comfort level with an ability to respond to an event at this site. The Applicant should present information from the Fire Department noting that they've reviewed the access needs for the facility and that fire apparatus can effectively handle a response to the facility from a turning radius and building access perspective. This should also include a Vehicle Tracking© (or similar) turning radius assessment to indicate that the Town of Wellesley fire apparatus can circulate freely through the site in the event of an emergency. This turning assessment should be provided to the Board and to the appropriate Fire Department staff for review.
- **Comment #23:** A narrative as to how the Applicant intends to stage the construction of the facility in the residential neighborhood with limited on-street parking should be considered. Given

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the limited available roadways surrounding the site, staging of equipment and employees will be challenging. Where will the contractors park and where/how will deliveries be made as the site without disrupting the overall flow of traffic along Weston Road would be helpful to understand.

Please call if you have any questions or require additional information on any of the requests or comments noted above. Once responses to the initial comments noted above have been received and reviewed, VHB will respond to this information as appropriate. VHB will also suggest potential conditions that the Board may want to consider in their review and deliberations as they relate to transportation elements of the proposed project.

I will be available at the next Zoning Board of Appeals hearing to discuss in greater detail these findings if needed. The applicant should be prepared to address as many of these comments as reasonably possible at the upcoming Zoning Board of Appeals hearing and incorporate them into revised traffic and site plan based on the outcome of the meeting.

Sincerely,

Vanasse Hangen Brustlin, Inc.

A handwritten signature in black ink, appearing to read "Robert L Nagi", written over a horizontal line.

Robert L Nagi, PE

Principal

cc: Michael Zehner, Town of Wellesley
Meghan Jop, Town of Wellesley