



August 30, 2017

Ref: 12293.27

Mr. Kevin Sweet, Town Administrator
Town of Maynard
195 Main Street
Maynard, MA 01754

via email: bnemser@TownofMaynard.net

Re: Traffic Impact and Access Study / Site Concept Plan Review
Powder Mill Place
Maynard, Massachusetts

Dear Mr. Sweet:

Vanasse Hangen Brustlin, Inc. (VHB) has reviewed the preliminary submission material for the proposed residential development project located north of and adjacent to Powder Mill Road (Route 62) straddling the Maynard/Acton town line (the "Site"). The project involves the construction of 254 residential units, with 81 units being constructed within the 2.18-acre Maynard portion of the Site, and the remaining 173 units being constructed on the 10.47 acre Acton portion (the "Project"). VHB received the following items for review:

- *"Traffic Impact and Access Study – Powder Mill Place (DRAFT)" dated July 14, 2017, prepared by Greenman Pedersen, Inc.*
- *"Proposed Concept Plan – Powder Mill Place" dated April 2017, prepared by Goldsmith, Preston & Ringwall, Inc.*

VHB has been requested to review the submitted materials for conformance with general transportation engineering standards. In general, the Traffic Impact and Access Study prepared by Greenman Pedersen, Inc. (GPI) was prepared in a professional manner consistent with transportation industry standards and applications. While the Project is located in both the towns of Maynard and Acton, VHB's review focused solely on impacts to the Town of Maynard. Key findings from VHB's review of the Traffic Impact and Access Study prepared by GPI and the conceptual site plan prepared by Goldsmith, Preston & Ringwall, Inc. (GPR) are noted as follows:

TRAFFIC IMPACT AND ACCESS STUDY COMMENTS

VHB has reviewed the "Traffic Impact and Access Study – Powder Mill Place" dated July 14, 2017, from Greenman Pedersen, Inc. and offers the following comments regarding this study, which is labeled as being in "DRAFT" form:

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Watertown, Massachusetts 02471
P 617.924.1770
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Engineers | Scientists | Planners | Designers



1. **Study area** - The limits of the study area selected are consistent with that suggested by VHB during the applicant's April 2017 outreach to the town concerning the scope of the traffic study. This study area is appropriate for the scale of the proposed development. All the intersections studied, except for Powder Mill Road's intersection with the Wendy's restaurant driveway and the proposed easterly Site driveway, are located in the Town of Maynard.
2. **Seasonal adjustment** – GPI should provide additional, more recent documentation of seasonal growth variations in this area to supplement the 2009 data referenced.
3. **Crash Analysis** – The crash analysis utilized accident records obtained from both the Town of Maynard and MassDOT, with both sources revealing a similar crash experience. It is possible that additional crashes may have occurred but were not included in these databases. However, the reported crash experience clearly is low to the point where it is not possible to identify any correctable trends or notable crash issues.
4. **Travel speeds** – The observed 85th percentile speed on Powder Mill Road was 40 miles per hour (mph), which exceeds the posted 35 mph speed limit. The actual observed 40 mph speeds partly were used in the subsequent sight distance analysis discussed later in this section.
5. **Background Traffic** – VHB agrees with the background development projects listing used for the future conditions analysis.
6. **Trip Generation** – The trip generation estimates were estimated based on an appropriate Institute of Transportation Engineers (ITE) land use code using appropriate methods. The increase in Site traffic considered the current minimal levels of traffic generated by the property.
7. **Trip Distribution** – The report indicates that 80-percent of the Site traffic will be traveling to and from the north on Powder Mill Road (Route 3) to and from the east, with the remaining 20-percent being oriented to/from the west. While it is reasonable to assume that the majority of the Project traffic would be oriented to/from the northwest and Route 2, there could be a greater portion of traffic oriented to/from the west than that assumed. The observed traffic volumes along Powder Mill Road (Route 62) adjacent to the site suggest that at 2/3 directional split may be possible. The proportional breakdown of traffic between the two Site driveways appears reasonable.
8. **Sight Distance Analysis** – The report provides analysis of both the required stopping sight distance and desirable intersection sight distance for each Site driveway. VHB agrees that the critical stopping sight distance requirement for the observed 40 mph travel speeds is satisfied for both driveways. The desirable intersection sight distances shown should also be based on the observed 40 mph travel speeds, which would result in a desirable intersection sight distance levels of 445 feet instead of the 390- and 415-foot distances referenced. The available 415-foot intersection sight distance for motorists looking to the right from the Site driveway falls below this level. With that condition, Powder Mill Road (Route 62) traffic may temporarily need to reduce its speed due to a vehicle turning left from the eastern site driveway. Based on the AASHTO standards noted in the study, this could result in Powder Mill Road traffic temporarily reducing its speed from 40 mph to 28 mph (70-percent of its initial speed) to accommodate turning vehicle. The resulting mainline travel speeds in those instances will not fall considerably



below the 35-mph posted speed limit. The available intersection sight distance still exceeds the required available stopping sight distance, so this should not present any significant operational concerns. GPI should identify the constraint limiting intersection sight distance in that direction to determine if there are any correctable measures that can be implemented by the Project.

9. **Capacity Analysis** – Intersection capacity analyses are provided for each study area intersection for existing and future conditions with and without the Project. Both 2019 and 2024 future conditions horizons were considered in the study. The results indicate that the Project will not have a significant operation on any of the locations studied. There are some instances of intersection movements degrading from “LOS” C to LOS D from the No-Build to Build conditions. However, these generally involve only slight (less than seven seconds) increases in average delay for a given movement. The change in LOS for these locations is more dependent on these intersection movements already operating at the 25-second threshold between LOS C and LOS D conditions, or the 35-second threshold between LOS D and LOS E conditions. As such, the change in LOS is less attributable to a notable Project impact as it to the intersection already operating near these dividing thresholds.

During the weekday evening peak hour exiting traffic from the easterly Site driveway is projected to operate at LOS E. However, entering traffic will operate acceptably and the resulting queues for exiting traffic are projected to be less than one vehicle on average.

10. **Parking Analysis** – The requested parking demand analysis has not been provided and should be included in the final version of the Traffic Impact and Access Study.

CONCEPT PLAN – TRAFFIC OPERATIONS COMMENTS

VHB has reviewed the traffic aspects of the “Proposed Concept Plan – Powder Mill Place” dated April 2017, prepared by Goldsmith, Preston & Ringwall, Inc. This review was very general in nature given the conceptual level of the plan. It is expected that a more detailed plan will be provided for review as this project advance through its local permitting process.

- The overall parking supply and the number of spaces in each row should be labeled. The surface parking lot supply of 263 spaces translates into roughly one space per unit. Structured garage parking also is provided within each of the Site buildings, and this supply should be labeled. The resulting combined parking supply should be compared both ITE data and to the 2.0 space per residential unit ratio specified in the Maynard Zoning Bylaws.
- The proposed curvature of the northernmost drive aisle to/from Building C should be revisited. The angle of that drive aisle could result in exiting traffic crossing over the centerline of that aisle into opposing/entering traffic.
- Proposed dumpster locations should be shown, with corresponding information as to how trash pick-up and any delivery activity will occur.
- Appropriate signage and pavement markings should be provided for review on subsequent plans.



- The adequacy of existing sidewalks near the Project Site and connections to these facilities should be discussed in the final traffic study and identified on the plans. Appropriate locations for bike racks within the Project Site should be provided.
- The applicant should confirm that emergency vehicles can adequately access/egress the Site and circulate within the parking facilities shown to the satisfaction of the Town.

If you have any questions or comments, please call me at 617-607-6175.

Sincerely,

A handwritten signature in black ink that reads "Patrick Dunford". The signature is written in a cursive, flowing style.

Patrick Dunford, P.E.
Senior Project Manager, Transportation

cc: Andrew Scribner-MacLean, Assist. Town Admin.: ascribner@townofmaynard.net
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