

July 13, 2020

Mary Savage-Dunham, Community Planning Director  
Planning Board  
Town of Hingham  
210 Central Street  
Hingham, MA 02043-0239

Re: 100 Industrial Park Road  
Proposed Shipping Warehouse

Dear Ms. Savage-Dunham:

We are in receipt of the Traffic Peer Review comments from Vanasse & Associates, Inc. (VAI) dated June 24, 2020, regarding the project noted above. We are addressing only comments that require additional information from us. Our responses are indicated below in ***blue bold italic*** text and are as follows:

FEBRUARY 2020 TRAFFIC STUDY

*Comment T12: Back-up data should be provided for the trip-generation calculations including a breakdown of vehicle arrival/departure volumes over the day to substantiate the peak-hour trip estimates.*

*Response:* The Applicant provided a detailed breakdown of the trips expected to be generated by the Project over a 24-hour period. The traffic characteristics of the Project were derived using the following updated operational assumptions:

- 139 associates/managers on-site over the course of the day.
- 287 delivery service partner (DSP) and 67 flex drivers will be used for deliveries.
- 14 tractor semi-trailer combinations per day expected generally between 10 PM and 8 AM.
- DSP drivers (287) arrive in personal vehicles starting at 9:45 AM and are assigned an on-site delivery van. The delivery vans be loaded and leave the facility at a rate of 48 vans every 20 minutes and will return between 7:30 and 9:30 PM, with drivers then leaving in their personal vehicle.

- Flex drivers (67) will arrive on-site in their personal vehicle between 4:00 and 6:00 PM. The flex driver vehicles are loaded within the facility then depart in 15 minute intervals for the day to make deliveries.

Based on the employment and operational characteristics of the tenant, the Applicant defined the peak-hour traffic characteristics of the Project as follows:

**100 INDUSTRIAL PARK ROAD DELIVERY STATION  
TRIP-GENERATION SUMMARY\***

Time Period	Vehicle Trips				
	Associates/ Managers/ DSP Drivers	DSP Vans	Flex	Trucks	Total
<i>Average Weekday:</i>					
Entering	330	191	67	14	602
<u>Exiting</u>	<u>330</u>	<u>191</u>	<u>67</u>	<u>14</u>	<u>602</u>
Total	660	382	134	28	1,204
<i>Weekday Morning Peak-Hour:</i>					
Entering	0	0	0	1	1
<u>Exiting</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>	<u>1</u>
Total	0	0	0	2	2
<i>Weekday Mid-Day Peak-Hour:</i>					
Entering	19	0	0	0	19
<u>Exiting</u>	<u>0</u>	<u>95</u>	<u>0</u>	<u>0</u>	<u>95</u>
Total	19	95	0	0	114
<i>Weekday Evening Peak-Hour:</i>					
Entering	0	0	67	1	68
<u>Exiting</u>	<u>0</u>	<u>0</u>	<u>24</u>	<u>0</u>	<u>24</u>
Total	0	0	91	1	92

The detailed breakdown of trips does not appear to be consistent with the updated operational information that was provided in the June 2020 Traffic Study. Specifically, trips associated with the DSP vans and their drivers appear to be understated which impacts both the daily and peak-hour traffic volume projections. The trip data provided by the Applicant reflects 191 DSP vans and their associated drivers vs. 287 as indicated in the operations information. Using the updated operational data, we would expect the average weekday traffic volume to be 1,588 vehicle trips (vs. 1,204 vehicle trips).

The discrepancy in the number of DSP vehicles may not impact the peak-hour trip projections as the additional trips may be dispersed over a longer period; however, the Applicant’s engineer should review and

**revise the trip estimates and associated analyses for the Project as appropriate, or provide an explanation for the discrepancy.**

**Given the potential variability in the arrival and departure patterns and overall traffic volumes associated with the Project, a Traffic Monitoring Program should be considered as a part of any conditions of approval that may be granted for the Project.**

***Response: The narrative in the study has been revised to reflect the 191 DSP vans that reflect the hourly breakdown in the Appendix.***

*Comment T14: The traffic operations analysis should be revised and expanded to reflect the comments herein and to include analyses of the following conditions in accordance with MassDOT guidelines: 2019 Existing, 2027 No-Build (without the Project), 2027 Build (with the Project) and 2027 Build with Mitigation (with the Project and any improvements that may be necessary to off-set the impact of the Project).*

**Response:** Traffic operations analyses were provided for 2027 No-Build (without the Project) and 2027 Build (with the Project) conditions; an analysis of 2019 Existing conditions was not provided as requested but is not necessary to ascertain the impact of the Project. The analysis has indicated that the addition of Project-related traffic to the study area intersections will result in a relatively minor increase in motorist delays (approximately 4.0 seconds) and vehicle queuing (up to two (2) vehicles) over anticipated future conditions without the Project. Scheduling the arrival and departure of DSP drivers and vans to occur outside of the weekday morning and evening peak hours will allow for efficient use of the available roadway capacity that has been created by the recently completed improvements along Derby Street and will serve to reduce the overall impact of the Project on the transportation infrastructure.

**The traffic operations analysis should be revised as necessary to address any change in the peak-hour traffic volumes for the Project.**

***Response: We assume this is in relation to Comment T13 and that this comment was addressed in the narrative. Peak hour traffic operations are as noted in the traffic study dated July 2020.***

*Comment T16: A sight distance assessment should be performed for the Project site driveways along both Industrial Park Road and Commerce Road and at the Industrial Park Road/Commerce Road intersection following the methodology defined by the American Association of State Highway and Transportation Officials (AASHTO)<sup>3</sup> and using the measured 85th percentile vehicle travel speed along Industrial Park Road and Commerce Road or the posted speed limit, whichever is higher. Both the Stopping Sight Distance (SSD) along*

*Industrial Park Road and Commerce Road approaching the intersections and the Intersection Sight Distance (ISD) for a motorist exiting the minor (stop controlled) approach should be provided and compared to the AASHTO recommended values. To the extent that the sight lines do not meet the recommended minimum value, the Applicant should identify the corrective measures that will be undertaken and include the necessary modifications on the Site Plans.*

Response: A sight distance assessment was completed for the Project site driveway intersections and the Industrial Park Road/Commerce Road intersection using a 30-mph approach speed, which was identified as being 10 mph above the posted speed limit in the vicinity of the Project site (20 mph). Based on the sight distance evaluation, the Applicant's engineer determined that the stopping sight distance approaching the Project site driveway intersections meets or exceeds the recommended minimum distance (200 feet at 30 mph); however, the sight distance for a vehicle exiting the Industrial Park Road Project site driveway looking to the north (left-turn exit maneuver) and for a vehicle exiting the north Commerce Road Project site driveway looking to the south (right-turn exit maneuver) were found to be below the recommended minimum distance. As such, the Applicant's engineer recommended that vehicles exiting the Industrial Park Road Project site driveway should be restricted by signs to right-turn only operation and that intersection ahead warning signs be installed on Commerce Road approaching the Project site driveway.

**Industrial Park Road does not have a posted speed limit; the 20 mph speed sign is in reference to a school zone and applies to school hours only, which are defined on the sign as 7:00 – 10:00 AM and 2:00 - 4:30 PM. As such, the statutory or “prima facie” speed limit is 30 mph. As such, sight lines along Industrial Park Road should be assessed based on an approach speed of 40 mph, which would require a minimum line of sight of 305 feet. This change would not impact the general findings of the sight distance assessment or the recommendations with regard to prohibiting left-turn movements exiting the Industrial Park Road Project site driveway. In addition, trees and vegetation located along both sides of Industrial Park Road approaching the Project site driveway and Commerce Road should be selectively trimmed or removed and maintained in order to maximize sight lines for exiting vehicles. This should be a condition of any approvals that may be granted for the Project.**

**The 30-mph approach speed that was used on Commerce Road is appropriate given that the roadway ends at the south Project site driveway. The Applicant has relocated the northernmost Commerce Road driveway to the south to improve the sight lines to and from Industrial Park Road. We would recommend that trees and vegetation**

located along the Project site frontage on Commerce Road within the sight triangle areas of the Project site driveways also be trimmed or removed and maintained. This should be a condition of any approvals that may be granted for the Project.

*Response: Comment noted. The plans include notes to remove any vegetation in within the sightlines.*

## SITE PLANS

*Comment S1: A truck turning analysis should be performed using the AutoTurn® software package for the following design vehicles: Hingham Fire Department design vehicle, a single-unit truck (SU-30 design vehicle) and a large tractor semi-trailer combination (WB-67 design vehicle); and should include the Industrial Park Road/Commercial Road intersection. The turning analysis should demonstrate that the design vehicles can access the appropriate areas within the Project site and circulate in an unimpeded manner without intrusion into parking spaces. The fire truck turning analysis should confirm that all elements of the design vehicle are retained within the traveled-way and do not overhang the curb line or cross into parking spaces.*

Response: Truck turning diagrams were provided for the requested design vehicles and illustrate that that the subject vehicles can access and circulate within the Project site in an unimpeded manner.

**The truck turning analysis has indicated that on-street parking will need to be prohibited along both sides of Commerce Road in order for trucks to access the Project site. Google© Street View images from 2019 show vehicles parked along Commerce Road opposite the Project site. “No Parking” signs should be installed along both sides of Commerce Road to ensure that emergency vehicles and delivery trucks can access the Project site. These signs should be added to the final Site Plans.**

*Response: “No Parking” Signs have been added along both sides of Commerce Road and are shown in the Site Signage and Pavement Marking Plan, sheet SP-3.*

*Comment S3: Vehicles exiting the Project site should be placed under STOP-sign control with a marked STOP-line provided. In addition, a STOP-sign and marked STOP-line should be provided on the Commercial Road approach to Industrial Park Road.*

Response: The requested signs and pavement markings have been added to the Site Plan. **The following corrections should be made on the final Site Plans:**

- Sheet SP-3 should indicate “Install R3-2 Sign (No Left Turn) (Typ.)” (Keynote Legend “Z”) on Industrial Park Road opposite the Project site driveway as required by the Manual on Uniform Traffic Control Devices (MUTCD).
- Sheet SP-3 should indicate “Install S-1 Sign” (Keynote Legend “E”) on the Commerce Road approach to Industrial Park Road.
- Sheet SP-3 should indicate “Install S-7 Sign” (Keynote Legend “J”) along the one-way exit to Industrial Park Road opposite the two (2) connections to the parking field.
- Sheet SP-3 Keynote Legend “AB” should reflect a speed advisory of 20 mph as recommended in the June 2020 Traffic Study.

*Response: -The R3-2 sign was added on Industrial Park Road, opposite from the project site’s one-way exit drive.*

*- A Stop sign and stop bar were already added on the Commerce Road approach to Industrial Park Road shown in sheet SP-3.*

*- Sheet SP-3 already indicates an S-8 sign indicating drivers from adjacent lot to turn right on the one-way drive. The second drive to the west will be closed off.*

*- The speed advisory sign (W13-1P) now indicates 20 mph on the SP-3 sheet, keynote AB.*

Comment S5: *The sight triangle areas for the Project site driveway intersections should be shown 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.”*

Response: The sight distances have been added to Sheet SP-0 and the requested note has been added to Sheet SP-3.

**While the sight distances are helpful, the sight distance triangles were not shown. The sight distance triangles are based on the minimum recommended sight distances for the appropriate approach speeds approaching the driveways, or 305 feet for Industrial Park Road (40 mph) and 200 feet for Commerce Road (30 mph). We would recommend that a separate plan sheet be provided for the sight triangles and that the requested note be included on the plan sheet showing the sight triangles. An example sight triangle plan is attached for reference by the Applicant’s engineer.**

*Response: A separate plan called "Site Distance Plan" (sheet SDP-1) has been created highlighting the sight triangles and the requested note.*

*Comment S7: Secure, weather protected bicycle parking should be provided for employees and shown on the Site Plans.*

Response: A bicycle rack has been added outside of the building office entrance.

**Weather protected bicycle parking should also be provided within the building and shown on the final Site Plans.**

*Response: Weather protected bicycle parking inside the building is noted on the plans, sheet SP-1, as per the tenant operation requirements and specific location.*

We trust our responses address the concerns that were posed. Should you require additional information, please feel free to contact me at 203-608-2438.

Sincerely,



Kevin Hixson  
Senior Project Manager