MDM TRANSPORTATION CONSULTANTS, INC.
Planners & Engineers

PRINCIPALS
Robert J. Michaud, P.E.
Daniel J. Mills, P.E., PTOE

February 18, 2022

Stephen Chaplin, Planning Board Chair
Town of Hopedale
78 Hopedale Street
Hopedale, MA 01747

Subject: Transportation Peer Review Supplemental Comments
75 Plain Street Warehouse Development
Hopedale, MA

Dear Mr. Chaplin:

MDM Transportation Consultants, Inc. (MDM) is pleased to provide you with the following supplemental transportation review comments for the above-referenced project. These comments have been prepared based on a review of the documents identified below and a virtual meeting with the Applicant and their traffic engineer on February 15, 2022. To facilitate response by Applicant, review items requiring response are noted in ***Bold Italic***.

Supplemental Documents Reviewed

MDM has reviewed the following documents as provided by the Applicant's engineering consultants (Bayside Engineering) in response to requested materials cited in our December 10, 2021 review letter:

- *Response to Comment Technical Memorandum, Proposed Warehouse Building, 75 Plain Street, Hopedale, Massachusetts,* prepared by Bayside Engineering dated February 3, 2022.

- *Sight Line analysis exhibits, electronic files 21013_Sight-Sections Plan SD-1.pdf* received via email 2/3/22, prepared by Highpoint Engineering, Inc.

- *AutoTurn® vehicle turn analysis exhibits, electronic file 2022-01-19 Hopedale - Vehicle Maneuvering Exhibit.pdf* received via email 2/3/22, prepared by Highpoint Engineering, Inc.

Supplemental Documents Comments

Existing Conditions

1. *Study Area*: *Study Area*: The study area includes the unsignalized study locations of Plain Street at South Main Street, Plain Street at Mill Street, Plain Street at Newton Street, Plain Street at Mellen Street, Plain Street at the existing Rosenfeld Concrete Driveway, Newton Street at Mellen Street, Plain Street at Hartford Avenue East/Talbott Farm Road, and the signalized intersection of Hartford Avenue East with South Main Street/Cape Road.

MDM Comment 1: MDM recommends that the study area be expanded to include the South Main Street at Mellen Street and South Main Street at Warfield Street intersections. This expanded study area is justified since the majority of site traffic is project to arrive and depart from the east via South Main Street and Hartford Avenue East and analysis indicates longer delays on the Plain Street approaches to these roadways. Remaining study locations are appropriate and in context with the likely traffic impacts for the Project.

Bayside Response 1: The intersections of South Main Street and Mellen Street and Mellen Street and Warfield Street have been analyzed. These two intersections were analyzed as they represent the two key intersections closest to the project's location that could be impacted by traffic generated by the project. As the analysis indicates, the critical movements at the intersection of Mellen Street and Warfield Street are projected to operate at level of service (LOS) A during both the weekday morning and weekday evening peak hours. At the intersection of South Main Street and Mellen Street, the critical movements, all movements from Mellen Street eastbound are modeled to operate at LOS F during both the weekday morning and weekday evening peak hours. Based on the analysis, the project is expected to have minimal impact on intersection operations, adding four (4) to nine (9) vehicles to the intersection during the weekday peak hours. Analysis of the intersection of South Main Street would yield comparable results based on a review of the traffic volumes recorded on Warfield Street. Contained within the Appendix is a description of the intersections and the methodology used to develop the analysis.

Capacity Analyses

Intersection Capacity analyses were performed for the two unsignalized intersections of South Main Street and Mellen Street and Mellen Street and Warfield Street. The results are summarized in Table 1. The capacity analysis worksheets are included in the Appendix.

South Main Street and Mellen Street

Under 2022 Existing conditions, the critical movements at this unsignalized intersection (all movements from Mellen Street eastbound) are modeled to operate at LOS F during the weekday morning and at weekday evening peak hours. Under future 2028 No-Build conditions, the critical movements are projected to continue to operate at LOS F during the weekday morning and weekday evening peak hours. Under 2028 Build conditions, the critical movements are projected to continue to operate at LOS F during the weekday morning and at weekday evening peak hours. The project is expected to have minimal impact on intersection operations, adding four (4) to nine (9) vehicles during the weekday peak hours.

Mellen Street and Warfield Street

Under 2022 Existing conditions, the critical movements at this unsignalized intersection (all movements from Warfield Street northbound) are modeled to operate at LOS A during the weekday morning and weekday evening peak hours. Under future 2028 No-Build conditions, the critical movements are projected to continue to operate at LOS A during the weekday morning and weekday evening peak hours. Under 2028 Build conditions, the critical movements are projected to continue to operate at LOS A during the weekday morning and weekday evening peak hours.

MDM Supplemental Comment: No further response necessary.

3. *Accidents/Crash Data*: The TIAS presents relevant crash data for the study intersections for the period 2015-2020 based MassDOT and local police crash records. The data indicates that seventy (70) crashes Harford Avenue East intersection with South Main Street/Cape Road over the six (6) year study period resulting in a crash rate above the Massot District 3 average. None of the study intersection are listed at high crash (HSIP) locations.

MDM Comment 3: MDM concurs with the crash analysis methodology, which indicates an above-average crash rate at the stated location. Accordingly, MDM recommends that the Applicant provide a collision diagram for this intersection based on local police crash records to identify specific crash trends and potential safety countermeasures that may be implemented by the Applicant to address project impacts at this location.

Bayside Response 3: Crash reports for the intersection were requested and received from MassDOT. A total of seventy-one (71) crash reports were provided for 2015 through 2020. Summarized graphically on Figure 1 is a collision diagram of the collisions that have occurred at the intersection. A breakdown of the crash data is included in the Appendix along with the redacted crash reports.

Based on the crash report data provided, the most crashes occurred in 2016 (twenty (20) reported crashes). The remaining years experienced an average of approximately ten (10) crashes per year. No fatalities were reported. Fifteen (15) crashes were reported in the vicinity of the Dunkin driveway (three (3) were illegal left-turns into the driveway from Hartford Avenue East).

It should be noted that a Road Safety Audit (RSA) was conducted for this intersection for the Town of Mendon by MassDOT in March 2016. Since the preparation of the RSA, MassDOT has performed a number of measures identified in the RSA at the intersection which includes changing the intersection geometry, upgrading the signal equipment at the intersection and modifying the traffic signal phasing and timing (to reflect the changed intersection geometry). It appears those measures have been effective in reducing crash rates.

It was recommended in the TIAS that upon completion of the development and occupancy of the project, intersection operations be monitored, and the existing signal timing and phasing be reviewed and modified appropriately to reflect traffic conditions at that time. Summarized in the response to Comment No. 11 is a full listing of the mitigation measures proposed for the project.

MDM Supplemental Comment: No further response necessary.

5. *Driveway Sight Distance*: The traffic memo presents that the required minimum stopping sight distance (SSD) and intersection sight distance (ISD) criteria will be satisfied with clearing and grading as outlined in AASHTO for the proposed site driveway location Plain Street. Driveway sight line requirements are based on 85th percentile travel speeds along Plain Street.

MDM Comment 5: (a) The ISD criteria reported in the TIAS for both site driveways assume a passenger car as the design vehicle. Since the proposed site driveway will include a significant number of tractor trailer trucks, it is recommended that the Applicant consider using the time gap adjustment for articulated trucks in determining ISD criteria. To the maximum extent feasible, the Applicant should provide ISD sight lines that satisfy the ideal ISD criteria for the regulatory speed limit of 30 mph for articulated trucks (465 feet looking to the left onto Plain Street for right turn movements and 510 feet looking to the right onto Plain Street for right turn movements).

(b) MDM also recommends that the Applicant provide the sight line triangles for the site driveways on the final Site Layout Plan set to confirm that minimum sight line criteria are met, indicating specific area of roadside regrading/clearing necessary to achieve sight line requirements. The sight line triangles should not encroach onto adjoining (private) property to achieve sight line criteria and should specifically account for roadside appurtenances including guardrail and similar features that may impact sight lines.

(c) The Site Layout Plan should include a note citing that "Signs, landscaping and other features located within sight triangle areas shall be designed, installed and maintained so as not to exceed 2.0-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." The plans should also provide a profile along the sight lines to determine the extent of the grading required and if any easements are required from the adjoining (private) property.

Bayside Response 5: Bayside concurs with the MDM calculations for intersection sight distance (ISD) as it applies to articulated trucks. The sight lines of 465 feet looking to the left onto Plain Street for right turn movements and 510 feet looking to the right onto Plain Street for right turn movements will be provided.

The sight line triangles and sight line profiles have been added to the Site Plans. Attached to this letter is the Sight Distance Plan (SD-1) within the Site Plan set showing the sight lines and sight line profiles.

The SD-1 Plan includes a note citing "Signs, landscaping and other features located within sight triangle areas shall be designed, installed and maintained so as not to exceed 2.0-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." The SD-1 Plan also provides a profile along the sight lines showing the clear sight lines. To the extent necessary, some minor grading will be performed, as well as pruning of trees and clearing of vegetation will be performed. No easements are required from any adjoining (private) property.

MDM Supplemental Comment: No further response necessary.

6. *Public Transportation*: The TIAS identifies area public transportation provided by the MetroWest Regional Transit Authority (MWRTA). It is noted that bus service is provided via Bus Route 14, with service provided from Blandin Hub in Framingham to Milford Regional Hospital. The closest bus stop to the site is located approximately 1.3 miles away.

MDM Comment 6: MDM concurs with the methodology of not taking any transit credit for the Site given the limited public transportation in the area with the closest Bus Stop (Route 140) located approximately 1.3 miles from the Site. However, potential expansion of the MWRTA service to serve the site should be considered as part of the proposed TDM programming for the site. Applicant should consult with the MWRTA and confirm whether the site can be designated as a stop on the MWRTA service route for Bus 14.

Bayside Response 6: Bayside attempted to contact the MWRTA to determine if it was feasible to extend Bus Route 14 from Milford into Hopedale. Based on input received at the Hopedale Planning Board Public Hearing of January 5, 2022, it was indicated that Bus Route 14 is a route that serves the Town of Milford and that there are currently no plans to modify this route.

MDM Supplemental Comment: The final site plan should be designed to accommodate the ability to add a bus stop in the future should the MWRTA extend service to the area. No further response necessary.

Future Conditions

8. *Trip Generation*: Trip estimates for the Project are appropriately based on characteristics published by the Institute of Transportation Engineers (ITE) in *Trip Generation* 10th Edition for land use code (LUC) 150 Warehousing applied to 616,875 square feet.

MDM Comment 8: MDM recommends that the applicant confirm that this facility is not a "last mile" distribution facility or sortation warehouse as these facility types have higher trip generation potential. MDM recommends that a potential condition be considered by the Town that would obligate Applicant to supplemental Planning Board review and associated mitigation should the project tenant operate the site as a "last mile" distribution facility or sortation warehouse at trip levels that are materially higher than those represented in the submitted traffic study.

To establish an appropriate mitigation package MDM also recommends that the Applicant prepare a sensitivity analysis based on a higher generating Parcel Hub/Sortation Warehouse facility using trip rates from ITE as established for other projects in the Commonwealth. This sensitivity analysis would set the foundation for future improvement requirements for the project to the extent traffic monitoring thresholds are exceeded; specific tip thresholds should be outlined by the Applicant in its proposed traffic monitoring program.

MDM recommends that potential conditions be considered by the Town that would obligate Applicant to undergo supplemental Planning Board review and associated mitigation in the case that trip levels materially exceed those of the above-referenced sensitivity analysis. Recent conditions from similar projects in the Commonwealth may serve as a model as follows:

- *In the event that a tenant for the property desires to operate a facility that is different from a traditional warehouse use, the owner shall seek a modification from the Board with re-evaluation of project impacts. This includes any uses that serve as regional or local freight forwarder for time sensitive shipments, or regional of local distribution facility.*

- *The Applicant or successor shall re-evaluate Project impacts (including but not limited to noise, traffic, stormwater, etc.) and meet with the Board once a tenant is selected for the facility. In the event that Project impacts are greater than characterized in the Project application submittals, the Applicant shall apply for amendment to the permit issued by the Planning Board, as well as any additional permits obtained from local or State regulatory agencies.*

It is imperative that a robust monitoring program is implemented to measure actual performance of the facility during these periods to ensure that proposed mitigative actions fully account for these higher traffic volume conditions without undue queuing or delays in the area. Specific trip thresholds should be outlined by the Applicant as part of a traffic monitoring program to measure actual site performance post-occupancy; typically, any increase of more than 10 percent of projected levels is an appropriate basis/threshold for revisiting potential mitigative actions for a project of this type.

Bayside Response 8: The proposed facility is not a "last mile" distribution facility or sortation warehouse as these facility types have higher trip generation potential.

To establish an appropriate mitigation package MDM has recommended that the Applicant prepare a sensitivity analysis based on a higher generating Parcel Hub/Sortation Warehouse facility using trip rates from ITE as established for other projects in the Commonwealth. Bayside has looked at the corresponding land use codes and the code closest to this would be LUC 154 - High-Cube Transload and Short-Term Storage Warehouse. Using the ITE data, and

LUC 154, the site would generate 864 Daily vehicle trips which is lower than the site traffic generation using ITE LUC 150 – Warehousing (projected 1,074 Daily vehicle trips).

Bayside also compared the trip generation to ITE LUC 155 - High-Cube Fulfillment Center Warehouse. Using the ITE data, and LUC 155, the site would generate 1,060 Daily vehicle trips which is also lower than the site traffic generation using ITE LUC 150 – Warehousing (projected 1,074 Daily vehicle trips).

The Applicant will agree to a condition that would obligate the Applicant to Planning Board review in the event that a tenant for the property is identified that does not fit in the standard ITE LUC 150 – Warehousing definition and is projected to generate project traffic impacts greater than those provided in the TIAS.

A sensitivity analysis was not performed as the corresponding ITE data is lower for Land Use Codes 154 and 155. If this were to be a last mile facility, say Amazon, then with the proposed condition in place, a re-evaluation of the project's impacts would be undertaken at that time.

Contained in the response to Comment No. 11 is a list of the mitigation measures developed for this project. Included in the response to Comment No. 10 are the details of a proposed Traffic Monitoring Program. This program would measure actual performance of the warehouse during the weekday peak hours to ensure that proposed mitigation measures account for the future traffic volume conditions without undue queuing or delays in the study area.

***MDM Supplemental Comment*: See MDM Supplemental Response 11 regarding mitigation commitments and monitoring protocols.**

9. *Trip Distribution:* Separate trip distribution patterns have been developed for employee trips and truck trips. The employee and truck trip distribution patterns were developed based on a review of existing travel patterns in the study area. Trip distribution calculations were not provided.

MDM Comment 9: Employee trip distribution patterns for an employment center are typically estimated based on US Census Journey to Work data with comparison/adjustment to reflect existing travel patterns. Likewise, truck trip distribution based on projected market areas and least time path routes should be developed/described.

The Applicant should provide the trip distribution calculations for review. Build traffic volume networks and analysis should be updated to reflect updated trip distribution.

Bayside Response 9: The trip distribution worksheets are included in the Appendix. The trucks expected to be generated by the project were all assigned to the south (Plain Steet to Hartford Avenue East) in the traffic study, with most being assigned to the east toward I-495. During the peak hours, this accounts for twelve (12) to nineteen (19) truck trips. Performing a sensitivity analysis would not change the impacts of the project.

MDM Supplemental Comment: No further response necessary.

10. *Operations Analysis:* Operational analyses provided follow generally accepted traffic engineering practices and protocols, indicating ample capacity at the Worcester Street intersections with the site driveways to accommodate Project trip increases. The analysis indicates long delays (LOS F) on the Plain Street Approach to Hartford Avenue and Plain Street approach to South Main Street under existing and future conditions during the weekday morning and weekday evening peak periods. Additionally, the signalized intersection of Hartford Avenue and South Main Street/Cape Road operates at an overall LOS F under the future Build conditions during the weekday morning and weekday evening peak periods.

MDM Comment 10: MDM concurs with the operations analysis methodology and conclusions for the operations for a standard warehouse will result in no material change in operations compared to No-Build conditions. MDM recommends that the Applicant review if mitigation alternatives at this intersection in the form of a traffic signal, traffic marking improvements or other improvements given the majority of the traffic (passenger cars and trucks) will arrive and depart the area through these intersections. The Applicant should work with the Town with respect to improvement initiates and to determine a fair-share contribution or implement an improvement alternative.

Bayside Response 10: The Applicant has proposed a traffic mitigation package identified in the response to Comment No. 11 below.

MDM Supplemental Comment: No further response necessary.

Project Mitigation

11. *Signal Warrant Analysis*. The Applicant proposes conducting traffic counts at the Plain Street intersections with South Main Street and Hartford Avenue East upon full occupancy of the Site and preparing a signal warrants analysis for the intersections. The proponent will discuss with the town providing a financial contribution to the design and construction of improvements at the intersections.

MDM Comment 11: MDM concurs, the Applicant should work with the Town with respect to improvement initiatives and to determine a fair-share contribution or implement an improvement alternative.

Bayside Response 11: The applicant is willing to work with the Town of Hopedale to develop an appropriate improvement package to address the traffic impacts of the project. A number of items have been developed for this traffic package:

1. The Applicant will develop a Traffic Monitoring Program (TMP) to begin six months after initial occupancy and be completed once full (85% or higher) occupancy of the site is achieved and include the following:

   a) Monitoring will include turning movement counts at the TIAS study area intersections and site driveways between the hours of 5:00 AM and 9:00 AM, and between 4:00 PM and 7:00 PM to capture warehouse peak generating periods.

   b) Initiation of monitoring will allow for early identification of operational deficiencies that may require immediate action/countermeasures by the Applicant.

   c) Automatic traffic recorder counts with classification on the site driveways to include a continuous 48-hour period over two (2) weekdays.

   d) Evaluating motor vehicle crash data at the Project site driveway and TIAS study area intersections.

   The results of the monitoring program will be summarized in a report to be provided to the Town of Hopedale upon completion of the data collection. The report will document the traffic volumes associated with the project and any delays, queuing and crash rates at the TIAS study intersections.

   If any of the following conditions are documented as part of the monitoring program: 1) traffic volumes of the project exceed the predicted traffic volumes by more than 10% on a regular and sustained basis; 2) there is a material increase in the number of motor vehicle crashes at the project study intersections that are attributable to the Project; or, 3) delays and queuing at the study intersections materially exceed predicted levels due to the impact of the Project, the Applicant will identify and undertake corrective measures to offset the additional project traffic impacts. This may be achieved through:

a) Installation of additional signage and pavement markings.
b) Implementation of signal timing improvements to account for new traffic impacts.
c) On-site operations and management strategies to include:
    i. Expansion of TDM elements.
    ii. Scheduling of employee and truck operations to minimize impacts.
    iii. Other measures designed to reduce traffic impacts generated by the Project.

2. Perform Heavy Commercial Vehicle Exclusion studies for Mellen Street, Warfield Street and Neck Hill Road for the Towns of Hopedale and Mendon to submit to MassDOT, if desired. Applicant will agree to restrict truck traffic exiting the site to right-turn only onto Plain Street.

3. The Applicant is willing to advance the design and construction of a traffic signal and appropriate intersection improvements at the Plain Street at Hartford Avenue East intersection subject to the approval of the Town of Hopedale and the Town of Mendon. The project proponent will prepare a Traffic Signal Warrants Analysis (TSWA) for the intersection in accordance with the methodology outlined in the Manual on Uniform Traffic Control Devices (MUTCD). This would include performing a continuous 13-hour manual turning movement count (6:00 AM to 7:00 PM) and performing the associated traffic signal warrants analysis. The results of the TSWA would be summarized in a report and provided to the Town of Hopedale and the Town of Mendon. It is expected that signalization would be warranted at this intersection.

4. Recognizing the importance of the Plain Street at South Main Street intersection to the residents and businesses in the area, the project proponent will prepare a TSWA for the intersection in accordance with the methodology outlined in the MUTCD. This would include performing a continuous 13-hour manual turning movement count (6:00 AM to 7:00 PM) and performing the associated traffic signal warrants analysis. The results of the TSWA would be summarized in a report and provided to the Town of Hopedale.

5. Upon completion of the development and occupancy of the project, and in conjunction with our TMP, intersection operations at the intersection of Hartford Avenue East, South Main Street and Cape Road will be monitored, and the existing signal timing and phasing will be reviewed, and the Applicant will work with The Towns of Hopedale and Mendon and MassDOT to appropriately modify to reflect traffic conditions at that time.

6. Remove existing signage on South Main Street directing traffic to the Rosenfeld Concrete facility.

7. The Transportation Demand Management (TDM) program identified in the TIAS will be implemented.

MDM Supplemental Comment 11: ***MDM concurs with the implementation of a TDM and Monitoring Program. The final Mitigation and Transportation Monitoring Program should be updated/amended to include the following additional or amended items:***

a) In addition to the proposed Heavy Vehicle Exclusions, MDM recommends the restriction of larger WB-67 tractor tailor trucks from the site using Cape Road as the turning movements at the Hartford Avenue intersection require use of the opposing turning lanes which creates a safety concern.

b) The Monitoring Program should require the Applicant to consult with the Planning Board to determine the need for further review/analysis if the site generates project traffic that exceeds the predicted traffic volumes identified in the submitted TIAS by more than 10%.

c) The Applicant should continue to work with the Towns of Hopedale and Mendon to implement intersection improvements at the Plain Street at Hartford Avenue East intersection. Intersection improvements at this location should be designed to accommodate WB-67 tractor tailor trucks and should not preclude future sidewalks and "complete streets" design elements that the Town may elect to pursue in the future.

The above mitigation relates to a standard warehouse and distribution facility type as defined under the Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition - Land Use Code 150. The above mitigation reasonably accommodates projected impacts at this level of trip activity. As a point of reference and consistent with MassDOT guidance, additional trips beyond those predicted in the submitted TIAS that result in a 5% change in intersection volume should be subject to more detail evaluation and potential mitigative actions, particularly the Hartford Avenue at South Main Street/Cape Road intersection. This threshold represents a peak period trip generation of an additional 70 or more peak hour trips during the weekday morning peak hour and 90 or more peak hour trips during the weekday evening peak hour compared to the assumptions documented in the Applicants traffic study. At this level of additional impact, MDM would advise that a more detailed assessment of impact at study locations be conducted to identify additional mitigative actions to offset additional

project impact – at least on a proportional impact basis. This may be achieved through (a) implementation of geometric and traffic control improvements to the intersection that address identified operational or safety deficiencies; or alternatively (b) a fair share financial contribution or commitment to the design and construction of intersection improvements as outlined under MDM's Comment 14 (Monitoring).

12. *Intersection Improvements Plan*. The TIAS recommends and provides a conceptual improvement plan for the intersection improvements at the proposed driveway/Plain Street intersection including the relocation of the site driveway and markings/signs. The site driveway is currently designed to be offset from the Newton Street and Mellon Street approaches to Plain Street. The site plan shows pedestrian connections to the parking areas and main building entrances.

MDM Comment 12: (a) The Applicant should consult with the Town with respect to complete streets bicycle/pedestrian features even if not desirable by the Town at this time, the design should not prelude the future implementation of pedestrian and bicycle improvements by others in the future. Likewise, area along the site frontage should be reserved to accommodate a future sidewalk connection between the on-site sidewalk and Plain Street. The design plans should be provided to the Town for review and approval and shall be designed to accommodate heavy truck traffic and design speeds in accordance with the observed 85th percentile speeds and AASHTO guidance for lane width and shoulder accommodations. The Applicant shall work with the Town with respect to wetlands impacts if applicable, other permitting, drainage improvements, and the Applicant shall design and implement the roadway improvement prior to initial occupancy.

(b) *MDM recommends that the Applicant consider bike accommodations along the roadway given the bicycle use observed along Plain Street in the traffic counts.*

(c) The Applicant should consider aligning the proposed site driveway with Mellen Street or Newton Street.

Bayside Response 12: Any proposed roadway or intersection improvements proposed by the Applicant will be designed and constructed with a Complete Streets approach. Any design plans will be provided to the Town of Hopedale and the Town of Mendon for review and approval. Any improvements will be designed to accommodate heavy truck traffic and design speeds in accordance with the observed 85th percentile speeds and AASHTO guidance for lane width and shoulder accommodations. The Applicant will work with the Town of Hopedale and Town of Mendon with respect to wetlands impacts if applicable, other permitting, drainage improvements, and the Applicant will design and implement the roadway improvement prior

to initial occupancy. Bicycle accommodations will be included in accordance with Complete Street concepts.

Along the site frontage, if there is not sufficient room within the existing Plain Street layout to accommodate a sidewalk along the west side of Plain Street, the Applicant is willing to grant an easement for future sidewalk construction by the Town of Hopedale.

As part of the planning for the project, consideration was given to the location of the proposed site driveway. Due to the nature of the project, and the fact that there will be large trucks, the Applicant knew that sending trucks to the east by way of Mellen Street or Newton Street was not feasible. These two roadways serve residential neighborhoods, and the trucks would have difficulty making turns in these neighborhoods. For this reason, the Applicant is directing all trucks to use Plain Street to/from the south for access and will agree to a right turn only restriction for exiting trucks.

MDM Supplemental Comment: ***MDM concurs that the location of the proposed driveway along Plain Street is optimal for visibility purposes. We further concur with the Applicant's proposed right-turn only restriction for trucks which can be reinforced with signs and advance driver notifications.***

In lieu of combining and realigning the Mellen Street and Newton Street approaches to Plain Street, MDM recommends that the southbound left-turn movement onto Mellen Street be restricted to improve safety at the intersection given its close proximity to the proposed driveway and skewed intersection alignment.

As indicated under response No. 11, the Applicant has committed to advance the design and construction of a traffic signal and appropriate intersection improvements at the Plain Street at Hartford Avenue East intersection subject to the approval of the Town of Hopedale and the Town of Mendon. The Applicant has conceptually described these improvements in a teleconference conducted with MDM on February 15, 2022. MDM advises that a concept plan of potential improvements be submitted to the Board as part of the record and that this concept provide the basis for a formal commitment to support the project impacts. MDM concurs in principal that these improvements, which are to be designed to accommodate larger WB-67 truck types and include possible signalization subject to warrants, will adequately support the project. Improvements should be designed to a "complete streets" design standard with appropriate right-of-way accommodation for future sidewalks should the Town elect to pursue such additional features.

Transportation Demand Management (TDM)

13. As outlined in the TIA, the Applicant proposes a TDM program to reduce the dependence on single occupant vehicles (SOV's).

MDM Comment 13: MDM generally concurs with the elements of the TDM; however, additional consideration should be given to expanding the TDM program to include the following elements:

(a) *The Applicant should install electric vehicle (EV) charging stations within the Project Site at convenient and easily accessible locations to encourage EV use.*

(b) *To the maximum extent feasible the Applicant should schedule shift changes outside peak hours.*

(c) *Potential expansion of the MWRTA service to serve the site should be considered as part of the proposed TDM programming for the site. Applicant should consult with the MWRTA and confirm whether the site can be designated as a stop on the MWRTA service route for Bus 14.*

Bayside Response 13: The site is being designed to accommodate electric vehicle charging stations in the future (EV-ready) should a need arise for a tenant or at a tenant's request. In the interim, the Applicant will construct eight (8) EV charging stations in the employee parking areas.

As part of the Transportation Demand Management (TDM) program for the site, the applicant will encourage tenants to implement TDM measures to help reduce the number of single occupant vehicles on the roadways around the site. This would include recommending shift schedules occur outside the peak hours. This will be determined when a tenant or tenants have been identified.

Bayside attempted to contact the MWRTA to determine if it was feasible to extend Bus Route 14 from Milford into Hopedale. Based on input received at the Hopedale Planning Board Public Hearing of January 5, 2022, it was indicated that Bus Route 14 is a route that serves the Town of Milford and that there are no plans to modify this route.

<u>MDM Supplemental Comment</u>: The final site plan should be designed to accommodate the ability to add a bus stop in the future should the MWRTA extend service to the area. No further response necessary.

Transportation Monitoring Program

14. *Monitoring.*

MDM Comment 14: The Applicant should develop an annual Traffic Monitoring Program (TMP) to begin six months after initial occupancy and again at full (85% or higher) occupancy of the site is achieved include the following:

a) *Monitoring should include turning movement counts at the study intersections and site driveways between the hours of 5 AM and 9 AM, and between 4 PM and 7 PM to capture facility peak generating periods.*

b) *Initiation of monitoring should be within six months of occupancy of the facility to allow for early identification of operational deficiencies that may require immediate action/countermeasures by the Applicant.*

c) *Automatic traffic recorder counts with classification on the site driveways to include a continuous 48-hours on a weekday.*

d) *The monitoring program should define specific operational and safety thresholds that would trigger the need for mitigative actions in consultation with the Town (level-of-service, queue extents, crash rates) that are tied to project trip increases that if met may trigger the need for geometric improvement; crash rates that increase relative to documented/baseline conditions following site occupancy that may require safety countermeasures.)*

(e) *A Phase II Traffic Monitoring Program should be initiated if the facility generates a significant change in trips compared to the standard ITE LUC 150 Warehousing assumptions documented in the Applicants traffic study (more than 10% change). The Phase II traffic monitoring program should include all study locations. The Phase II TMP should include the following additional information:*

(i) *MDM recommends that under a scenario where project impacts exceed those of a traditional warehouse use by more than 10 percent that the Applicant identify and implement additional mitigative actions to offset additional project impact. This may be achieved through (a) implementation of geometric and traffic control improvements that address identified operational or safety deficiencies; or alternatively (b) a fair share financial contribution towards the estimated cost of designing and constructing intersection improvements. Such funds should at a minimum be sufficient to advance engineering plans that would provide a basis for mitigation by other future developments in the area, state funding request or state grant program application such as MassWorks to address safety and operational needs to support further promote future economic growth in the area.*

Bayside Response 14: The Applicant has proposed a Traffic Monitoring Program (TMP) identified in the response to Comment No. 11 above.

MDM Supplemental Comment: No further response necessary.

Access and Circulation Comments

15. *Site Circulation*:

Applicant should confirm that the site driveway intersection and site provide sufficient maneuvering area to accommodate emergency vehicles and articulated trucks (WB-67 type design vehicles or equivalent) by conducting AutoTurn® vehicle turn analysis/exhibits to supplement the plan set. Likewise, an AutoTurn® vehicle turn analysis should be provided at the Plain Street intersection with Hartford Avenue and the Hartford Avenue intersection with South Main Street with respect to articulated trucks (WB-67 or equivalent), specifically the southbound right turn from Plain Street onto Hartford Avenue East and the eastbound right turn from Hartford Avenue East onto Cape Road.

Bayside Response 15: Shown on the attached plan, prepared by Highpoint Engineering titled Vehicle Maneuvering Exhibit are the AutoTURN runs performed for the project. This plan shows how large trucks and fire trucks can enter/exit and circulate on the site.

A vehicle swept-path analysis was performed at the Hartford Avenue East intersection with Plain Street using a WB-50 and a WB-67 tractor trailer truck. These graphics are shown on Figures 2, 3, and 4. The Applicant is proposing improvements to this intersection that will address any turning conflicts at this location.

MDM appreciates the opportunity to provide Transportation Planning & Engineering Services to the Town of Hopedale and look forward to discussing our findings at the upcoming Planning Board hearing. If you have any questions or concerns, please feel free to contact this office.

Sincerely,

Robert J. Michaud, P.E.
Managing Principal