



Memo

To: Mr. William Andrews, Chair
Upton Board of Appeals
1 Main Street, P.O. Box 163
Upton, MA 01568

From: Evan Drew, PE PTOE
David Glenn, PE

CC: Michael Antonellis
Director of Land Use and Inspectional Services

Stantec Consulting Services, Inc.
45 Blue Sky Drive, 3rd Floor
Burlington, MA 01803

Project/File: 179411159 Date: November 9, 2023

Reference: Comprehensive Permit Application (40B) 47 Main Street Residential Development – Traffic Impact Assessment Peer Review

Stantec Consulting Services, Inc. ("Stantec") has reviewed the *Transportation Impact Assessment – Proposed Multifamily Residential Development – Main Street (Route 140) Upton, Massachusetts* dated June 15, 2023 for Lobisser Building Corporation and prepared by Vanasse & Associates (VAI). The applicant is proposing approximately 68 units of multifamily residential development on approximately 6.75 acres on an undeveloped parcel on the north side of Main Street (MA Route 140) in Upton, Massachusetts. This location requires a new access driveway, proposed 700 feet west of School Street.

Stantec reviewed the traffic impact study by following MassDOT's *Transportation Impact Assessment (TIA) Guidelines*, Town of Upton's *Comprehensive Permit Rules of the ZBA* and *Bylaws* and generally accepted engineering practice. In addition, Stantec reviewed the plans, dated September 13, 2023, prepared by D&L Design Group. Specific to this memorandum is the review of the traffic engineering related elements of the plans and the connection between the traffic impact assessment and the site plans. Site/civil/stormwater elements of the plans and other documents associated with this development will be provided in a separate review by Stantec.

Per correspondence received from VAI on Tuesday, October 24th, 2023, Stantec expects VAI to provide a supplemental TIA evaluation that incorporates traffic impacts at the intersection of Main Street at Fiske Avenue. Although this supplement is still expected, Stantec included comments to note the inclusion of this intersection into the major sections of VAI's TIA report, however this does not mean other sections of VAI's TIA report not mentioned in this memorandum that should include the description or evaluation of Main Street at Fiske Avenue should be omitted from the updated TIA or TIA supplement.

VAI's TIA also notes Massachusetts Department of Transportation's (MassDOT's) Project No. 608490 projected to begin construction Early 2025, which intends to construct a roundabout at the Town of Upton's intersection of Main Street (Route 140) at Grove Street and Church Street and extend roadway and sidewalk improvements west to the intersection of Williams Street, which includes the proposed site access driveway for the 47 Main Street Residential Development.

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Existing Conditions

Table 1 – Study Area Intersection Description

Stantec recommends VAI revise the table to include the following intersections:

- Main Street (Rte. 140) at Fiske Avenue
- Main Street (Rte. 140) at Proposed Site Driveway

This revision is expected to provide description of the existing facilities at two study intersection closer to and immediate to the site access driveway.

Pedestrian and Bicycle Facilities

While VAI provided a general overview of the existing pedestrian and bicycle facilities within the overall study area, Stantec recommends VAI provide additional detail to the existing pedestrian facilities at the proposed site driveway access onto Main Street. There is an existing curb cut at the location where the new driveway is tying into Main Street.

Stantec also recommends that VAI include descriptions of the proposed pedestrian and bicycle improvements specific to the site access driveway planned through MassDOT's Resurfacing, Roundabout Construction, and Related Work on Route 140 (MassDOT Project No. 608490).

Stantec recommends VAI update the pedestrian and bicycle facilities review with the inclusion of Main Street at Fiske Avenue when available.

Background Volumes / No-Build Volumes / Project-Generated Traffic / Build Volumes

Stantec reviewed VAI's analysis of the existing traffic volumes, projected future no-build volumes, project-generated trips (utilizing the ITE Trip Generation Manual, 6th Edition), trip distribution, and project future build volumes and has no comments for the intersection volume diagrams and evaluations provided.

Stantec recommends VAI update the traffic volume networks and associated analyses with the inclusion of Main Street at Fiske Avenue when available.

VAI's trip generation analysis and ITE land use code projects a daily trip generation from the proposed site at about 310 vehicles per day. This number of new trips does not exceed the threshold of 2,000 new average daily trips (ADTs) for an Environmental Notification Form (ENF) review or 3,000 new ADTs for an ENF and Environmental Impact Report (EIR) prescribed by MassDOT's *Transportation Impact Assessment (TIA) Guidelines*.

Crash Data Analysis

Stantec reviewed MassDOT's IMPACT Crash Data Portal to confirm the crash data findings provided by VAI. Stantec concurs with the crash data findings and evaluations related to the intersections of Main Street at Mendon Street and Main Street at School Street and Pleasant Street.

However, Stantec identified two crashes within 200 feet to the east of the proposed site driveway and within the timeframe reviewed. Both of which involved injury crashes. Since these crashes occurred well within the

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analyzed stopping sight distance (SSD) and intersection sight distance (ISD) of the proposed site driveway, Stantec recommends VAI include these crashes within the proposed site driveway intersection evaluation and include the information on Table 4 for the Route 140 at Project Site Driveway column.

Traffic Operations Analysis

Stantec reviewed VAI's traffic operations analysis of the existing, projected future no-build, and projected future build scenarios and concurs with their findings that the project does not appear to contribute concerning levels of vehicle delays, vehicle queueing, or general level-of-service reductions to the site access location or the other intersections evaluated in the study.

Stantec recommends VAI update the traffic operations analysis and associated reporting for the Appendix and reporting tables within the body of the TIA with the inclusion of Main Street at Fiske Avenue when available.

Sight Distance Assessment

Stantec reviewed VAI's sight distance assessment, including the SSD and ISD calculations and concurs with the results.

(TIA) Summary

Stantec generally concurs with VAI's findings from their evaluations and recommends any revisions to these findings if required from differing results with the inclusion of the Main Street at Fiske Avenue intersection into the TIA study.

Recommendations

Stantec generally concurs with VAI's recommendations derived from their evaluations and recommendations for inclusion in the project site plan. However, the signing and pavement markings, most notably the site access driveway's approach to Main Street, do not appear on the Site Plans.

Stantec recommends VAI coordinate with MassDOT and incorporate descriptions and analysis of improvements proposed along Main Street with MassDOT Project No. 608490 specifically impacting the proposed site access driveway. If this coordination has already occurred, Stantec recommends VAI incorporate the results within the TIA.

Any revisions to these recommendations may be required with the inclusion of the Main Street at Fiske Avenue intersection supplement to the TIA study.

Site Plans – Traffic Elements

Site Access

VAI's TIA recommended the installation of a STOP sign (R1-1) and stop line pavement marking for the exiting approach from the development. Stantec concurs with this recommendation. However, the site plans reviewed did not provide portray these in the set provided. Stantec recommends the applicant's engineer

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provide these at a location per the most current edition of the Manual of Uniform Traffic Control Devices (MUTCD), also recommended within VAI's TIA.

The STOP sign and stop line locations should also correspond to VAI's measurement location for intersection sight distance (ISD), to meet the desirable distance of 385 feet east of the proposed site driveway and 445 feet west of the proposed driveway. This includes the removal and/or limitation of obstructions and potential landscaping that could encroach on the ISD sight triangle from the stopped position. Stantec recommends providing a detail of this sight distance measurement from the stop approach for both directions and a corresponding cross-section to verify that these minimum thresholds are met.

Site Driveway Pedestrian Crossing

The existing linework for the site plans show existing "handicap ramps" with what could be assumed to be detectable warning fields, based on the linework. This does not appear to be an existing condition that matches with field reviews of the proposed site access driveway.

The applicant should review the existing pedestrian crossing for conformance to the ADA and if they will be impacted by the change in grading and drainage due to the construction of the new driveway. It is unclear from the plans if the proposed crossing is intended to replace the existing pedestrian crossing within the right-of-way.

There also appears to be an existing manhole adjacent to the west transition ramp of the existing pedestrian crossing that does not appear on the plans.

Stantec recommends coordination with MassDOT regarding Project No. 608940 regarding the proposed work at the immediate roadway, sidewalk, and pedestrian crossing located at Main Street.

Stantec Summary

Stantec recommends the Applicant address the comments and issues noted above and resubmit a revised report with supporting information and provide a summary response letter addressing each comment noted above as required by the regulations.

Stantec recommends the applicant and their engineers coordinate with MassDOT regarding the proposed improvements related to Project No. 608490. Specifically, regarding the potential impacts or improvements related to the 47 Main Street site access driveway. If this coordination has already occurred, Stantec recommends the applicant and their engineers incorporate the results of the coordination within the TIA.