



May 13, 2019

Ms. Barbara J. Saint Andre
Director, Community & Economic Development
Medway Town Hall
155 Village Street
Medway, MA 02053

**Re: 39 Main Street
40B Site Plan Review
Medway, Massachusetts**

Dear Ms. Saint Andre:

Tetra Tech (TT) has reviewed specific submittal materials for the above-referenced Project to assist the Medway Zoning Board of Appeals (Board) in its Comprehensive Permit review. The following letter provides comments generated during our review of applicant submittals and generally focus on substantive concerns that speak to issues whose eventual resolution may substantially impact Project design or could otherwise result in potentially unsafe conditions or unanticipated impacts.

Our review is based on materials received from the Board comprising the following pertinent documents:

- An Application package titled "39 Main Street, Medway, MA, Application for Comprehensive Permit" dated March 2019, prepared by SLV Medway I, LLC (SLV)
- A plan (Plans) set titled "39 Main Street Site Plan of Land", dated October 11, 2018, revised March 26, 2019, prepared by Legacy Engineering LLC. (LEL)
- An architectural plan set, including landscaping plan titled "Comprehensive Permit Application, 39 Main Street, Medway, MA" not dated, prepared by SLV and Cube3.
- A water-sewer project letter dated October 19, 2018, prepared by LEL (formerly Merrikin Engineering, LLP).
- A Traffic Impact Assessment (TIA) titled "Transportation Impact Assessment, Proposed Residential Development, 39 Main Street (Route 109), Medway, Massachusetts" dated November 2018, prepared by VAI.
- Intersection Capacity Analysis (Synchro® files) for the Existing, No-Build and Build conditions provided via email from VAI dated April 26, 2019.

The Plans and accompanying materials were reviewed for good engineering practice, overall site plan efficiency, utilities, traffic and public safety. Review of stormwater and site grading will be completed by the Medway Conservation Commission in parallel with Medway Zoning Board of Appeals review process. In general, the plans and supporting materials were well done and we appreciate the clarity and completeness of plans provided. Our initial comments are provided below.

Site Design

The Site Plans provide a good introduction to the Project and its various components and shows the Project is placed in an appropriate location on the site in upland area. The following specific comments are offered to identify areas where additional information is required, or changes are requested to address questions or support further review.

1. The applicant should provide a survey of the property stamped by a licensed professional surveyor in the state of Massachusetts.

2. Retaining walls on western, southeastern and northeastern sides of the site are proposed to be greater than four feet in height and will require structural design. The design should also include provisions for installation of the proposed guardrail.
3. A four-foot retaining wall is proposed along the western side of the building adjacent to a sidewalk. We recommend the applicant provide detail of proposed fence or other means of fall protection for pedestrians utilizing the sidewalk in this area.
4. The applicant has proposed a boulevard entrance with two 16-foot lanes used for entrance and exit. NFPA requires 20-foot minimum lane width. We recommend the applicant confirm with Medway Fire chief regarding lane width and ensure Medway Fire Apparatus can navigate through the site and shall provide plans of proposed swept path of emergency vehicle(s) as required by the Fire Chief.
5. Proposed snow storage does not appear to be sufficient. Furthermore, snow storage is proposed along the building faces which may cause impacts to proposed light poles, sidewalk and landscaping. We anticipate the need for off-site removal of snow in a majority of snow events.
6. The Plans do not provide detail of proposed dumpsters or refuse loading locations. These locations should be shown on the Plans and should be adequately screened from public view.
7. Gates have not been shown on the Plans at the proposed fire lane to limit access to emergency vehicles only. A detail of the proposed gate(s) should also be shown with provisions for fire department access.
8. Light spill exists along the northern, western and southern property boundaries. We recommend the applicant provide shielding to all light fixtures to ensure light trespass does not occur on abutting properties.
9. We recommend wider sidewalks along parking areas to ensure bumper overhang does not impede travel on the sidewalk.
10. The proposed landscaping plan does not provide plant schedule. We recommend a schedule be provided to determine type and number of plants proposed. Proposed play area has also been relocated based on the Site Plans and the landscaping should show revised location. Snow storage areas should be included on the landscape plans and commentary on how proposed landscaping will be protected by snow plowing operations in designated areas.

Water

The Site Plans and appurtenant water and sewer projection letter indicate the Project will be served by public water via connection to an 8-inch water main in Main Street. Items provided below should be coordinated with the Town of Medway Water Department (MWD) to determine if the project meets town water standards and whether the development can be adequately served by the municipal water system. The following comments are offered specific to the Project water system and related analysis or lack thereof.

11. The applicant has not provided analysis of the existing water system and whether it can support the proposed development. Documentation should be provided demonstrating adequate supply and pressure is available to serve the Project without compromising service to surrounding properties.
12. The applicant has not proposed any hydrants at the site. Additionally, a dedicated fire service to the building has not been proposed. We recommend the Applicant provide confirmation of review of the Plans by Medway Fire Chief and their acceptance of the design.

13. We recommend the applicant provide clarification of proposed water service to the building. One gate valve is provided at the tee fitting to feed both legs of the building. If water is required to be turned off for any reason, the entire building would need to be shut down. Additionally, metering the two connections may be an issue.
14. An irrigation well has not been provided on the Plans. Municipal water supply shall not be utilized to irrigate the site.

Sewer

The Site Plans indicate the Project will connect to municipal gravity sewer in Main Street, wastewater from the Site will be conveyed by gravity to the proposed connection located north of the emergency fire lane curb cut. In all items provided below the applicant should coordinate with the Town of Medway Sewer Department (MSD) to determine if the project meets town standard and whether the development can be adequately served by the municipal sewer system. The following comments are offered specific to the Project sewer system and related analysis or lack thereof.

15. The applicant has not provided analysis of the existing sewer system and whether it can support the proposed development. The project is expected to generate a maximum daily flow rate of approximately 35,530 gpd (323 bedrooms @ 110 gpd/bedroom) based on MA Title V design flow rates. Documentation should be provided demonstrating adequate capacity exists within the municipal sewer system downstream of the project connection.
16. We recommend the applicant provide pipe flow calculations for proposed sewer. Proposed sewer is sloped at approximately 0.5% throughout the site and calculations should be provided to confirm the pipes will maintain a minimum two feet per second velocity to ensure pipe is actively cleaned and to prevent settlement of solids.
17. Information should be provided documenting the anticipated connection fees and describing any proposed inflow/infiltration (I/I) mitigation measures or related fees to be paid by the Project.

Traffic

The November 2018 TIA generally conforms with standard professional practices in the Commonwealth of Massachusetts for the preparation of traffic impact studies for projects of the size and nature of the proposed residential development. However, Tetra Tech recommends that the Applicant provide additional information identified below to provide a comprehensive review of the project's traffic-related impacts.

18. The TIA states that the study area generally includes sufficient roadway widths to support shared bicycle-vehicle travel. However, the shoulders along Main Street narrow at some points reducing the available travel widths. Tetra Tech recommends that the Applicant review the feasibility of providing continuous bicycle accommodations through the study area.
19. The TIA identifies an existing commuter rail shuttle operated by the Greater Attleboro Taunton Regional Transit Authority (GATRA) that provides service among Medway Middle School, the Medway Post Office and the Norfolk Commuter Rail Station operated by the Massachusetts Bay Transportation Authority (MBTA) during peak commuting periods. Tetra Tech recommends that the Applicant work with GATRA to discuss the feasibility of extending the shuttle service to the site to reduce the number of vehicle trips in and out of the site.
20. The crash analysis has generally been prepared in accordance with industry standards and includes an evaluation of data from the MassDOT crash database for the study intersections for the five-year

period between 2012 and 2016. However, the MassDOT crash data was not provided in the Appendix. It is recommended that the Applicant provide the crash data to Tetra Tech for review.

21. The Applicant has proposed to facilitate the completion of a Road Safety Audit (RSA) at the Main Street/Medway Commons/Walgreens driveway to identify potential safety improvements. The Applicant's commitment to the preparation of the RSA should be more specific. Tetra Tech recommends that the Applicant either prepare the RSA or fund the completion of the RSA.
22. Traffic generated by the project was based on trip rates published in ITE's Trip Generation for Land Use Code (LUC) 221 – Multifamily Housing (Mid-Rise) applied to 190 units. The site program evaluated in the TIA is expected to generate approximately 1,034 daily trips on a weekday (64 vph during the morning peak hour and 82 vph during the evening peak hour). Tetra Tech generally agrees with the trip generation methodology but notes discrepancies in the calculation (Tetra Tech calculated 68 trips during the morning peak hour and 84 trips during the evening peak hour). However, these discrepancies are minor and not expected to materially change the project's impacts identified in the TIA.
23. The TIA utilized HCM 2000 methodology for the signalized intersections and HCM2010 methodology for the unsignalized intersections using Synchro version 10 software. Tetra Tech generally agrees with the methodology used in the TIA but notes some discrepancies with some of the data inputs used in the analysis (i.e., lost time adjustments). However, given that the Main Street/Holliston Street is currently being improved by MassDOT and that the Applicant has already offered to facilitate the RSA for the Main Street/Medway Commons intersection, Tetra Tech does not believe it would be beneficial to update the capacity analyses.
24. The main site driveway location analyzed in the November 2018 TIA was located approximately 100 feet west of Lee Lane. Based on the March 26, 2019 site plans, the driveway location is now proposed approximately 200 feet west of Lee Lane. It is recommended that the Applicant provide updated stopping sight distance (SSD) and intersection distance analyses (ISD) including the preparation of sight distance plans and profiles SSD and ISD for the main site driveway to ensure that adequate sight distance can be provided. The Applicant should provide the updated SSD and ISD calculations accounting for roadway grades. If minimum AASHTO SSD and ISD criteria are not satisfied, mitigation should be proposed, where possible, to enhance sight lines.
25. The March 26, 2019 plan set indicates a total proposed parking supply of 304 spaces which exceeds the Town zoning requirement of 1.5 spaces per unit.
26. The TIA recommends that the access ways serving the site be at least 24-feet wide for two-way traffic flow and 20-feet wide for one-way traffic flow/fire lanes consistent with NFPA®1. Tetra Tech notes that the March 26, 2019 site plans do not meet these criteria. Tetra Tech recommends that the Applicant review the proposed grades of the driveways serving the site and conduct an AutoTurn analysis of the site layout to ensure that the largest emergency vehicle used by the Medway Fire Department can adequately maneuver in and around the site. The Applicant should also review the proposed site plan with the Medway Fire Department to ensure they are satisfied with the proposed site access and circulation.
27. The Applicant shows a proposed bus stop along the southerly side of Main Street approximately 100 feet west of Lee Lane. Tetra Tech agrees with the provision of a designated bus stop but recommends that the Applicant confirm the bus stop location with the Medway School Department.

28. The Applicant should specify how the proposed easterly driveway (labeled in the March 26, 2019 site plans as "Fire Lane") will be restricted to emergency vehicle use only to ensure that non-emergency vehicles will not use this driveway. Proper signage, pavement markings and infrastructure (i.e., removable bollards) should be considered.
29. The Applicant should consider installing Stop bars and Stop signs along the parking lot approaches to the main site driveway (on-site internal intersection) in accordance with the Manual on Uniform Traffic Control Devices (MUTCD).
30. The TIA recommends that marked crosswalks with the Americans with Disabilities Act (ADA) compliant wheelchair ramps be provided at all pedestrian crossings. Tetra Tech agrees with this recommendation and recommends that the Applicant review any areas where on-site roadway grades, including the site driveways, consist of grades that exceed ADA standards. If so, the Applicant should discuss the feasibility of providing ADA-compliant sidewalks or alternative travel paths that satisfy ADA standards.
31. The TIA recommends that a central mailing system be provided. Should a central mailing system be implemented outside of the proposed residential building, Tetra Tech recommends that the Applicant consider providing designated parking for mail delivery vehicles and motorists picking up/dropping off mail.
32. Tetra Tech recommends that the Applicant implement a rectangular rapid flashing beacon (RRFB) at the proposed crosswalk across Main Street to enhance pedestrian safety at this location by providing greater warning for motorists along Main Street of the midblock crosswalk.

In summary, the TIA generally conforms to industry standards. However, the Applicant should provide additional information on the items identified in this letter to provide a comprehensive review of the project's traffic-related impacts.

General Comments

33. We do not recommend using cement concrete curb as it is prone to damage by snow plows and generally wears down at a higher rate than bituminous Cape Cod berm or vertical granite curb due to use of salt, harsh winters and freeze/thaw cycles.
34. Project is located within jurisdiction to the Massachusetts Wetlands protection Act and will require a Notice of Intent (NOI) be filed for review.

These comments are offered as guides for use during the Town's review and additional comments are likely to be generated during the course of review. The applicant shall be advised that any absence of comment shall not relieve him/her of the responsibility to comply with all applicable local, state and federal regulations for the Project. If you have any questions or comments, please feel free to contact us at (508) 786-2200.

Very truly yours,



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Site/Civil



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