



May 13, 2019
(revised June 10, 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:

Vanasse & Associates, Inc. (VAI) and Legacy Engineering LLC (LEL) have submitted revised documents in response to comments included in our May 13, 2019 letter. The updated submittal included the following materials:

- Letter from LEL dated May 29, 2019 including a Fire Access Exhibit plan (Response Letter).
- Letter from VAI dated May 14, 2019 including a table containing MassDOT crash data (Traffic Response Letter).
- A plan (Plans) set titled "39 Main Street Site Plan of Land", dated October 11, 2018, revised May 29, 2019, prepared by LEL.

The materials were reviewed against comments provided in our previous letter (May 13, 2019) and updated comments are provided below. Text shown in gray represents information contained in previous correspondence while new information is shown in black text.

Comments which have been addressed to our satisfaction and require no additional responses or documentation are noted with the phrase "Comment resolved" and will be removed from subsequent comment letters. Comment numbering will be maintained throughout the review process.

Comments

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.

TT 6/10/19 Update: The Response Letter indicates a stamped survey will be provided on the next revision. Comment resolved for the purposes of this phase of review.

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.

TT 6/10/19 Update: The Response Letter indicates the structural design of the retaining walls is a construction-stage design consideration, and the contractor will provide designs as required by the Building Code. We recommend the decision include a condition requiring structural designs of proposed retaining walls and guardrails be provided in the final plans and the design be reviewed by the Building Department. Comment resolved for the purposes of this phase of review.

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.

TT 6/10/19 Update: The Plans have been updated to depict a fence within the detail on sheet C-10. As with comment 2 we request materials of the proposed fence to be provided in the final plans and reviewed by the Building Department. Comment resolved for the purposes of this phase of review.

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.

TT 6/10/19 Update: The Response Letter indicates the Fire Department has found the proposed boulevard entrance to be satisfactory. A fire truck turning movement plan is provided, and corner roundings throughout the site were increased to 25' radius to accommodate truck movements. Comment resolved.

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.

TT 6/10/19 Update: The Plans have been updated to show a snow storage plan. The Response Letter indicates that the snow storage plan "will be refined further as the landscape plan is modified and will be updated again on a subsequent revision." We recommend the decision include a condition requiring a final snow storage and landscape plan be provided prior to final review. Comment resolved for the purposes of this phase of review.

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.

TT 6/10/19 Update: The Response Letter indicates no dumpsters are proposed at the site and all refuse will be managed in the building interior. Comment resolved.

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.

TT 6/10/19 Update: The Plans have been updated to show a single gate 60 feet back from the street, at the request of the Medway Fire Department. Comment resolved.

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.

TT 6/10/19 Update: The Plans have been updated with a revised Lighting Plan. Light spillage is still proposed into Main Street but does not extend into the abutting properties. We recommend the Board make final decision on if the light spillage into Main Street but not on properties across the street will suffice. Comment resolved for the purposes of this phase of review.

9. We recommend wider sidewalks along parking areas to ensure bumper overhang does not impede travel on the sidewalk.

TT 6/10/19 Update: The Plans have been updated with sidewalks increased in width from 5.5' to 6.5' (including the integrated concrete curb). Comment resolved.

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.

TT 6/10/19 Update: See response to Comment 5. Future discussion related to this comment will be consolidated with Comment 5.

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.

TT 6/10/19 Update: The Response Letter indicates a fire flow test has been conducted and results have been attached. Results show adequate pressure and flows to the site. The applicant has been discussing water system capacity to DPS, and a model has been developed by a town consultant that can assess the impacts of the proposed use. We recommend the applicant provide written confirmation from DPS of the Applicant's proposal to use the existing model of the town's water system and that DPS confirms the site has adequate water access.

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.

TT 6/10/19 Update: The Plans have been revised to show two fire hydrants on site, which has been indicated to be sufficient by the Medway Fire Department. Comment resolved.

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.

TT 6/10/19 Update: The Plans have been revised to show separate lines for domestic and fire water service. Comment resolved.

14. An irrigation well has not been provided on the Plans. Municipal water supply shall not be utilized to irrigate the site.

TT 6/10/19 Update: The Response Letter indicates the precise location and quantity of irrigation wells will not be determined until the construction phase of the project. However, the Plans have been revised to show two potential well locations, as well as a Utility Note stating landscape irrigation using municipal water supply is prohibited. We recommend the decision include a condition requiring proposed irrigation well locations in the final plans. Comment resolved for the purposes of this phase of review.

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.

TT 6/10/19 Update: The Response Letter indicates the applicant has been informed by Medway DPS that there are no known sewer capacity issues in this area due to a main interceptor in close proximity to the site. However, we recommend that the applicant provide documentation from DPS stating there are no known downstream issues associated with the sewer system which may be intensified by the proposed development.

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.

TT 6/10/19 Update: The Response Letter indicates the pipeline slope exceeds minimum recommended slopes for a pipeline of this size. Comment Resolved.

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.

TT 6/10/19 Update: The Response Letter indicates all financial obligations and fee payments have already been established by the development agreement between the Town and the Applicant. Comment resolved.

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.

TT 6/10/19 Update: The Traffic Response Letter indicates the Applicant will incorporate requisite signage and pavement markings in the final design as a condition of approval to provide continuous bicycle accommodations along Main Street within the study area. Comment resolved for the purposes of this phase of review.

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.

TT 6/10/19 Update: The Traffic Response Letter indicates that as a condition of approval the Applicant will coordinate a meeting with the Town and GATRA to discuss the feasibility of expanding bus service within the Town to serve the Project and other area residential communities and businesses. We recommend the decision for the project include condition of approval related to this item. Comment resolved for the purposes of this phase of review.

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.

TT 6/10/19 Update: VAI has provided the MassDOT crash data requested. TT has reviewed the crash data and analysis for 2012 – 2016 provided and finds that it has generally been prepared in accordance with industry standard. Additionally, TT is aware of bicyclist fatality at the Main Street/Richard Road intersection in 2006 as reported by MassDOT. As identified in the Applicant's response to Comment 18, the Applicant is willing to implement bicycle accommodations, as appropriate, along Route 109 between Holliston Street and Coffee Street. Comment resolved for the purposes of this phase of 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.

TT 6/10/19 Update: The Traffic Response Letter indicates that as a condition of approval the Applicant will retain the services of an independent Traffic Engineer with experience in performing

RSAs to conduct an RSA at the Main Street/Medway Commons/Walgreens driveway to identify potential safety improvements. Comment resolved for the purposes of this phase of review.

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.

TT 6/10/19 Update: Calculation methodologies have been confirmed by both engineers and the methodologies used are sufficient for the proposed analysis. Comment resolved.

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.

TT 6/10/19 Update: Comment resolved.

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.

TT 6/10/19 Update: The Traffic Response Letter indicates that lines of sight along Main Street approaching the Project site driveway (SSD) and for a motorist exiting the Project site driveway and looking to the left and right along Main Street (ISD) exceed 600-feet, which exceeds the recommended minimum lines of sight for safe and efficient operation of the driveway based on an approach speed of 45 miles per hour (mph) along Main Street, which is slightly above the measured 85th percentile vehicle travel speed that was reported in the November 2018 TIA (41 mph) and is 10 mph above the posted speed limit (35 mph). Comment resolved.

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.

TT 6/10/19 Update: Comment resolved.

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.

TT 6/10/19 Update: The Traffic Response Letter indicates that the access roadways serving the Project site were designed and located in consultation with the Medway Fire Department. Comment resolved.

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.

TT 6/10/19 Update: The Traffic Response Letter indicates that the *Applicant will consult with the Medway School Department prior to the issuance of a Certificate of Occupancy for the Project and as a condition of the Comprehensive Permit regarding the final location of the proposed bus stop along Main Street.* Comment resolved for the purposes of this phase of review.

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.

TT 6/10/19 Update: The proposed fire lane will be gated as shown on the revised Plans and the work has been coordinated with the Medway Fire Chief. Comment resolved.

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).

TT 6/10/19 Update: Stop signs and lines have been added to the revised Plans. Comment resolved.

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.

TT 6/10/19 Update: The Traffic Response Letter indicates that the sidewalks and wheelchair ramps within the Project site will be designed to meet ADA standards. Comment resolved.

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.

TT 6/10/19 Update: The Traffic Response Letter indicates that a central mailing system will be integrated into the lobby area of the proposed building. Comment resolved.

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.

TT 6/10/19 Update: The Traffic Response Letter indicates that the Applicant will install a RRFB at the proposed crosswalk across Main Street subject to receipt of all necessary rights, permits and approvals. Comment Resolved.

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.

TT 6/10/19 Update: The Response Letter indicates the Applicant would be amenable to replacing concrete curb that is not part of the integrated sidewalk with a cape cod berm. We recommend the decision for the project include condition of approval related to this item. Comment resolved for the purposes of this phase of review.

34. Project is located within jurisdiction to the Massachusetts Wetlands protection Act and will require a Notice of Intent (NOI) be filed for review.

TT 6/10/19 Update: Comment resolved.

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,



Steven M. Bouley, P.E.
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Site/Civil



Courtney E. Jones, P.E.
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