

# JOE CASALI ENGINEERING, INC.

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September 10, 2021

Mr. James D. Rabbit, AICP  
TRC Chairman, Planning Director  
Town of South Kingstown Planning Department  
180 High Street  
Wakefield, RI 02879

Re: Union Fire District – Matunuck (Station 7)  
49 Matunuck Schoolhouse Road – AP 49-4, Lot 144)  
*Development Plan Review - Response to Comments*

Dear Mr. Rabbit:

On behalf of Union Fire District (Applicant), Joe Casali Engineering, Inc. (JCE) respectfully submits the enclosed materials in response to comments/conditions received at the August 11, 2021 Technical Review Committee meeting and as memorialized within your August 11, 2021 memorandum. JCE has reviewed the comments/conditions and offers the following responses:

*Condition 1: That the applicant will evaluate the turning radii of the three (3) parking spaces, the width of the travel lane, and the orientation of the parking spaces adjacent to the southwest portion of the fire station building to accommodate adequate turning movements.*

**JCE Response:** JCE has evaluated numerous options for the small, three-stall parking area located to the west of the proposed fire station building. As is clear, this site's geometry presents several challenges when working through the site layout and design. In addition, presenting a design that achieves Union Fire's project intent while maintaining screening and limiting visibility to the neighbor to the immediate west, further limits what can be achieved in this area. It is important to provide a small quantity of spaces for the public to park on the site that are separate from the Department's parking area, to limit potential vehicular interactions between the public and the Department's apparatus.

That being said, we have considered angled parking (i.e. 45-degree spaces, 60-degree spaces), however – the geometry of these types of angled spaces requires more stall length than a traditional 90-degree space, which would further reduce the available drive-aisle width (typically, angled parking requires a stall length of 20-ft). Further, in an angled space scenario, vehicles exiting these spaces would be required to drive down the main driveway, to the rear of the site, to turn around to ultimately exit the property. This maneuvering causes potentially unnecessary vehicular interaction between the public and fire/EMS staff, equipment, and vehicles.

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Ultimately, it is our professional opinion that the best scenario for this area is traditional 90-degree parking stalls. To aid in providing adequate area for turning movements, we have designed the stalls in this area to have 10-ft width (1-ft greater than the required/traditional 9-ft width). Further, we have worked with the Architect to shift the building 1-ft towards the east and have shifted the proposed westernmost berm 1-ft to the west, which allows us to slightly widen the drive aisle to 22-ft (from the previously proposed 20-ft). Finally, we have incorporated an additional 4-ft-wide striped island between the two traditional parking stalls to allow for additional area for maneuvering.

While this scenario still requires relief from the Zoning Board of Review for less than the required drive aisle width (24-ft required, 22-ft proposed), this proposed width coupled with the widened spaces and additional striped island, provides adequate real estate for all vehicles to pull into and out of the three (3) spaces located to the immediate west of the proposed building. Updated AutoTurn analyses with the modified drive aisle geometry are included within Appendix C of the revised Project Narrative and Stormwater Management Report.

*Condition 2: That the application employs root pruning or existing vegetation along the western property boundary in the area where shrub removal is proposed.*

**JCE Response:** The Existing Conditions and Site Prep. Plan (Sht. 1 of 9) has been updated to specify that the Contractor employ root pruning techniques, by a licensed Arborist, to protect existing root system to remain along the western property boundary in the area where shrub removal is proposed.

*Condition 3: That the applicant modifies the Site Plan to clearly show the venting of the septic system preferably with the vents located to the east of the auxiliary ambulatory building or routed through the building to a roof vent.*

**JCE Response:** The Utility Plan (Sht. 3 of 9) has been updated to include the location of the proposed OWTS system vent, located at the northeastern corner of the parcel, well east of the proposed EMS Building.

*Condition 4: The applicant shall provide fire protection service and a meter pit at the property line if the domestic service water line is longer than 100 ft with a minimum 4" line.*

**JCE Response:** The Utility Plan (Sht. 3 of 9) has been updated to include a 2-inch polyethylene domestic water service and a 4-inch cement lined ductile iron fire protection service from the existing 12-inch main within Matunuck Schoolhouse Road. The domestic and fire protection services will be routed to the southeast corner of the proposed Fire Station Building, where the necessary meter and backflow can be implemented (inside the proposed building). The service entrances to the building lie approximately 52-feet from the property line, which does not necessitate a meter pit at the property line.

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*Condition 5: That the applicant shall install bollards on any parking spaces abutting and perpendicular to the building in lieu of curb stops.*

**JCE Response: The Site Plan (Sht. 2 of 9) has been updated to include bollards at all parking spaces abutting the western side of the building as well as bollards at the front of the building (for fire apparatus).**

As discussed above, seven (7) sets of updated AutoTurn analyses for the site are attached for review and consideration. In addition, seven (7) sets up updated Site Plans are enclosed for review.

The Site Plans have been updated to incorporate a Site Lighting/Photometric Plan. As shown on this plan, there is little to no light spillover the eastern property line (max. 0.3 footcandles). It is important to note that this analysis does not take into consideration the dense stand of arborvitae in this area, the actual light spillover will likely be less than the 0.3 footcandles shown. This plans also shows some light spillover the western property line (max. 5.3 footcandles). This is primarily attributed to one light located above the emergency exit along the western side of the building. This light will not be on during typical conditions; only lighting when the emergency exit door is opened.

If you should have any questions or would like to meet to further discuss the plans, please call me or Joseph Casali, PE, MBA, at 401-944-1300.

Sincerely,  
JOE CASALI ENGINEERING, INC.



Daniel R. DeCesaris, P.E.  
*Project Manager*

xc: J. Blessing, UFD; S. Pinch, UFD; D. Horton, AIA; File