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Memorandum

To: Ching Wah Chin, Chairperson
Town Planning Board

From: John Hamilton

Date: July 11, 2017

RE: Butler Subdivision

At the request of the Planning Board I reviewed the Butler subdivision site plan as it pertains to emergency services access. Present for this review was Mr. Dave Sessions representing the applicant and Dan Ciarcia, Town Consulting Engineer. This review was conducted using the 2015 New York State Fire Code and the 2016 New York State Uniform Code Supplement. These are the current codes New York State adopted. Chapter 5 of the Code is the governing section. My findings are as follows:

Sec. 511.2.1 states "driveways shall provide a minimum unobstructed width of 12 feet (3658 mm) and a minimum unobstructed height of 13 feet, 6 inches (4115 mm)."

The proposed driveway shows a minimum width of 12 feet with a maximum width of 19 feet. Mr. Sessions advised the Briarcliff Manor Fire Dept. (BMFD) told him the width of their fire apparatus is 10 feet. This would leave a 2 foot buffer zone for the apparatus as it traversed the 12 foot area of the driveway. I measured the driveways in the area and found the average width is 12 feet. However, I advised Mr. Sessions I was concerned with the possibility of the driveway narrowing down during inclement weather and as a result the minimum width was changed to 14 feet, giving the fire apparatus a 4 foot buffer zone at its narrowest and a 9 foot buffer zone at its greatest width. Additionally, I advised Mr. Sessions the driveway needs to be designed to withstand a load of at least 75,000 pounds to allow safe access for the emergency vehicles. The plans will be revised to show these changes.

Sec. 507.5.1 states "*Where a portion of the facility or building hereafter constructed or moved into or within the jurisdiction is more than 400 feet (122 m) from a hydrant on a fire apparatus access road, as measured by an approved route around the exterior of the facility or building, on-site fire hydrants and mains shall be provided when required by the fire code official. **Exceptions:** 1. For Group R-3 and Group U occupancies, the distance requirement shall be 600 feet (183 m). 2. For buildings equipped throughout with an approved automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2, the distance requirement shall be 600 feet (183 m).*"

The distance from the existing fire hydrant to the proposed building is approximately 650 feet. This building is classified under the Code as R-3 (single family residence) and as a result exception 1 allows 600 feet to the hydrant. Additionally, Mr. Sessions stated the applicant is installing an approved automatic sprinkler system in the house which, under exception 2, would also allow a 600 foot distance to the hydrant. This shows a 50 foot discrepancy between the Code and the proposed building. The Code does allow modification by the fire code official. The 650 foot distance is to the front of the building. Normally a fire apparatus is not stationed directly against a building for several reasons, including the possibility of a building collapse, obstruction of ground ladders, the potential for a gas explosion and a heavy fire/smoke condition to name a few. It is not uncommon for the apparatus to be at least 1 hose length away, which is approximately 50 feet. Using this information the distance to the apparatus from the hydrant would be about 600 feet. Adding into this the fact the building will have a fire sprinkler system makes this distance acceptable.

The finished grade for the driveway according to the site plan will be 14%. There is no mention in the fire code for driveway grade. As such I cannot advise you regarding this issue. However, I am aware of the concerns raised regarding the devastating fire that occurred on Gordon Avenue a couple of months ago. I reviewed the driveway conditions there and found the driveway at its narrowest point is only 11 feet wide and has a grade of approximately 21%. Additionally the entrance to this driveway is a very sharp turn. The fire apparatus would need to make several maneuvers just to access the driveway. These conditions are not present in this project. As stated the proposed driveway will be a minimum of 14 feet in width and the grade will be only 14%. To give this perspective, Deer Trail at Hillcrest Drive has a grade of 13.5%, only a 1/2% difference. Mr. Sessions advised if the grade were reduced the building would be more obtrusive in the sense that the foundation would come up further from the ground. This would cause aesthetic issues for homeowners in the Chappaqua Road area. Aesthetic concerns is not a fire code issue and as such is not addressed in this report.

cc: D. Levenberg
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