

MEMORANDUM

Date: December 1, 2020

To: Paul McGovern, PG Construction Management

From: Greg Wozny

Reference: Red Robin Pastures

Paul, as requested WBA estimated the fire protection water demand for a proposed residential building located in Dover.

The total area of the building will be approximately 53,000 sq. ft, and the construction type will be VA.

Assuming that the loft is not classified as a story, and the 3rd floor level is located less than 30 feet above the lowest level of fire department vehicle access, standpipe system for this building will not be required. Therefore, the fire protection demand will be based on the sprinkler system only.

NFPA 13

WBA assumes that the water supply to the building will include a fire hydrant located not more than 100 feet from the fire department inlet connection, or at a distance approved by the local fire department.

The highest water demand will cause a dry system in the attic. The most remote area will include 2,350 sq. ft. and the required density will be 0.1 gpm / sq. ft. The minimum duration required by NFPA for Light Hazard occupancy is 30 minutes.

The minimum capacity of the water tank, based on sprinkler system demand, will be:

2,535 sq. ft. x 0.1 gpm/sq. ft. x 30 minutes = 7,605 gallons.

Adding unusable water capacity in the storage tank, the water tank shall be approximately

11,000 gallons.

**If the fire department request standpipe system for then building, the required water tank capacity will be approximately 16,000 gallons.*