



Botek Thurlow Engineering, Inc.

Civil Engineers

December 15, 2023

City of Pompano Beach Fire Department

RE: 101 S. Ocean Drive
BTE PROJECT NO. 23-1201
P&Z Number: 23-12000042

Required Fire Flow Calculations

In order to estimate the needed fire flow for the proposed building, Botek Thurlow Engineering used the ISO method. The following equation was used to calculate the fire flow:

$$NFF = (C)(O)[1.0 + (X + P)]$$

NFF = the needed fire flow in gallons per minute (gpm)

C = a factor related to the type of construction (gpm)

O = a factor related to the type of occupancy

X = a factor related to the exposure buildings

P = a factor related to the communication between buildings

The factor related to the type of construction was calculated using the following equation:

$$C = 18F(A)^{0.5}$$

F = 0.8 for Construction Class 4 (Masonry Non-Combustible)

A = effective area

The effective area is the sum of the square footage of the largest floor in the building and ½ the area of the other floors:

Effective Area = 22,847 sq. ft. + 99,803 sq. ft. = 122,650 sq. ft.

$$C = 18 \times 0.8 \times (122,650)^{0.5}$$

$$C = 3151 (3150)$$

$$NFF = (C)(O)[1.0 + (X + P)]$$

$$NFF = (3150)(0.85)[1.0 + 0.0]$$

$$NFF = 2677.5 \text{ gpm} \rightarrow 2675 \text{ gpm}$$

Therefore, the estimated needed fire flow per building for is 2675 gpm.

Sincerely,
BOTEK THURLOW ENGINEERING, INC.

Stephen F. Botek, P.E.
President

DRC

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