

July 9th, 2021

Tom Adams, AIA
Harter-Adams, P.A.
 875 Jackson Ave., Suite 110
 Winter Park, FL 32789
 PH: 407.647.5767

F Towneplace Suites Hotel – Lake City, FL
 JLC Project Number: JLC21.0042.00

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To whom it may concern:

As the Engineer of Record for the fire sprinkler system on the above referenced project, please find the following fire sprinkler engineering requirements per the Florida Administrative Code 61G15 Chapter 32 and as required by FBC, Section 903.3.1.1.

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1) Scope of work: Scope of work includes installing a wet pipe fire sprinkler system for a new 4 story Hotel Building of type II-A construction and an occupancy classification of R-1 and A-2. This building shall be protected with a NFPA 13 Wet Type Fire Sprinkler System.

2) The acceptance testing of the fire protection system and components shall follow the requirements of NFPA 13, 14 (Standpipes), 24 (2016 edition). System Acceptance and include all applicable items shown on the following forms: NFPA 13 (2016 edition), Figure 25-1, Contractors Material and Test Certificate for Aboveground Piping, and Figure 10.10.1, Contractors Material and Test Certificate for Underground Piping.

3) Classification hazards are as follows: Per section 32.004 below.

4) Applicable NFPA Standards: Per section 32.004 below.

5) Structure: Support systems for the fire sprinkler systems shall have adequate load carrying capacity for the maximum 5 PSF dead load. This has been coordinated with the project structural engineer and the 5 PSF dead load has been reflected on the structural engineering documents. The fire sprinkler system will not contribute any live load.

There are no significant structural openings that will be required for the fire sprinkler system. All firewall penetrations shall be protected by a UL listed fire stopping assembly.

Structural support for the fire sprinkler system is to be provided by the building structural system. Structural support for the fire sprinkler system load has been coordinate with the structural engineer at 5 LB/SF and will be reflected on the structural engineering documents.

6) Compliance: Layout documents shall be submitted to the Engineer of Record for verification of compliance.

7.7.109 #J67 CN6P.

(a) The Point of Service for the fire protection water supply as defined by Section 633.021(18), F.S.

The point of service for the fire protection water supply per F.S. 633.021(18) is the underground 6" underground piping on the discharge side of the site master double detector check backflow preventer and the 6" underground site fire protection water supply piping.

(b) Applicable NFPA standard to be applied, or in the case where no such standard exists, the engineering study, judgments, and/or performance-based analysis and conclusions.

NFPA 13, 2016 edition, NFPA 20, 2016 edition, NFPA 22, 2016 edition, NFPA 24, 2016 edition as well as NFPA 1, 2018 edition and NFPA 101, 2018 edition as modified by the Florida Fire Prevention Code, 7th Edition (2020).

(c) Classification of hazard occupancy for each room or area.

The hotel structure shall be protected in accordance with NFPA 13.

(d) Design approach, which includes system type, densities, device temperature rating, and spacing for each separate hazard occupancy shall be per the requirements of NFPA 13.

Light Hazard Occupancies - Corridor's, Lobby, Stairs, Breakfast, Registration, Toilet Rooms, Offices, Break Room and Suites.

Classification: Light Hazard, NFPA 13.

System Type: Wet.

Design Density: 0.10 GPM per Sq. Ft.

Hydraulic Area Of Application: Most Remote 1500 Sq. Ft.

Max. Head Coverage: 225 Sq. Ft.

Temperature Rating: 165 Degrees Fahrenheit U.N.O.

Hose Stream Allowance: 100 GPM

Duration: 30 Minutes

Ordinary Hazard Group-1 Occupancies – Guest Laundry, PBX, Storage, Mechanical rooms, Fitness.

Classification: Ordinary Hazard Group-1, NFPA 13.
System Type: Wet.
Design Density: 0.15 GPM per Sq. Ft.
Hydraulic Area Of Application: Most Remote 1500 Sq. Ft.
Max. Head Coverage: 130 Sq. Ft.
Temperature Rating: 165 Degrees Fahrenheit U.N.O.
Hose Stream Allowance: 250 GPM
Duration: 60-90 Minutes

Ordinary Hazard Group-2 Occupancies – Main Laundry, Retail Space.
Classification: Ordinary Hazard Group-2, NFPA 13.
System Type: Wet.
Design Density: 0.20 GPM per Sq. Ft.
Hydraulic Area Of Application: Most Remote 1500 Sq. Ft.
Max. Head Coverage: 130 Sq. Ft.
Temperature Rating: 165 Degrees Fahrenheit U.N.O.
Hose Stream Allowance: 250 GPM
Duration: 60-90 Minutes

(e) Characteristics of water supply to be used, such as main size and location, whether it is dead-end or circulating; and if dead-end, the distance to the nearest circulating main, as well as its minimum duration and reliability for the most hydraulically demanding design area.

Water supply is a new 8" C-900 underground main with a new 8" double detector check backflow preventer connecting to the existing 8" C-900 circulating city main. The public water supply reliability and duration meets and exceeds the requirements of NFPA 13 for the project.

(f) When private or public water supplies are used, the flow test data, including date and time of test, who conducted test or supplied information, test elevation, static gauge pressure at no flow, flow rate with residual gauge pressure, hydrant butt coefficient, and location of test in relation to the hydraulic point of service.

A Flow Test has been conducted within the last 6 months. The flow test results are listed below:

Test Date:	04/08/21
Test Conducted By:	AI/John
Flow Hydrant Location:	C/O US 90 W & NW Commerce Drive
Static Hydrant Location:	C/O US 90 W & NW Commerce Drive
Static Pressure:	76 PSI
Residual Pressure:	64 PSI
Flow at Test	943 GPM
Flow at 20 PSI:	2,167 GPM

(g) Valving and alarm requirements to minimize potential for impairments and unrecognized flow of water.

The private fire service main lead-in to include two supervised tamper switches outside on the indicating control valves (as part of the BFP). Each zone shall have a control valve with a tamper switch, a flow switch tied to the fire alarm system (alarm design parameters by others), gauge and test & drain. An electric alarm bell will be installed outside the building for local water flow indication. The sprinkler system will be monitored per NFPA 72 as defined by the fire alarm Engineer. Additional alarms are to be provided by the building fire alarm system in accordance with FBC 901.3 and 903.4.

(h) Microbial Induced Corrosion (MIC). The Engineer of Record shall make reasonable efforts to identify water supplies that could lead to Microbial Induced Corrosion (MIC). Such efforts may consist of discussions with the local water purveyor and/or fire official, familiarity with conditions in the local area, or laboratory testing of water supplies. When conditions are found that may result in MIC contamination of the fire protection piping, the engineer shall design corrective measures.

Current fire sprinkler experience in this jurisdiction indicates microbial concentrations in the public water supply are not present to the extent that would cause excessive MIC in steel or ductile iron piping. Complete protection is not practical. MIC has not been proven to be a problem in PVC fire service main (U.G.) piping.

(i) Backflow prevention and metering specifications and details to meet local water purveyor requirements including maximum allowable pressure drop.

A new 6" double detector check assembly is to be installed in the 6" fire service main leading to the building that meets local requirements. Pressure loss for this device shall be considered in the water demand and pressure calculations. A maximum of 8 psi loss for the new DDCA to be included in hydraulic calculations.

(j) Quality and performance specifications of all yard and interior fire protection components.

All materials shall be new and be provided to meet NFPA requirements, be UL listed and installed with product data sheets provided at the time of fire sprinkler permitting by the Fire Sprinkler Contractor.

(k) A determination of whether a fire pump is required and if so, the specific volumetric flow and pressure rating of the pump.

A fire pump is not required for this project.

(l) A verification of whether a firewater storage tank is required on site and if so, a determination of the size and capacity required.

No firewater storage tank is required for this project.

(m) Owner's Certificate. In storage occupancies, the Owner's Information Certificate is required from the property owner as it clearly defines the storage configuration of the space for the current and future use of the property, as required by the codes and standards set forth in subsection 61G15-32.002(7), F.A.C.

Not required, non-storage occupancy.

If there are any additional questions or comments, please feel free to contact us.

Sincerely,

Joseph, Lawrence & Co.



Adam Joseph Barney, P.E.
Principal



07/09/2021