Section K

Fire Department Letter

ACORN ENGINEERING, INC.

Assistant Chief Keith Gautreau
City of Portland Fire Department
380 Congress St.
Portland, ME 04101

February 26, 2018

Subject: 82 Hanover Street – Fire Department Checklist
Section K of Application

On behalf of Tom Watson & Co., LLC, the design team is pleased to respond to the Portland Fire Department Site Review Checklist.

1. Name, address, telephone number of applicant

   Tom Watson & Co., LLC
   188 State Street, 3rd Floor
   Portland, Maine 04101
   (207) 252-0358

2. Name, address, telephone number of architect

   Ryan Senatore Architecture
   565 Congress Street #304
   Portland, Maine 04101
   (207) 747-5159

3. Proposed uses of any structures [NFPA and IBC classification]

   NFPA: Business / IBC: B

4. Square footage of all structures, including decks [total and per story]

Existing Building		
1st Floor	38,696	sf
2nd Floor	4,541	sf
Total	**43,237**	**sf**

Proposed Building		
1st Floor	38,696	sf
2nd Floor	4,876	sf
Total	**43,572**	**sf**

5. Elevation of all structures

   The existing height of the building will remain at 27 feet. This height is below the allowable 105 feet within the B-7 zone.

6. Proposed fire protection of all structures

   The building will have a sprinkler system with additional protection per code. Fire flows and requirements for system storage or booster pumping are subject to the fire professional design which will be performed prior the request for a building permit.

7. Hydrant locations

   Two existing hydrants are located along Kennebec Street, approximately 114' and 118' from the northwest side of the existing structure. Hydrant flow data from the Portland Water District once received may be made available to the Fire Department upon request.

8. Water main size and location

   The redevelopment will be serviced by the existing water main within Parris Street. The 6" fire service line currently existing will remain, serving the building's fire suppression system. The building is expected to have internal sprinkler risers and a Fire Department pump connection on the street side of the building.

9. Access to all structures [min. 2 sides]

   Access to the structure is provided directly on Hanover Street and Parris Street.

10. A code summary, proved by the Architect is included in this section.

NFPA 1 – Chapter 18 Fire Department Access and Water Supply

18.2 Fire Department Access:

The project site is located in a densely developed area and is surrounded by three public streets. The following pavement street width is currently available:

- Hanover Street: 32 feet
- Parris Street: 30 feet
- Kennebec Street: 36 feet
  Proposed changes to Kennebec Street by others have been approved by the city. The proposed width of Kennebec Street is 38 feet.

Per NFPA 1 – Chapter 18.2.3.3.1, there will be public street access within 50 feet of at least one exterior door. Per NFPA 1 – Chapter 18.2.3.2.2.1, all first story floors shall be located not more than 450 feet from a Fire Department access road.

City of Portland Technical Manual – Section 3 Public Safety

3.4.1 Every dead-end roadway more than one hundred fifty (150') feet in length shall provide a turnaround at the closed end. Turnarounds shall be designed to facilitate future street connectivity and shall always be designed to the right (refer to Figure I-5).
Response: Not applicable

3.4.2 Where possible, developments shall provide access for Fire Department vehicles to at least two sides of all structures. Access may be from streets, access roads, emergency access lanes, or parking areas.

Response: As depicted on the site plan, the proposed building layout provides a minimum of two paved access points to the structure: one from Parris Street and one from Hanover Street.

3.4.3 Building setbacks, where required by zoning, shall be adequate to allow for emergency vehicle access and related emergency response activities and shall be evaluated based on the following factors:

- *Building Height.*
- *Building Occupancy.*
- *Construction Type.*
- *Impediments to the Structures.*
- *Safety Features Provided.*

Response: The proposed development layout has contemplated emergency access conditions and provides for safe and efficient access along the public street for emergency vehicles.

3.4.4. Fire Dept. access roads shall extend to within 50' of an exterior door providing access to the interior of the structure.

Response: The building will be provided with exterior doors that will be within 50' of a Fire Department access route.

3.4.5. Site access shall provide a minimum of nine (9) feet clearance height to accommodate ambulance access.

Response: The proposed site maintains the required clearance height of nine feet in all cases.

3.4.6. Elevators shall be sized to accommodate an 80 x 24-inch stretcher.

Response: The proposed elevator will meet this requirement.

3.4.7. All structures are required to display the assigned street number. Numbers shall be clearly visible from the public right of way.

Response: The applicant will work with the City's Public Works Division to assign street addresses and numbering to meet City Standards.

Thank you for your review. Please let me know if you have any additional questions or comments.

Sincerely,

William H. Savage, P.E.
Principal
Acorn Engineering, Inc.

Code Review

Mar 7, 2018

82 Hanover Street

		IBC 2009		NFPA 101 2009	
2 floors above grade		502.1			
Sprinklers			NFPA 13		NFPA 13
Fire Alarm			Required		Required
Smoke and CO Detectors			Smoke and CO detectors required		Smoke and CO detectors required
Occupant Load		T 1004.1.1		7.3.1.2	
		Tenant 1	A-2 Bar, 2,382 sf / 15 = 159 occ.		
		Tenant 2	A-2 Restaurant, 3,109 sf / 15 = 207 occ.		
		Tenant 3	F-1 Industrial, 5,957 sf / 100 - 60 occ.		
		Tenant 4	M Mercantile, 2,194 sf / 30 = 74 occ.		
		Tenant 5	A-2. Coffee Shop, 1,356 sf / 30 = 91 occ.		
		Tenant 6	M Mercantile, 1,425 sf / 30 = 48 occ.		
		Tenant 7	A-3 Art Gallery, 1,587 sf / 15 = 7 = 227 occ.		
		Tenant 8	M Mercantile, 1,983 sf / 30 = 67 occ.		
		Tenant 9	M Mercantile, 2,062 sf / 30 = 69 occ.		
		Tenant 10	A-2 Bar, 1,796 sf / 15 = 120 occ.		
		Tenant 11	A-3 Fitness Center, 3,234 sf / 50 = 65 occ.		
		Tenant 12	F-2 Brewery 6,531 sf / 100 = 66 occ.		
	2nd fl.	Tenant 13	B. Business 1,860 sf / 100 = 19 occ.		
	2nd fl.	Tenant 14	B. Business 1,869 sf / 100 = 19 0cc.		
			Total Occupant load = 1291 sf		
Use Group(s)			Business (B)		
			Bar (A-2)		
			Mercantile (M)		
			Brewery (F-2)		
			Art Gallery (A-3)		
			Industrial (F-1)		

Construction Type				
	T 503	3B - mixed combustible unprotected		III (000) mixed combustible unprotected
Building Height and Area	T503	B = 3 stories and 19,000 sf area		
		A-2 = 2 stories and 9,500 sf area		
		A-3 = 2 stories and 9,500 sf area		
		M = 2 stories and 12,500 sf area		
		F-1 = 2 stories and 12,000 sf area		
		F-2 = 3 stories and 18,000 sf area		
	506.3	Sprinkler Increase for areas		
Building Elements	T 601	0 hr Structural Frame		
	T 602	2 hr Bearing Walls Exterior (sep. dist >= 10')		
	T 602	2 hr Bearing Walls Exterior (sep. dist <10')		
	T 601	0 hr Bearing Walls Interior		
	T 601	0 hr Non-Bearing Walls Interior		
	T 602	0 hr Non-Bearing Walls Exterior (sep. dist >= 30')		
	T 602	1 hr Non-Bearing Walls Exterior (sep. dist <30')		
	T 601	0 hr Floor Construction		
	T 601	0 hr Roof Construction		
Separations			6.1.14.4.1	Separation (with Sprinkler)
	508.4	Separated Occupancies (with Sprinkler)		
		B and M = 0 hr		B and M = 1 hr
		B and A = 1 hr		B and A = 1 hr
		B and F-1 = 0 hr		B and Industrial = 1 hr
		B and F-2 = 1 hr		B and Industrial = 1 hr
		A and M = 1 hr		A and M = 1 hr
		A and F-1 = 1 hr		A and Industrial = 1 hr
		A and F-2 = 0 hr		A and Industrial = 1 hr
		M and F-1 = 0 hr		M and Industrial = 1 hr
		M and F-2 = 1 hr		M and Industrial = 1 hr
	708	1 hr Mechanical Shaft < 4 stories		
	1022.1	1 hr Stair Shaft < 4 stories		

	1018.1	1/2 hr Corridor	38.3.6.1.2	0 hr corridor
	508.2.5	1 hr Boiler Room	38.3.2.1.1	1 hr Boiler Room
	508.2.5	1 hr Trash Room	38.3.2.1.1	1 hr Trash Room
	508.2.5	1 hr Storage Room	38.3.2.1.1	1 hr Storage Room
Distances and Exits				
	1016.1	250’ Travel Distance to exits with Sprinklers		Industrial = 250’ Travel distance sprinkled
			12.2.6.2.1	Assembly travel distance sprinklered = 250’
	1014.3	75’ Common Path of Travel		Industrial common path 100’
			12.2.5.1.2	Assembly 75’ common path
	1018.4	50‘ Dead End		Industrial dead end 50’
		20’ in A use	12.2.5.1.3	Assembly 20’ dead end
Unprotected Openings	T 705.8	15% when exterior wall sep. dist. is 3’>5’		
	T 705.8	45% when exterior wall sep. dist. is 10’>15’		
	T 705.8	75% when exterior wall sep. dist. is 15’>20’		
	T 705.8	Unlimited when exterior wall sep. dist. is 25’>30’		
	T 705.8	Unlimited when exterior wall sep. dist. is >30’		
Egress Stairs	1009.1	Occ. Load >50 = 44” min width	24.2.5.4	36” min. stair width
	1009.1	Occ. Load <=50 = 36” min width	7.2.2.2.1.2(B)	44” min. over 50 occ.
	1003.3	Handrails can protrude into stair 4.5” max	7.2.2.2.1.2	Handrails can protrude into stair 4.5” max
	1005.2	Door Swings may not reduce egress width by > 1/2		
	1009.2	80” min headroom	7.2.2.2.1.1(a)	6’-8” min. headroom
	1009.3	7” max. riser	7.2.2.2.1.1(a)	7” max. riser
	1009.3	11” min Tread depth	7.2.2.2.1.1(a)	11” min. tread
	1009.6	12’ max. total rise between floors or landings	7.2.2.2.1.1(a)	12’ max. height between landings
Ramps	1010.2	1:12 (8%) Max slope	7.2.5.2(a)	1:12 max. slope
	1010.6	60” long landings at top and bottom		
	1010.6	2% max slope of landings	7.2.5.2(a)	1:48 max. cross slope
	1010.8	>6” rise must have handrails on both sides of ramp		
Egress Corridors	1018.2	44” min. when Occ. > 50		
	1018.2	36” min. when Occ. <= 50		
	1018.2	24” min. at service corridors to mechanical equipment		

	Accessibility		Ch 11 of IBC 2009 does not apply as State of ME did not adopt it as part of MUBEC			
			Must meet ADA 2010			
	Plumbing		Business	TBD by tenant		
	2015 UPC					