Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 11/06/14

PRELIMINARY CODE REVIEW - Architectural
PROJECT: U-Haul, 425 Marginal Way
LOCATION: Portland, Maine
DATE: July 29, 2014

A. Building Description:

The existing building is a one story, flat roofed building with masonry exterior walls. The buildings structure is comprised of exterior masonry bearing walls and interior steel framing (steel columns, steel bar joists, & metal roof decking). The building was originally constructed in 1961 and has had various mercantile, business, & other misc. uses in the years since.

Building Height: 1 stories / 12 feet +/- above grade

Building Size:

First Floor	10,420 sf
Total	10,420 sf

B. IBC Code Review (2009 IBC):

Construction Type: Type IIB (noncombustible – unprotected) – Table 503

Use Group: Group M (Mercantile) – Section 309
Group S-1 (Moderate Hazard Storage) – Section 311

Mixed Use and Occupancy: Table 508.4

Per table 508.4 there are no separation requirements are listed between Group M and Group S-1.

Sprinklers: No

Height Allowed: 2 stories & 55 feet – Table 503

Area Limitations: Table 503

Max. allowed floor area (Group M):	12,500 sf per floor
Max. allowed floor area (Group S-1):	17,500 sf per floor

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Fire Resistance Rating Required: Table 601

Structural Frame	0 hour	
Bearing Walls – Exterior	0 hour	
Bearing Walls – Interior	0 hour	
Nonbearing Walls – Interior	0 hour	
Floor Construction	0 hour	
Roof Construction	0 hour	
Elevator Shafts	1 hour	(708.4)
Stairway Shafts	1 hour	(708.4)
Exit Access Corridors	1 hour	(1018.1)
Fire Barriers	2 hour	(707.3.9)
Fire Walls	3 hour	(706.4)

Fire Doors and Glazing: sec 715

Refer to tables 715.4 and 715.5 for door and window protection ratings in rated wall assemblies. Note: Doors in 2 hour rated fire barriers are required to have a minimum fire rating of 1 ½ hours. Also note: Windows in fire barriers greater than 1 hour are not permitted.

Automatic Sprinkler Systems: sec. 903.2.7

An automatic sprinkler system in buildings containing Group M occupancy where one of the following exists:

1. A Group M fire area exceeds 12,000 sq. ft.
2. A Group M fire area is located more than 3 stories above the grade plane.
3. The combined area of all Group M fire areas on all floors, including any mezzanines, exceeds 24,000 sq. ft.
4. A Group M occupancy is used for the display and sale of upholstered furniture.

Note: None of these exist in the proposed project.

Automatic Sprinkler Systems: sec. 903.2.9

An automatic sprinkler system is required in buildings containing Group S-1 occupancy where one of the following exists:

1. A Group S-1 fire area exceeds 12,000 sq. ft.
2. A Group S-1 fire area is located more than 3 stories above the grade plane.
3. The combined area of all Group S-1 fire areas on all floors, including any mezzanines, exceeds 24,000 sq. ft.
4. A Group S-1 occupancy is used for the storage of commercial trucks or buses where the fire area exceeds 5,000 sq. ft.

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Note: None of these exist in the proposed project.

Occupant Load: Table 1004.1.1

	Allowable/sf	Occupant Load
Mercantile (1,950 sq. ft.)	1 person / 30 sf	65 persons
Business (220 sq. ft.)	1 person / 100 sf	3 persons
Storage (7,757 sq. ft.)	1 person / 300 sf	26 persons
	Total	94 persons

Common Path of Egress Travel: sec. 1014.3

Common path of egress shall not exceed 75 feet typ. For Group S occupancies with less than 30 occupants the common path of egress shall not exceed 100 feet.

Maximum Exit Access Travel Distance: sec. 1016.1

The maximum travel distance for Group M and S-1 shall not exceed 200 feet for a non-sprinkled building.

Corridor Fire Resistance Rating: Table 1018.1

Corridor fire resistance rating for Group M and S for occupant load of more than 30 persons shall be 1 hour for a non-sprinkled building.

Corridor Widths: sec. 1018.2

Minimum corridor width shall not be less than 44 inches and be determined by sec. 1005.1 (0.20 inches per occupant).

Dead End Corridors: sec. 1018.4

Dead end corridors shall not exceed 20 feet.

Corridor Continuity: sec 1018.6

Fire resistance rated corridors shall be continuous from the point of entry to an exit, and shall not be not be interrupted by intervening rooms.

Means of Egress: Table 1021.1

Minimum number of exits per story for occupancies less the 500 person per story shall be 2 exits.

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Floors in Group M and S shall be allowed to have 1 exit if the occupant load is less than 50 and the travel distance to the exit does not exceed 75 ft. Note: The proposed project's Group M occupancy exceeds 50.

C. NFPA Code Review (NFPA 101 - 2009):

Occupancy Type: Existing Mercantile Occupancy – Chapter 37
Storage Occupancy – Chapter 42

Multiple Occupancies: sec. 37.1.2.1 & 42.1.2

Per Table 6.1.14.4.1 the required separation between Mercantile and Ordinary Hazard Storage occupancies is 2 hours for a non-sprinkled building.

Subclassification of Occupancy: sec. 37.1.4.2

Class A, B or C Mercantile Occupancies: The proposed project's Mercantile Occupancy shall be classified as a "Class C" occupancy because it does not have more than 3,000 sq. ft. gross area used for sales purposes and occupies one story only.

Sprinklers: No

Occupant Load: Table 7.3.1.2

Mercantile	1 person / 30 sf
Business (Offices)	1 person / 100 sf
Storage	1 person / 300 sf

Minimum Construction Requirements: sec. 37.1.6 & 42.1.6

No special requirements
NFPA Construction Type – Type II (000)

Number of Exits: sec. 37.2.4.1 & 42.2.4.1

Minimum of 2 separate means of exit on each floor level – remotely located.

Per 37.2.4.3 - A single means of egress shall be permitted in a Class C mercantile occupancy, provided that the travel distance to the exit does not exceed 75 ft. Note: This would apply to the proposed project; however

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the IBC requires 2 means of egress because our occupant load exceeds 49 persons.

Per 42.2.4.1 – In ordinary hazard storage occupancies, a single means of egress shall be permitted from any story or section, provided that the exit can be reached within the distance permitted as a common path of travel.

Common Path of Travel: sec. 37.2.5.3.2 & 42.2.5

The maximum common path of travel shall not exceed 75 feet for non-sprinkled Mercantile Occupancies.

The maximum common path of travel shall not exceed 50 feet for non-sprinkled Storage Occupancies.

Dead-end Corridors: sec. 37.2.5.2 & 42.2.5

Shall not exceed 50 feet for non-sprinkled Mercantile and Storage Occupancies.

Travel Distance to Exits: sec. 37.2.6 & 42.2.6

The maximum travel distance to the nearest exit shall not exceed 150 feet for non-sprinkled Mercantile Occupancies.

The maximum travel distance to the nearest exit shall not exceed 200 feet for non-sprinkled Storage Occupancies.

Illumination of Means of Egress: sec. 37.2.8 & 42.2.8

Means of Egress shall be illuminated in accordance with section 7.8.

Emergency Lighting: sec 37.2.9 & 42.2.9

Emergency lighting shall be provided in accordance with section 7.9 for Storage Occupancies.

Exit Signs: sec. 37.2.10 & 42.2.10

Means of egress shall have signs in accordance with section 7.10.

Protection from Hazards: 37.3.2.2 & 42.3.2.2

No requirements for Storage Occupancies.

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For non-sprinkled Mercantile Occupancies protection from any area having a degree of hazard greater than that normal to the general occupancy of the building shall be protected with a fire barrier that has a 1 hour fire resistance rating. (8.7.1.1)

Interior Finishes: sec. 37.3.3.2 & 42.3.3.2

Mercantile Occupancy: Permitted wall and ceiling finishes (Class A & B). No flooring requirements.

Storage Occupancies: Permitted finishes (Class A, B & C).

Detection, Alarm and Communications: sec. 37.3.4 & 42.3.4

Not required for Class C Mercantile Occupancies.

Storage occupancies with ordinary or high hazard contents not exceeding an aggregate floor area of 100,000 sq. ft. shall not be required to have a fire alarm system.

Extinguishment Requirements: sec. 37.3.5 & 42.3.5

Mercantile occupancies, other than one story buildings that meet the requirements of a street floor, shall be protected by an automatic sprinkler system as follows:

1. Throughout all mercantile occupancies with story over 15,000 sq. ft. in area.
2. Throughout all mercantile occupancies exceeding 30,000 sq. ft. in gross area.
3. Throughout stories below the level of exit discharge where such stories have an area exceeding 2,500 sq. ft. and are used for the sale, storage or handling of combustible goods and merchandise.

Note: None of these exist in the proposed project.

Portable Fire Extinguishers: sec. 37.3.5.3

Portable fire extinguishers shall be provided in all mercantile occupancies in accordance with 9.7.4.1.

END