

Deirdre Gilmore

From: Jim McKay
Sent: Wednesday, April 24, 2019 3:57 PM
To: Deirdre Gilmore
Subject: FW: Sprinkler requirement at DPW Garage

From: Chief Rick Barrett
Sent: Wednesday, April 24, 2019 1:55 PM
To: Jim McKay <jmckay@millisma.net>
Subject: Sprinkler requirement at DPW Garage

Jim,
In regards to the need for a sprinkler system in the existing DPW garage when a new building is added, from what I can see from the conceptual design is that the new building will not be attached to the existing and actually be 10 feet away. Additionally the current DPW will not change it's use group and reduce it's occupant load. And it appears that the demolition of the existing office space would be under 10% of the overall square footage. Using only the conceptual design it appears that the building would not have to be sprinklered.

With that being said an existing building review will be required to obtain a building permit along with a full set of plans that the Architect and Engineer will be required to address fire protection which the building inspector and myself will have to review. An upgrade of the fire Master box from hardwired to radio box will be required.

Please feel free to contact me with any other questions you may have and I look forward to working with you on this project.

Respectfully,

Richard Barrett
Fire Chief
885 Main St.
Millis, Ma 02054
Phone: 508-376-2361
Fax: 508-376-4339



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Deirdre Gilmore

From: Jim McKay
Sent: Wednesday, April 24, 2019 4:09 PM
To: Deirdre Gilmore
Subject: FW: Millis DPW re MA Bldg Code & Sprinkler codes
Attachments: MA Sprinkler Law MGL Ch148, Section 26G.PDF; IBC 708.8 Separating Distances.pdf

From: Robert Taylor [mailto:rt@taylorburns.com]
Sent: Wednesday, April 24, 2019 3:08 PM
To: Jim McKay <jmckay@millisma.net>
Subject: Millis DPW re MA Bldg Code & Sprinkler codes

Jim,

Here attached are two related but separate aspects of the Massachusetts Public Safety codes relevant to the project.

1. Massachusetts Sprinkler Law (part of the Fire Prevention Code) : MGL Ch 148 Sect 26 G: Buildings larger than 7500 gsf must be sprinklered (garage is about 12,000) including existing buildings undergoing an “addition of major alteration thereto”. The proposed demolition will subtract space, not add, and will reduce the amount of combustible material (wood) in the building. The term “major alteration” is a matter of interpretation for the Millis Fire Chief to decide.
2. Massachusetts State Building Code 9th Edition (780 CMR) regarding separating distances defers to the International Building Code IBC2015, chapter 705. Table 705.8 indicates that two unsprinklered, unprotected building that are separated by 5 to 10 feet may have unrated openings comprising up to 10% of the walls facing each other. 5 feet distance separates the existing garage from the proposed staff wing. Note that footnote (i) indicates this does not apply to buildings of High Hazard H-1, H2, or H3. Note that the garage is currently occupancy type S-1 Moderate Hazard Storage, specifically for motor vehicle repair garages complying with the quantity limits for storage of haz mats (gas cans). After the vehicle repair functions are removed the garage will be occupancy type S-2 Low Hazard Storage.

I hope you find this information to be helpful. Feel free to call with any other questions.

Robert

Robert J. Taylor AIA, LEED-AP

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Part I	ADMINISTRATION OF THE GOVERNMENT
Title XX	PUBLIC SAFETY AND GOOD ORDER
Chapter 148	FIRE PREVENTION
Section 26G	AUTOMATIC SPRINKLER SYSTEMS REQUIRED FOR BUILDINGS AND STRUCTURES TOTALING MORE THAN 7,500 GROSS SQUARE FEET

Section 26G. Every building or structure, including any additions or major alterations thereto, which totals, in the aggregate, more than 7,500 gross square feet in floor area shall be protected throughout with an adequate system of automatic sprinklers in accordance with the provisions of the state building code. No such sprinkler system shall be required unless sufficient water and water pressure exists. For purposes of this section, the gross square footage of a building or structure shall include the sum total of the combined floor areas for all floor levels, basements, sub-basements and additions, in the aggregate, measured from the outside walls, irrespective of the existence of interior fire resistive walls, floors and ceilings. This section shall not apply to buildings used for agricultural purposes as defined in section 1A of chapter 128.

In such buildings or structures, or in certain areas of such buildings or structures, where the discharge of water would be an actual danger in the event of fire, the head of the fire department shall permit the installation of such other fire suppressant systems as are prescribed by the state building code in lieu of automatic sprinklers. Automatic suppressant or sprinkler systems shall not be required in rooms or areas of a telephone central office equipment building when such rooms or areas are protected with an automatic fire alarm system. Sprinkler systems shall not be required in open-air parking structures, defined as: buildings, structures, or portions thereof, used for parking motor vehicles and having not less than twenty-five per cent of the total wall area open to atmosphere at each level, utilizing at least two sides of the structure. This section shall not apply to buildings or additions used for residential purposes.

The head of the fire department shall enforce the provisions of this section.

Whoever is aggrieved by the head of the fire department's interpretation, order, requirement, direction or failure to act under the provisions of this section, may, within forty-five days after the service of notice thereof, appeal from such interpretation, order, requirement, direction or failure to act to the automatic sprinkler appeals board as provided in section two hundred and one of chapter six. The board may grant a reasonable waiver from the provisions of this section, or may allow the installation of a reasonable alternative or modified system of automatic sprinklers upon reviewing the characteristics of buildings that have architectural or historical significance.

TABLE 705.8
MAXIMUM AREA OF EXTERIOR WALL OPENINGS BASED ON
FIRE SEPARATION DISTANCE AND DEGREE OF OPENING PROTECTION

FIRE SEPARATION DISTANCE (feet)	DEGREE OF OPENING PROTECTION	ALLOWABLE AREA ^a
0 to less than 3 ^{b, c, k}	Unprotected, Nonsprinklered (UP, NS)	Not Permitted ^b
	Unprotected, Sprinklered (UP, S) ⁱ	Not Permitted ^b
	Protected (P)	Not Permitted ^k
3 to less than 5 ^{d, e}	Unprotected, Nonsprinklered (UP, NS)	Not Permitted
	Unprotected, Sprinklered (UP, S) ⁱ	15%
	Protected (P)	15%
5 to less than 10 ^{e, f, j}	Unprotected, Nonsprinklered (UP, NS)	10% ^h
	Unprotected, Sprinklered (UP, S) ⁱ	25%
	Protected (P)	25%
10 to less than 15 ^{e, f, g, j}	Unprotected, Nonsprinklered (UP, NS)	15% ^h
	Unprotected, Sprinklered (UP, S) ⁱ	45%
	Protected (P)	45%
15 to less than 20 ^{f, g, j}	Unprotected, Nonsprinklered (UP, NS)	25%
	Unprotected, Sprinklered (UP, S) ⁱ	75%
	Protected (P)	75%
20 to less than 25 ^{f, g, j}	Unprotected, Nonsprinklered (UP, NS)	45%
	Unprotected, Sprinklered (UP, S) ⁱ	No Limit
	Protected (P)	No Limit
25 to less than 30 ^{f, g, j}	Unprotected, Nonsprinklered (UP, NS)	70%
	Unprotected, Sprinklered (UP, S) ⁱ	No Limit
	Protected (P)	No Limit
30 or greater	Unprotected, Nonsprinklered (UP, NS)	No Limit
	Unprotected, Sprinklered (UP, S) ⁱ	No Limit
	Protected (P)	No Limit

For SI: 1 foot = 304.8 mm.

UP, NS = Unprotected openings in buildings not equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.

UP, S = Unprotected openings in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.

P = Openings protected with an opening protective assembly in accordance with Section 705.8.2.

a. Values indicated are the percentage of the area of the exterior wall, per story.

b. For the requirements for fire walls of buildings with differing heights, see Section 706.6.1.

c. For openings in a fire wall for buildings on the same lot, see Section 706.8.

d. The maximum percentage of unprotected and protected openings shall be 25 percent for Group R-3 occupancies.

e. Unprotected openings shall not be permitted for openings with a fire separation distance of less than 15 feet for Group H-2 and E-3 occupancies.

f. The area of unprotected and protected openings shall not be limited for Group R-3 occupancies, with a fire separation distance of 5 feet or greater.

g. The area of openings in an open parking structure with a fire separation distance of 10 feet or greater shall not be limited.

h. Includes buildings accessory to Group R-3.

i. Not applicable to Group H-1, H-2 and H-3 occupancies.

j. The area of openings in a building containing only a Group U occupancy private garage or carport with a fire separation distance of 5 feet (1523 mm) or greater shall not be limited.

k. For openings between S-2 parking garage and Group R-2 building, see Section 705.3, Exception 2.

705.8.6 Vertical exposure. For buildings on the same lot, opening protectives having a *fire protection rating* of not less than $\frac{3}{4}$ hour shall be provided in every opening that is less than 15 feet (4572 mm) vertically above the roof of an adjacent building or structure based on assuming an imaginary line between them. The opening protectives are required where the *fire separation distance* between the imaginary line and the adjacent building or structure is less than 15 feet (4572 mm).

Exceptions:

1. Opening protectives are not required where the roof assembly of the adjacent building or struc-

ture has a *fire-resistance rating* of not less than 1 hour for a minimum distance of 10 feet (3048 mm) from the *exterior wall* facing the imaginary line and the entire length and span of the supporting elements for the fire-resistance-rated roof assembly has a *fire-resistance rating* of not less than 1 hour.

2. Buildings on the same lot and considered as portions of one building in accordance with Section 705.3 are not required to comply with Section 705.8.6.