



The Commonwealth of Massachusetts
Executive Office of Public Safety and Security
Fire Safety Commission

Automatic Sprinkler Appeals Board

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Docket # 21-01
189 Alden Street
Duxbury, Massachusetts

AUTOMATIC SPRINKLER APPEALS BOARD DECISION

A) Statutory and Regulatory Framework

This is an administrative appeal held in accordance with Massachusetts General Laws Chapter 30A, Chapter 148, s. 26G, and Chapter 6, s. 201, relative to a decision of the Duxbury Fire Department to require The Art Complex Museum (hereinafter the "Appellant"), to install automatic sprinklers throughout the entire facility located at 189 Alden Street, Duxbury, Massachusetts.

B) Procedural History

By written notice dated June 22, 2021 and received by the Appellant on June 22, 2021, the Duxbury Fire Department issued an Order pursuant to the provisions of M.G.L. c. 148, s. 26G to the Appellant requiring automatic sprinklers to be installed throughout the subject facility located at 189 Alden Street, Duxbury, Massachusetts. On June 25, 2021 the Appellant filed a timely appeal of the determination with the Automatic Sprinkler Appeals Board. The Board held a hearing relative to this appeal on July 15, 2021 via video conference.

Appearing at the hearing on behalf of the Appellant were: Andy Bentinck-Smith, Vice President/Board Member, acting in role of owner; Guy Hermann and Sara Zarrelli, Museum Insights, Project Coordinators; Matthew Oudens and Noel Murphy, Oudens-Ello Architecture, Project Architects; John Mongelli and Kevin Czarnecki, Kohler Ronan, Project Engineers; Corey Fisher, Code Consultant, CodeRed; Michael Weatherwax, Project Manager, Turner Construction; Charles Weyerhaeuser, Director; Justin Weyerhaeuser, Board Member for The Art Complex; and Kelly Ellis, Turner Construction.

Appearing on behalf of the Duxbury Fire Department was: Deputy Chief Robert G. Reardon; Captain Brian J. Monahan; James Wasielewski, Building Commissioner/Director of Municipal Services; Jim McHugh, Fire Protection Engineer, JB Engineering; and Tracy McHugh, JB Engineering.

Present for the Board at the hearing was: Patricia Berry, Chair; Maurice M. Pilette, Vice Chair; Deputy Chief Joseph Shea (designee of the Boston Fire Commissioner); Thomas Coulombe; Alexander MacLeod; and Kristin Kelly. Glenn M. Rooney, Esquire, was the Attorney for the Board.

C) Issue(s) Presented

Whether the Board should affirm, reverse or modify the determination of the Duxbury Fire Department requiring sprinklers in the Appellant's building, in accordance with the provisions of M.G.L. c. 148, s. 26G?

D) Evidence Received

1. Application for Appeal by Appellant
2. List of Exhibits Submitted by the Appellant in Support of the Appeal
- 2A. Written determination from the Duxbury Fire Department Building permit denial letter from Town of Duxbury (dated 6/22/21)
- 2B. Memorandum requesting relief
- 2C. Engineering Firm Kohler Ronan Fire Protection presentation
- 2D. Kohler Ronan sprinkler system design documents
- 2E. Kohler Ronan Fire Protection Narrative
- 2F. Kohler Ronan Fire Sprinkler Reports
 1. Basement (wet pipe)
 2. First Floor Interior (wet pipe)
 3. First Floor Exterior (dry pipe, under 5' roof overhangs)
- 2G. Memorandum from Simpson Gumpertz & Heger Engineering
- 2H. Flow Test 1
- 2I. Flow Test 2
- 2J. Memorandum from Milosh Puchovsky, PE, FSFPE - Professor of Practice and Associate Department Head, Fire Protection Engineering, at Worcester Polytechnic Institute
- 2K. Architectural Drawings and Site Photos
 1. Proposed Site Plan
 2. Existing Conditions: Exterior Photos
 3. Existing Conditions: Interior Photos
 4. Existing Conditions: 1969 Drawings
 5. 3D Views
 6. Code Compliance Plans
 7. Basement Demo Plan
 8. First Floor Demo Plan
 9. Basement Plan
 10. First Floor Plan
 11. Basement Reflected Ceiling Plan
 12. First Floor Reflected Ceiling Plan
- 2L. Fire suppression budget from Turner Construction Company
- 2M. Code Memo from Code Red, Code Consultant
- 2N. JB Engineering Documents
3. Notice of Hearing to Appellant (dated 6/30/21)
4. Notice of Hearing to Duxbury Fire Department (dated 6/30/21)
5. Memorandum regarding Remote Hearing Procedures (dated 6/29/21)
6. Copies of two Memoranda that accompany Hearing Notices (dated 5/1/20)
7. Exhibits Submitted by the Duxbury Fire Department in Support of the Appeal

- 7A. Written determination from the Duxbury Fire Department Building permit denial letter from Town of Duxbury (dated 6/22/2021)
- 7B. Alden Road Flow Test conducted by Armory Engineers (dated 4/12/2011)
- 7C. Updated Advisory regarding M.G.L. c. 148, s. 26G issued by Automatic Sprinkler Appeals Board (dated 5/15/2020)
- 7D. E-mail correspondence between Captain Monahan, Duxbury Fire Department and Jacob Nunnemacher (dated 6/16/2021 and 6/20/2021)
- 8. Memorandum to Peter Mackin, Duxbury Water & Sewer Superintendent from Lauren E. Underwood, P.E. of Environmental Partners re: Alden St. Hydraulic Assessment (dated 7/8/21)
- 9. Correspondence from Simpson, Gumpertz & Heger to Oudens Ello Architecture regarding Structural Support of Sprinkler Pipes at The Art Complex, Duxbury (dated 6/25/2021)
- 10. Undisputed Facts re: The Art Complex, 189 Alden Street, Duxbury, signed by both parties (dated 7/13/2021)
- 11. Points in Dispute – Key Questions for Discussion (dated 7/13/2021)

Stipulated Facts

- 1. The Art Complex Museum is 15,981 square feet in floor area.
- 2. The interior dimensions of the museum are approximately. 175'L x 40'W.
- 3. The existing building is a non-separated mixed use containing Group A-3, Group B, and Group S-2 spaces. No change of use is included as part of the project. The group breakdown is:
 - Museum Lobby and Galleries: Group A-3
 - Offices: Group B
 - Storage/MEP: Group S-2
- 4. The construction is Type VB.
- 5. The posted capacity of the building is 258.
- 6. M.G.L. c. 148, s 26G, applies to this building project.
- 7. Under the criteria set by M.G.L. c. 148, s. 26G, the renovation is considered major.
- 8. The museum is approximately 1.3 miles from the Duxbury Fire Station Headquarters.
- 9. The property has legal access to water via a water line maintained by the Town of Duxbury located in Alden Street.
- 10. The results of a flow tests conducted by the owner's MEP contractor, T. G. Gallagher, are as follows:
 - Test conducted 2/24/21: static pressure 80 PSI; residual pressure 60 PSI, a flow rate of 440 GPM. This test utilized two hydrants.
 - Test conducted 5/20/21: static pressure 83 PSI, residual pressure 60 PSI, a flow rate of 530 GPM. This test was flowed from the museum, not utilizing two hydrants.
- 11. The unique architecture of the roof/ceiling structure and exterior overhangs presents significant engineering challenges.
- 12. The new, detached, non-combustible entrance is not part of the exterior fire protection system.

E) Subsidiary Findings of Fact

- 1) The subject building is The Art Complex Museum located at 189 Alden Street, Duxbury, Massachusetts. According to undisputed facts submitted by the parties, the Museum was built in 1971 and the building is 15,981 s.f. in size, 175'L x 40'W. The existing building is a non-separated mixed used containing Group A-3 (museum lobby and galleries), Group B (offices) and Group S-2 spaces (storage/MEP), with a total capacity of 258.
- 2) By written notice dated June 22, 2021 and received by the Appellant on June 22, 2021, the Duxbury Fire Department issued a determination requiring automatic sprinklers to be installed throughout the building. According to the notice, the determination was issued pursuant to the provisions of M.G.L. c. 148 s. 26G, and was issued in response to the Museum's intention to undergo major renovations to "improve the functionality of the building for both visitors and staff through reassigning spaces, replacing worn materials, and bring other aspects of the building up to modern standards and codes." Representatives of the Appellant acknowledged that "the planned renovations do not expand the footprint of the building but they are of sufficient scope, and the building is large enough" that the provisions of M.G.L. c. 148, s. 26G apply.
- 3) The Appellant testified that due to the unusual architecture and building materials (an open floor plan, roof overhangs mimicking rolling waves, and a curved, heavy timber frame), insufficient water pressure currently exists, without installing a fire pump or otherwise supplementing the water pressure, to support a sprinkler system throughout the entire subject building. However, it is the Appellant's intention to install a new 6 inch water line into the building as part of the renovations.
- 4) The Appellant also testified that due to the unusual architecture of the building, including the wide open first floor and timber frame construction, that there would be additional costs for piping in the sprinklers on the first floor, including bracing for the sprinkler pipes along the timbers and if required, under the outside overhangs of the building.
- 5) The Appellant requested relief from the Duxbury Fire Department Order to limit sprinkler installation to the basement level only and not throughout the entire building. The Appellant testified that the cost to install a fire pump and a "complicated" sprinkler system on the main level of the museum and under the roof overhangs would cost "an additional \$1,166,764" and "would increase the overall project budget by 33%."
- 6) In support of the Duxbury Fire Department's position, Captain Brian Monahan testified that the museum is a valued asset to the community and that he issued the order to sprinkle the building in order to protect this asset. He also acknowledged that the building has a unique/roof ceiling structure which would make the installation of sprinklers more complex but not impossible.
- 7) Captain Monahan testified that he believed there was adequate water supply and water pressure currently available through the water system on Alden Street to allow a sprinkler system to function and submitted a hydraulic assessment conducted by Environmental Partners showing two tests performed in February 2021 and May 2021 for the existing 6 inch water line into the building.

F) Ultimate Findings of Fact and Conclusions of Law

- 1) The provisions of M.G.L. c. 148, s. 26G, states, (in pertinent part): “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.” The stated provisions reflect amendments to the statute enacted by Chapter 508 of the Acts and Resolves of 2008.
- 2) The statute also states that “no such sprinkler system shall be required unless sufficient water and water pressure exists”.
- 3) The proposed building will consist of approximately 15,981 square feet in floor area. This clearly exceeds the statutory 7,500 s.f. threshold.
- 4) With respect to the Appellant’s contention that the sprinklers should not be required due to the lack of sufficient water pressure, the Board is guided by the language of the statute and related case law. In the case of *Chief of the Fire Department of Worcester v. John Wibley, et al.* 24 Mass. App. Ct. 912 (1987), the Massachusetts Appeals Court concluded that “The term ‘sufficient water and water pressure exists’ means that the owner of a building or addition to which the statute applies must have access to a source of water sufficient to operate an adequate system of sprinklers, or the exemption applies. The source may be either on the land on which the new building or addition is constructed or off the land, provided that it is legally available to the owner of the building or addition.”
- 5) Based upon the testimony and evidence submitted by the Appellant and the Duxbury Fire Department, it is clear that the Appellant has legal access to source of water sufficient to operate an adequate system of automatic sprinklers. The Board has determined that the circumstances relating to the purported lack of water pressure, particularly in light of the high threshold for such an exemption in accordance with the *Wibley* decision, does not waive the installation of the required sprinkler system throughout the subject building.
- 6) The Board finds there was adequate technical information provided at the hearing that an adequate system of automatic sprinklers could be installed throughout the entirety of the subject building.
- 7) The Appellant offered no factual or legal basis that would support a total waiver of the mandatory sprinkler provisions.

G) Decision and Order

Based upon the facilities current use as described at the hearing and based upon the aforementioned reasoning, the Board **upholds** the Order of the Duxbury Fire Department to require the Appellant to install adequate sprinkler protection throughout the subject building in accordance with the provisions of M.G.L. c.148, s. 26G based upon sufficient water supply and water pressure existing.

H) Vote of the Board

Patricia Berry, Chair	In Favor
Maurice Pilette, Vice Chair	In Favor
Deputy Chief Joseph Shea, designee	In Favor
Thomas Coulombe	In Favor
Alexander MacLeod	In Favor
Kristin Kelly	In Favor

I) Right of Appeal

You are hereby advised you have the right, pursuant to section 14 of chapter 30A of the General Laws, to appeal this decision, in whole or in part, within thirty (30) days from the date of receipt of this order.

SO ORDERED,



Patricia Berry, Chair

Dated: July 19, 2021

A COPY OF THIS DECISION AND ORDER WAS FORWARDED BY E-MAIL AND CERTIFIED MAIL, RETURN RECEIPT REQUESTED TO:

Andrew Bentinck-Smith, Vice President
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Captain Brian J. Monahan, EFO
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