

Stacy Middle School Fire Doors Proposal

1. What issue are we addressing

During the annual fire code inspection, the Stacy Middle School has been out of code compliance for at least the last five years. Fire doors no longer meet fire safety code - Massachusetts Comprehensive Fire Safety Code 527 CMR 1.00, Chapter 12.

Fire door hold open devices no longer operate on 29 fire doors (sets) inside of Stacy Middle School. In order to meet fire code the hardware, doors, and hold open device need to be replaced to ensure that codes are met.

2. What is the current situation

Currently, the hold open devices no longer work as designed. Doors and associated hardware need to be replaced.

3. Proposed Solution

The proposed solution is to replace the existing hold open device with wall magnets. Existing doors and associated hardware need to be replaced. Upon alarm the magnets release and the door closers close the open door. This replacement requires the installation of removable center mullions and rim panic devices that require limited service. The scope of the work is 29 door openings at a cost of \$6,000 per door for a total of \$174,000 for that aspect of the project. Additionally, there is a requirement to wire each opening to the fire panel that will involve \$26,000 in electrical work.

4. Metrics

The doors were originally installed in 1995 during the renovation of Stacy Middle School and are no longer serviceable or meet the current fire code.

5. Alternatives Investigated

This alternative is to replace all doors and hardware. The current plan is to reuse existing doors where possible.

Attachment: New England School Services Assessment

Fire code



NEW ENGLAND SCHOOL SERVICES, INC.

98 Hicks Avenue, Medford, MA 02155 • 617-776-4700 • FAX 781-396-8088

Milford Public Schools
31 West Fountain Street
Milford, MA 01757
Attention: Mr. Rob Quinn
Director of Facilities

RE: Fire doors and Hardware @ Stacey School

Dear Rob,

9-26-16

Over the years we have been asked to provide labor and materials to repair cross corridor and stairwell fire doors so to pass annual inspection. Each time, although we were able to make the repairs, we voiced our concern that the hardware originally used was in our opinion too expensive and not the best for these applications.

Currently doors are held open with door closers incorporating a hold open feature tied into the fire alarm. Working properly, upon alarm, doors are to close and latch. Many of these door closers are in need of replacement as is the latching panic hardware.

Our recommendation door closers is to replace the currently in place with a standard door closer and use wall magnets to hold the doors in the open position. Upon alarm the magnets release and the door closers close the doors. The combined cost of standard door closers and the wall magnets would be far less expensive than replacing what you have currently, aren't as problematic, are long lasting and able to stand up to the what can sometimes be a abusive environment.

When the doors close they need to latch. Many do not as the panic hardware needs to be replaced. Currently vertical rod hardware is in place. These are easily damaged and then unable to properly latch as required. I would propose using removable center mullions and rim panic devices. Less moving parts and very seldom require service. The cost of rim panics and mullion cost approximately the same as vertical rod panic devices, but the results are long lasting.

In some area's doors are missing and would need replacing along with the chosen hardware.



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I'm delighted that you've asked me to survey the school and make my recommendations. Inasmuch as we could make most of these repairs, as in the past they've proven to be only temporary fixes; and, as you know, it wouldn't be long before we are back doing the same again and again, ultimately costing lot's more in the end.

There are twenty-nine (29) door openings. The approximate cost to replace all noted is \$6,000 for a total of \$174,000.

Upon review, please feel free to contact me to discuss, and I can provide you hardware brochures and hard pricing if you think this is the way you might like to proceed.

Sincerely,

NEW ENGLAND SCHOOL
SRICES, INC.

Wayne R. Hingston

pd



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Member



M ~~12.4.6.5.2.2 If the laboratory finds that the modifications will not~~
A ~~compromise the integrity and fire resistance capabilities of the assembly,~~
M ~~the modifications shall be permitted to be authorized by the laboratory~~
A ~~without a field visit from the laboratory. [80:5.1.5.2.2]~~

12.4.6.6* Inspections.

12.4.6.6.1* Fire door assemblies shall be inspected and tested not less than annually, and a written record of the inspection shall be signed and kept for inspection by the AHJ. [80:5.2.1]

12.4.6.7 Performance-Based Option.

12.4.6.7.1 As an alternate means of compliance with 12.4.6.6.1, subject to the AHJ, fire door assemblies shall be permitted to be inspected, tested, and maintained under a written performance-based program. [80:5.2.2.1]

12.4.6.7.2 Goals established under a performance-based program shall provide assurance that the fire door assembly will perform its intended function when exposed to fire conditions. [80:5.2.2.2]

12.4.6.7.3 Technical justification for inspection, testing, and maintenance intervals shall be documented. [80:5.2.2.3]

12.4.6.7.4 The performance-based option shall include historical data acceptable to the AHJ. [80:5.2.2.4]

12.4.6.8 Functional Testing.

12.4.6.8.1 Functional testing of fire door and window assemblies shall be performed by individuals with knowledge and understanding of the operating components of the type of door being subject to testing. [80:5.2.3.1]

12.4.6.8.2 Before testing, a visual inspection shall be performed to identify any damaged or missing parts that can create a hazard during testing or affect operation or resetting. [80:5.2.3.2]

12.4.6.9 Swinging Doors with Builders Hardware or Fire Door Hardware.

12.4.6.9.1 Fire door assemblies shall be visually inspected from both sides to assess the overall condition of door assembly. [80:5.2.4.1]

12.4.6.9.2 As a minimum, the following items shall be verified:

- (1) No open holes or breaks exist in surfaces of either the door or frame.
- (2) Glazing, vision light frames, and glazing beads are intact and securely fastened in place, if so equipped.
- (3) The door, frame, hinges, hardware, and noncombustible threshold are secured, aligned, and in working order with no visible signs of damage.
- (4) No parts are missing or broken.
- (5) Door clearances do not exceed clearances listed in 4.8.4 and 6.3.1.7 of NFPA 80.
- (6) The self-closing device is operational; that is, the active door completely closes when operated from the full open position.
- (7) If a coordinator is installed, the inactive leaf closes before the active leaf.
- (8) Latching hardware operates and secures the door when it is in the closed position.
- (9) Auxiliary hardware items that interfere or prohibit operation are not installed on the door or frame.
- (10) No field modifications to the door assembly have been performed that void the label.
- (11) Gasketing and edge seals, where required, are inspected to verify their presence and integrity. [80:5.2.4.2]

12.4.6.10 Horizontally Sliding, Vertically Sliding, and Rolling Doors.

12.4.6.10.1 Fire door assemblies shall be visually inspected from both sides to assess the overall condition of door assembly. [80:5.2.5.1]

12.4.6.10.2 The following items shall be verified:

- (1) No open holes or breaks exist in surfaces of either the door or frame.
- (2) Slats, endlocks, bottom bar, guide assembly, curtain entry hood, and flame baffle are correctly installed and intact.
- (3) Glazing, vision light frames, and glazing beads are intact and securely fastened in place, if so equipped.
- (4) Curtain, barrel, and guides are aligned, level, plumb, and true.
- (5) Expansion clearance is maintained in accordance with manufacturer's listing.
- (6) Drop release arms and weights are not blocked or wedged.
- (7) Mounting and assembly bolts are intact and secured.
- (8) Attachment to jambs are with bolts, expansion anchors, or as otherwise required by the listing.
- (9) Smoke detectors, if equipped, are installed and operational.
- (10) No parts are missing or broken.
- (11) Fusible links, if equipped, are in the location; chain/cable, s-hooks, eyes, and so forth, are in good condition (i.e., no kinked or pinched cable, no twisted or inflexible chain); and links are not painted or coated with dust or grease.
- (12) Auxiliary hardware items that interfere or prohibit operation are not installed on the door or frame.
- (13) No field modifications to the door assembly have been performed that void the label. [80:5.2.5.2]

12.4.6.11 Inspection shall include an operational test for automatic-closing doors and windows to verify that the assembly will close under fire conditions. [80:5.2.6]

12.4.6.12 Assembly shall be reset after a successful test. [80:5.2.7]

12.4.6.13 Resetting of the release mechanism shall be done in accordance with manufacturer's instructions. [80:5.2.8]

12.4.6.14 Hardware shall be examined, and inoperative hardware, parts, or other defects shall be replaced without delay. [80:5.2.9]

12.4.6.15 Tin-clad and kalamein doors shall be inspected for dry rot of the wood core. [80:5.2.10]

12.4.6.16 Chains or cables employed shall be inspected for excessive wear and stretching. [80:5.2.11]

12.4.6.17 Lubrication and Adjustments.

12.4.6.17.1 Guides and bearings shall be kept well lubricated to facilitate operation. [80:5.2.12.1]

12.4.6.17.2 Chains or cables on biparting, counterbalanced doors shall be checked, and adjustments shall be made, to ensure latching and to keep the doors in proper relation to the opening. [80:5.2.12.2]

12.4.6.18 Prevention of Door Blockage.

12.4.6.18.1 Door openings and the surrounding areas shall be kept clear of anything that could obstruct or interfere with the free operation of the door. [80:5.2.13.1]

12.4.6.18.2 Where necessary, a barrier shall be built to prevent the piling of material against sliding doors. [80:5.2.13.2]

12.4.6.18.3 Blocking or wedging of doors in the open position shall be prohibited. [80:5.2.13.3]