



Jeanie Bourke &lt;jmb@portlandmaine.gov&gt;

**Fwd: PHA Riverton Head Start - Interior Exit Stair (URGENT)**

2 messages

**Jason Grant** <jgrant@portlandmaine.gov>  
To: Jeanie Bourke <jmb@portlandmaine.gov>

Mon, Jul 23, 2018 at 3:59 PM

Do you see any issues?

**Jason Grant** CFI-1, CFPE  
Life Safety CEO / Plan Reviewer  
Permitting and Inspections Department  
City of Portland  
389 Congress Street Rm 315  
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Phone:(207) 756-8187

----- Forwarded message -----

From: **Rae Pinyard** <raep@colbycoengineering.com>  
Date: Sun, Jul 22, 2018 at 10:11 PM  
Subject: Re: PHA Riverton Head Start - Interior Exit Stair (URGENT)  
To: "Bartlett, Jennifer L" <Jennifer.L.Bartlett@maine.gov>  
Cc: Jason Grant <jgrant@portlandmaine.gov>, Cheryl Sessions <csessions@porthouse.org>, Richard Biggs <rbiggs@porthouse.org>, Sam Thomas <samt@colbycoengineering.com>, Greg Norton <gregn@colbycoengineering.com>, Don Dyer <dond@colbycoengineering.com>, Brenda Braun <brendab@colbycoengineering.com>

Jennifer, Jason,

Attached are drawings for review that indicate the removal of the exterior stair and show construction of a new 1-hour fire barrier at the existing second floor corridor and east stairwell. This is for the second means of egress from the 2nd floor Head Start classroom.

Please indicate if this is acceptable to each of you and we will finalize the Rev 3 construction drawings with these changes.

Thanks  
Rae

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(Emily) Rae Pinyard  
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On Fri, Jul 20, 2018 at 12:14 PM, Rae Pinyard <raep@colbycoengineering.com> wrote:  
Jennifer,

Can we just add a layer of 5/8" Type X drywall to the underside of the existing hard ceiling in the corridor and East stair or will you require us to protect/encase the secondary wood support members that are in the attic? The attic is wood framed and filled with blown-in insulation. Getting drywall into that space would be difficult as there is only a small ceiling hatch. The hatch can be replaced with a fire-rated unit. Please see attached photos.

Please let us know your thoughts on this ASAP! Encasing the wall studs and floor joists is much more straightforward but I am not 100% certain that I'm interpreting your comments/requests accurately and we would like to avoid tearing

into the attic if possible.



***2nd floor corridor with attic access hatch in ceiling***



***2nd floor corridor leading to East stairwell***



**Attic**



**2nd Floor supports, looking up from 1st Floor level**

Thanks  
Rae

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On Wed, Jul 18, 2018 at 1:56 PM, Rae Pinyard <[raep@colbycoengineering.com](mailto:raep@colbycoengineering.com)> wrote:

Hi Jenn,

We would typically achieve protection of secondary structural members, like wall studs, with Type X gyp board on both sides of the studs.

We can specify encasement of the wood floor joists below the exit corridor with a 1-hr drywall assembly as well to provide protection.

Please let me know if these approaches are acceptable. The studs and supports themselves will not be fire rated, but they will be enclosed on both sides by 1-hour fire barriers and therefore protected to the same rating. We'll specify appropriate firestopping and joint sealants.

Thanks

Rae

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On Tue, Jul 17, 2018 at 8:38 AM, Bartlett, Jennifer L <[Jennifer.L.Bartlett@maine.gov](mailto:Jennifer.L.Bartlett@maine.gov)> wrote:

Good morning,

The highlighted sections reinforce the rating requirements. Any rated assy, especially an exit, shall be supported by structure rated the same (also 1 hour)

Jenn

**From:** Rae Pinyard [mailto:[raep@colbycoengineering.com](mailto:raep@colbycoengineering.com)]

**Sent:** Tuesday, July 17, 2018 8:03 AM

**To:** Bartlett, Jennifer L <[Jennifer.L.Bartlett@maine.gov](mailto:Jennifer.L.Bartlett@maine.gov)>

**Cc:** Jason Grant <[jgrant@portlandmaine.gov](mailto:jgrant@portlandmaine.gov)>; Cheryl Sessions <[csessions@porthouse.org](mailto:csessions@porthouse.org)>; Richard Biggs <[rbiggs@porthouse.org](mailto:rbiggs@porthouse.org)>; Sam Thomas <[samt@colbycoengineering.com](mailto:samt@colbycoengineering.com)>; Greg Norton <[gregn@colbycoengineering.com](mailto:gregn@colbycoengineering.com)>; Don Dyer <[dond@colbycoengineering.com](mailto:dond@colbycoengineering.com)>; Brenda Braun <[brendab@colbycoengineering.com](mailto:brendab@colbycoengineering.com)>

**Subject:** Re: PHA Riverton Head Start - Interior Exit Stair (URGENT)

Hi Jennifer,

Thanks for the quick response! To answer your questions in reverse:

2) The narrowest the stair is is 2'-9", but opens up to 3'-3" above the blocks. Revised PDF is attached.

1) We interpret that the structure supporting the fire barrier does not need to be fire-rated in this application per the highlighted sections below. These are nonbearing partitions, 1-hour rated, and the fire barrier supports will be located behind materials providing the fire resistance (Type X gypsum board). The building construction classification does not require fire rated structure.

NFPA 101 (2009):

7.1.3.2.1 Where this Code requires an exit to be separated from other parts of the building, the separating construction shall meet the requirements of Section 8.2 and the following:

(1)\*The separation shall have a minimum 1-hour fire resistance rating where the exit connects three or fewer stories.

(2)\*The separation shall have a minimum 2-hour fire resistance rating where the exit connects four or more stories, unless one of the following conditions exists:

(a) In existing non-high-rise buildings, existing exit stair enclosures shall have a minimum 1-hour fire resistance rating.

(b) In existing buildings protected throughout by an approved, supervised automatic sprinkler system in accordance with Section 9.7, existing exit stair enclosures shall have a minimum 1-hour fire resistance rating.

(c) The minimum 1-hour enclosures in accordance with 28.2.2.1.2, 29.2.2.1.2, 30.2.2.1.2, and 31.2.2.1.2 shall be permitted as an alternative to the requirement of 7.1.3.2.1(2).

(3) Reserved.

(4) The minimum 2-hour fire resistance-rated separation required by 7.1.3.2.1(2) shall be constructed of an assembly of noncombustible or limited-combustible materials and shall be supported by construction having a minimum 2-hour fire resistance rating, unless otherwise permitted by 7.1.3.2.1(6).

(5)\*Structural elements, or portions thereof, that support exit components and either penetrate into a fire resistance-rated assembly or are installed within a fire resistance-rated wall assembly shall be protected, as a minimum to the fire resistance rating required by 7.1.3.2.1(1) or (2).

Note the Annex material for condition (5):

A.7.1.3.2.1(5) It is not the intent to require the structural elements supporting outside stairs, or structural elements that penetrate within exterior walls or any other wall not required to have a fire resistance rating, to be protected by fire resistance-rated construction.

*8.2.3.3 Further supports that a 1-hour structural element would only be required to be rated to the construction classification of the building as long as the element does not serve as the enclosure or protect a vertical opening (note that this requirement is for the structural element to serve as the exit enclosure, not for support of the exit enclosure.*

8.2.3.3 Structural elements that support fire barriers shall be permitted to have only the fire resistance rating required for the construction classification of the building, provided that both of the following criteria are met:

- (1) Such structural elements support nonbearing wall or partition assemblies that have a required 1-hour fire resistance rating or less.
- (2) Such structural elements do not serve as exit enclosures or protection for vertical openings.

Thanks,

Rae

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(Emily) Rae Pinyard

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On Mon, Jul 16, 2018 at 1:09 PM, Bartlett, Jennifer L <[Jennifer.L.Bartlett@maine.gov](mailto:Jennifer.L.Bartlett@maine.gov)> wrote:

Good Afternoon,

Quick questions:

- 1) Any rated barrier is required to be supported by a rated assembly (2<sup>nd</sup> floor system, beams, columns, etc). How will this be accomplished?
  
- 2) Based on the apparent width of the ledge shown in the photo, the width of the stairs appears to have a greater difference than 3" (2'-9" vs 2'-11"). (?) I assume the width of the ledge is at least the width of the blocks or roughly 8". If the upper part of the stair is 2'-11" & you subtract the width of the blocks, is the lower stair 2'-3"?

Thanks

Jenn

***Jennifer Bartlett, Inspector III***

***Plans Review Supervisor***

***Maine State Fire Marshal's Office***

***45 Commerce Dr., Suite 1***

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**From:** Rae Pinyard [mailto:[raep@colbycoengineering.com](mailto:raep@colbycoengineering.com)]

**Sent:** Monday, July 16, 2018 12:38 PM

**To:** Jason Grant <[jgrant@portlandmaine.gov](mailto:jgrant@portlandmaine.gov)>; Bartlett, Jennifer L <[Jennifer.L.Bartlett@maine.gov](mailto:Jennifer.L.Bartlett@maine.gov)>



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**Subject:** PHA Riverton Head Start - Interior Exit Stair (URGENT)

Hi Jason and Jennifer,

Colby Company proposes the following changes to the existing building to provide a second means of egress for the 2nd Floor Head Start classroom:

- Provide 1-hour fire rated 2nd floor corridor and 1-hour fire barrier around the East stairwell. This 1-hour fire rating will be continuous from the Head Start exit access door on the 2nd floor all the way to the exit door on the first floor.
- Leave corridor and stair widths as-is for this secondary travel path.
- Leave the fire alarm control panel in the East stairwell.

This would amend our recent revised construction drawings which showed an exterior exit balcony and stair - those would no longer be provided if we proceed with the plan outlined above.

A speedy response would be greatly appreciated as to whether our proposal to install fire barriers but maintain existing widths is acceptable for this secondary means of egress in an existing building. Please note that the 2nd floor occupant load is under 30 people and the West stairwell, which is dedicated to Head Start, is already being fully re-built to meet current code. If a phone call or further info would expedite a response, please let me know.

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For further background related to this issue, please see below:

- Original design showed construction of a West Exit Stair dedicated to Head Start. Secondary egress was through a non-rated corridor and stairwell on the east side of the building. Common and max travel distances were below thresholds for this second means of egress.
  - This configuration was permitted by the City and also acceptable in our design review meetings with the SFMO.
- The SFMO construction permit review yielded the requirement for a second, rated means of egress on the second floor to serve Head Start.
- CCE revised the construction drawings to show an open, exterior balcony and stair for the 2nd floor. The West Exit Stair was still in place. This was acceptable to the SFMO but the unenclosed exterior stair doesn't meet city zoning requirements.
- City and SFMO have conferred and would approve use of the existing interior east stairwell as the secondary egress path if it can be made code compliant.

Exiting conditions for the East stairwell are shown in the attached drawing and photos. The stairwell itself has a minimum width of 2'-9". Re-constructing this stairwell to meet current code would require substantial modifications to the building and add significant cost to the project. The West stairwell is already being fully re-constructed to meet current code and this is the primary stairwell dedicated to Head Start. The 2nd floor occupancy is under 30 people. Considering that this is an existing building with a low occupant load, Colby Company requests that the existing corridor and East stairwell widths be permitted to remain as-is. Additionally, we would request that the fire alarm control panel be permitted to remain in the East stairwell. Please note that the West stairwell is already being fully re-constructed to meet current code and this is the primary Head Start exit.

Thanks

Rae

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**2018.07.20 - 218\_021\_001 - PHA Riverton Head Start - BLB.pdf**

1176K

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**Jeanie Bourke** <[jmb@portlandmaine.gov](mailto:jmb@portlandmaine.gov)>  
To: Jason Grant <[jgrant@portlandmaine.gov](mailto:jgrant@portlandmaine.gov)>

Wed, Jul 25, 2018 at 11:44 AM

This is fine, I was thinking of just filing this with the approved permit docs in lieu of an amendment under as built plans per SFM.

Jeanie

*Jeanie Bourke  
Code Enforcement Officer/LPI/Plan Reviewer  
Team Leader*

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