

MCKENZIE ENGINEERING COMPANY, INC.

August 28, 2023

Carol Costello
Superintendent of Schools
Berlin-Boylston Regional School District
215 Main Street
Boylston, MA 01505

Re: Roof Evaluation – Boylston Elementary School
200 Sewell St, Boylston MA

Dear Carol,

Per your request, on August 25, 2023, I inspected two roof areas of the Boylston Elementary School at 200 Sewell Street, Boylston. The two roof areas were the Library and the Gymnasium. Present at my inspection were Mackenzie Melo, an engineer from my office, and Daniel Ayala, Director of Facilities for the school. The purpose of my inspection was to determine if any structural issues existed with the above two roof areas. In addition to the 08-25-23 inspection, we received from Daniel Ayala electronic copies of Architectural and Structural drawings dated 1999 of the above two areas of the building. An inspection of the roof membrane was also made from the roof deck on August 25. The roof system is a fully adhered .060 EPDM on mechanically attached insulation and appears to be in good condition with many years of life expectancy given proper maintenance. The two areas inspected are discussed below:

Library:

The library roof structure is constructed of an 8x8 trussed tube steel frame supporting an arched upper roof and a hip style pitched lower roof with a standing seam metal roof deck. Calculations as to the roof capacity show that the roof was originally structurally overdesigned and can easily withstand double any code required loading. Two roof leaks were observed at the southeast and southwest columns, but these two leaks were not related to any structural issue but are most likely related to a caulking/flashing issue.

No structural issues were observed with the library roof or associated members and this roof is safe.

Gymnasium:

The gymnasium roof is constructed of 36-inch-deep open web steel joists that span 63'-4". There were no observed structural issues from below or above on the roof. The calculated average allowable snow load for this roof is 50 pounds per square foot which exceeds the 35 pounds per square foot code requirement. There were no observed roof leaks.

No structural issues were observed with the gymnasium roof or associated members and this roof is safe.

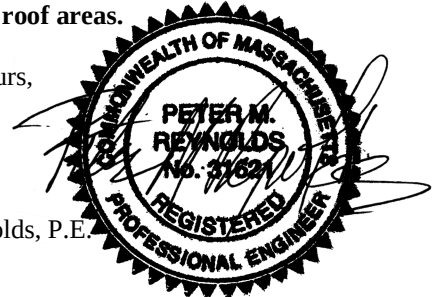
Roof areas adjacent to the Library and Gymnasium were also evaluated and found to exceed code requirements for load capacity.

Per my inspection and above stated analysis, these roof areas are safe for occupancy as no structural issues were found with the Library or Gymnasium roof areas or adjacent roof areas.

Please call if you have any questions.

Very Truly Yours,

Peter M. Reynolds, P.E.
President



ME-4409\Boylston Elem Sch Roof\Elem School Roof Analysis 08-28-23
Email: ccostello@bbrsd.org tzahariadis@boylston-ma.gov

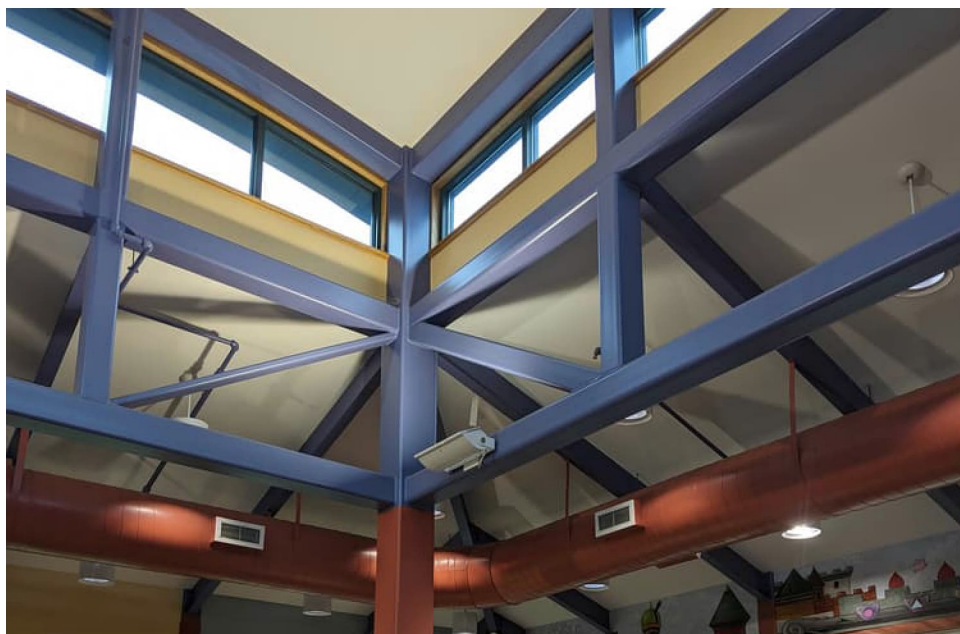
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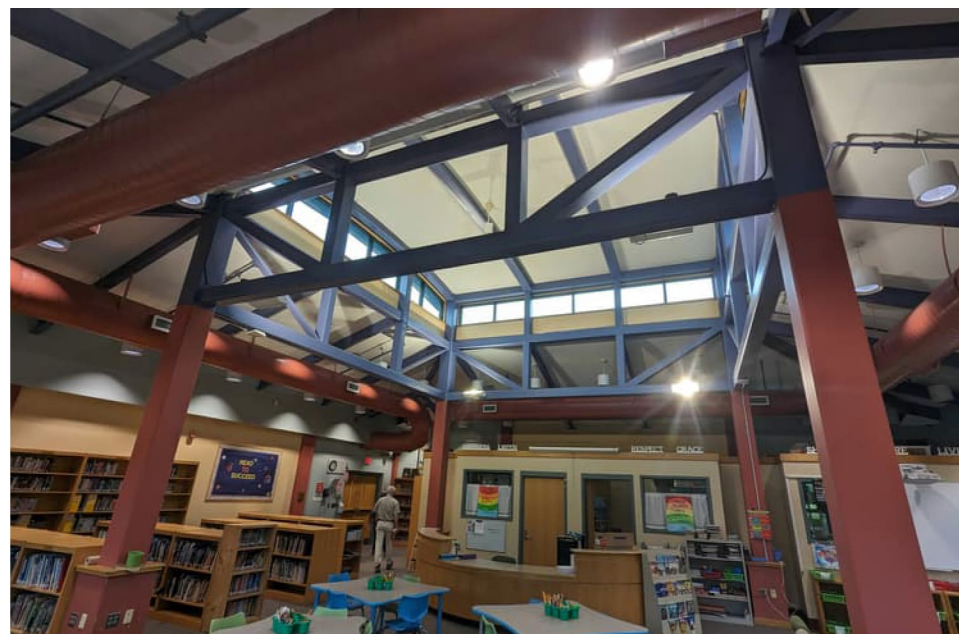
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Library - Roof Framing
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Library - Standing Seam Metal Roof Deck

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IMG_9697



Library - Standing Seam Metal Roof Deck

IMG_9702



Library - Standing Seam Metal Roof Deck

IMG_9698



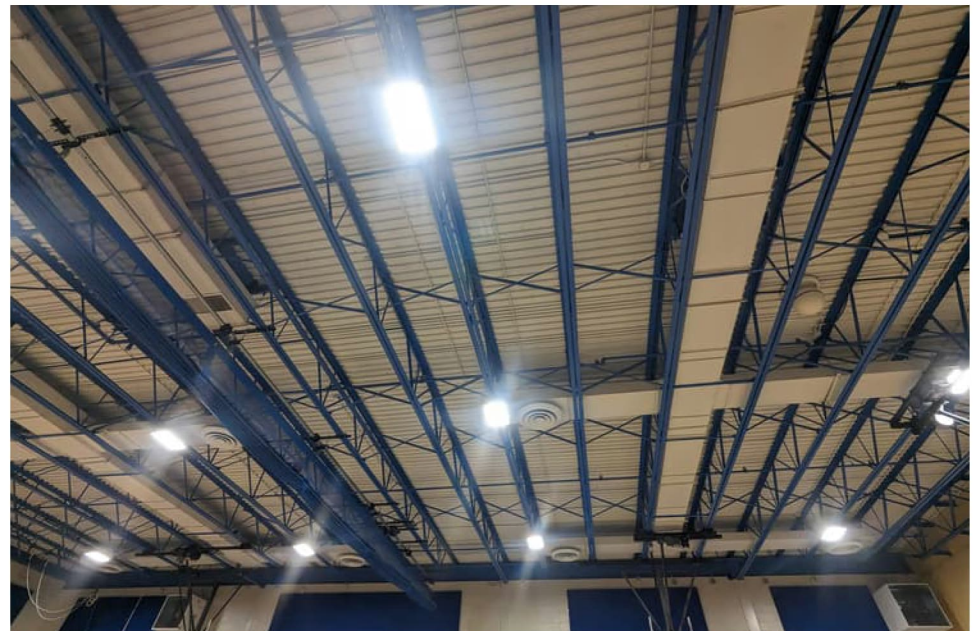
Gymnasium Roof
IMG_9705



Gymnasium Roof Framing
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Gymnasium Roof
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Gymnasium Roof Framing
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Other School Roof Areas
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Gymnasium Roof
IMG_9707



Other School Roof Areas
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Gymnasium Roof
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Other School Roof Areas

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