



FUSS & O'NEILL

May 17, 2024

Mr. Stephen Carroll  
Director of Facilities & Operations  
Stonington Public Schools  
40 Field Street  
Pawtucket, CT 06379

RE: Follow-Up Structural Condition Assessment  
Stonington Middle School – 204 Mistuxet Avenue, Mystic, CT 06355  
Fuss & O'Neill Reference No. 20240408.A10

Dear Mr. Carroll:

Fuss & O'Neill, Inc. (F&O) has completed a follow-up assessment of the existing 1<sup>st</sup> and 2<sup>nd</sup> floor concrete slabs for the original 1961 portion of the Stonington Middle School located in Mystic, CT. During our initial assessment in April of 2024, a portion of the 2<sup>nd</sup> floor corridor slab in the northern wing of the building was observed to be deflected with noticeably cracked VCT flooring and cracks and efflorescence on the underside of the concrete slab. The purpose of this follow-up assessment was to determine if there are additional areas of concern that require corrective action.

Prior to F&O completing the detailed visual assessment, Stonington Public School personnel removed many of the ceiling tiles throughout the area of interest, identifying several locations for closer examination by our team. These locations were generally concentrated within the 1<sup>st</sup> and 2<sup>nd</sup> floor corridors along the northern classroom wing of the building; however, we also observed the classroom slab conditions in some locations.

### Observations

On Wednesday, May 8<sup>th</sup>, 2024, two structural engineers with F&O were on site to complete an assessment of the floor slabs. The review began with the 1<sup>st</sup> floor corridor floor slab at the southern end of the northern wing originally constructed in 1961. We then progressed our review to the north end of the 1<sup>st</sup> floor and then repeated this process for the 2<sup>nd</sup> floor. Generally, the observed conditions do not appear to indicate significant structural deficiencies or areas for immediate concern other than the previously identified northern end of the 2<sup>nd</sup> floor corridor slab; however, there are some conditions worth noting, including:

- The southern end of the 1<sup>st</sup> floor corridor slab has VCT flooring that is cracked and generates a hollow sound and vibrates with a different frequency when conducting a heel drop test. Additionally, we observed multiple transverse cracks along the underside of the

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slab. We noted a heavy concentration of utility pipe supports anchored into this area of the slab.

- There are multiple locations throughout the 2<sup>nd</sup> floor corridor where void spaces along the underside of the concrete slab are present. These voids appear to result from poor consolidation during the original placement of the concrete and there were no observed conditions that would suggest the poor consolidation is actively progressing.
- In some locations, the original steel chairs (used to space reinforcing steel during concrete pours) are visible at the underside of the slabs and show signs of minor corrosion/rusting. These locations often coincide with areas of poor consolidation noted above.
- There appears to be mild efflorescence in some cracks and areas of poor consolidation; however, there are no indications that these areas of deterioration are active.

### **Recommendations**

F&O previously reviewed, in detail, the northern end of the 2<sup>nd</sup> floor corridor slab and recommended replacement. Our additional observations have confirmed this recommendation. The other conditions noted above do not require immediate corrective action or repair and are safe to continue to occupy; however, we do recommend installing crack monitors on the transverse cracks observed at the southern end of the 1<sup>st</sup> floor corridor to track any changes in their condition and possible progression of any structural concerns.

Please contact us with any questions or concerns regarding the results of our follow-up structural evaluation and recommendations for next steps.

Sincerely,

Jason J. LeDoux, P.E.  
Associate

Attachments:   Photos

**Stonington Middle School – Follow-up Structural Evaluation of Concrete Slabs**



Photo 1: Typical Cracking in VCT Flooring at Southern End of 1<sup>st</sup> Floor Corridor



Photo 2: Cracking at Underside of 1<sup>st</sup> Floor Corridor Slab



**Stonington Middle School – Follow-up Structural Evaluation of Concrete Slabs**



Photo 3: Typical Voids at Areas of Poor Consolidation



Photo 4: Exposed Rebar Chairs at Bottom of Concrete Slab



**Stonington Middle School – Follow-up Structural Evaluation of Concrete Slabs**



Photo 5: Mild Efflorescence and Exposed Rebar at Bottom of Concrete Slab



Photo 6: Previously Observed Significant Deterioration at Northern End of 2<sup>nd</sup> Floor Corridor