

May 31, 2024

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

RE: Review of Suitability for District Offices
Stonington Middle School – 204 Mistuxet Avenue, Mystic, CT 06355
Fuss & O'Neill Reference No. 20240408.A20

Dear Mr. Carroll:

Fuss & O'Neill, Inc. (F&O) has completed a review of the floor structures of the Stonington Middle School (SMS) in Mystic, CT to evaluate their suitability for relocation of Stonington Public Schools offices and equipment from the former Pawcatuck Middle School while that structure is used as swing space during repairs of the SMS corridor slabs during the next year.

During our previous review of the SMS, F&O recommended replacement of the north end of the first floor corridor slab at SMS. The remainder of the floors were determined to be suitable for continued use, but offices require a higher live load capacity than classrooms, so F&O reviewed the floor structures to verify that they can support this temporary use.

First Floor Structure

The majority of the first floor of the SMS is a slab-on-grade, so most of the slabs are directly supported on the ground. No indications were found where the slabs-on-grade are not performing adequately. The adequacy of a slab-on-grade is largely a function of the quality and preparation of the soil beneath the slab (which cannot be directly observed), but even in a worst-case scenario where excessive loads are applied to the slab, the slab will only crack and settle slightly. Since no significant cracking or settlement was observed at the slabs on grade after 60 years of use, there is no reason for concern about office loads placed in any slab-on-grade areas.

Portions of the first floor are built above basements, tunnels and crawlspaces, so F&O spot-checked the capacity of the slabs in these areas to confirm they can safely support office loads. Based on the original structural drawings for the building, typical framing at the classroom wing consists of 16" structural steel beams on 24" steel girders supporting 4" concrete slabs. We found the floors in these areas to be adequate for office floor loads. Supported slabs in other areas are very limited, but are similarly supported.



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Second Floor Structure

Second floor framing exists primarily at the classroom wing. The framing here is similar to the steel-framed area of the first floor, but lighter framing was used at the second floor. Here, 14" beams are supporting 4" slabs, with similar but lighter girders than the first floor. F&O checked the capacity of these floors, and even though they are lighter than the first floor framing, they are also adequate to support office floor loads.

Conclusions

Other than the corridor slabs where damage was noted and for which repairs have been recommended, the floors of the Stonington Middle School are suitable to temporarily house district offices while repairs to corridor slabs are completed. Please note that this review addressed the floor structures only, and does not offer any recommendations related to egress, fire safety or any other aspects of safe occupancy of the building for a use other than educational beyond the capacity of the floor structures. These other concerns should be reviewed with local Building and Fire Code Officials and/or consultants who specialize in these areas.

For any extraordinary loads, such as file cabinets and large equipment, we advise placement directly on slabs on grade rather than supported floors. Additionally, since there is more capacity at the first floor than the second, the second floor should be restricted to light office use only to the extent possible.

Please contact us with any questions or concerns regarding these conclusions and recommendations, or if any special load conditions need to be evaluated.

Sincerely,

Richard C. Boggs, P.E., LEED AP
Senior Project Manager

Jason J. LeDoux, P.E.
Associate