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April 22, 2019

Mr. John Marshall, AIA
Marshall Sabatini Architects
113 Cumberland Place
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**RE: 415 Birmingham Road
West Chester, PA
Project Number: 367.055**

At your request, we have reviewed the first-floor structure of the existing residential building for its ability to support the proposed common area use.

The existing framing consists of approximately 3 1/4" x 9 1/4" wood joists spaced approximately 24" on-center. The code required live load for this type of use, based on the current 2015 International Building Code, is 100 psf – higher than that required for conventional first floor residential usage.

Based on our review of the existing structure, we feel that supplemental support should be added below the framing to provide this level of load-capacity in the existing floor joists. We feel the most effective means of providing this support is by adding a wood-frame bearing wall in the basement space below the first-floor structure. The new bearing wall location is flexible but should be placed such that the maximum spacing between the existing stone support wall and the new wood-frame wall is 11'. The new wall can be constructed of 2x4 wood studs spaced 16" o/c. The wood stud wall can be set directly on the existing basement floor slab and attached to the slab with drilled or powder-actuated fasteners.

We trust this provides the information you need at this time. Please let me know if you have any questions or need any additional information.

MACINTOSH ENGINEERING

A handwritten signature in black ink, appearing to read 'Steven T. Krumenacker', with a stylized flourish at the end.

Steven T. Krumenacker, P.E.
Principal

Robert T. MacIntosh, P.E.
Steven T. Krumenacker, P.E.
James R. Baker, P.E.