Inspections Division
Date: 06/14/16

CASCO BAY ENGINEERING
CIVIL & STRUCTURAL ENGINEERING
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May 18, 2016

Mike Kertes
KR Builders Inc.
362 Cottage Road Apt 3
South Portland, ME 04106

Re: Residential Renovation
78 Hersey Street
Portland, Maine

Project Number: 16-076

Mike:

Casco Bay Engineering made an initial site visit to observe the existing conditions of the residence referenced above on May 17, 2016. Several structural items were analyzed and designed for the proposed renovations and are listed below. All affected framing described below has been designed to meet the requirements of the latest edition of the International Building Code (IBC).

Second Floor Framing:

1) Proposed 12'-0" wide opening from existing kitchen to rear room will need a new header. Provide **5 1/4 x 11 7/8 LVL** header above new opening. Support each end with double jack studs and provide continuous support to foundation.

2) Rafters over existing rear room appear to be in a mode of failure. Existing rafters should be removed and new **2x10's @ 16" on center** should be installed. Attach rafters to new **2x12 ledger** with Simpson rafter hangers. The ledger should be fastened to each existing wall stud with (2) 5/16"x4" GRKs.

3) Existing floor joists above proposed garage are not adequately supported at ends. Provide new Simpson face mount hangers to support existing floor joists off of existing 2x ledger. The ledger should be fastened to each existing wall stud with (2) 5/16"x4" GRKs (if not already done so).

Roof Framing:
Analysis below assumes that there exists a ridge beam spanning the width of the proposed garage. Contractor to verify in field and notify engineer if none exists. If no ridge beam exists, analysis of roof framing will change.

4) Existing (2) 2x12 roof beam at rear of room above proposed garage is partially supported on an existing wall. If this wall is to remain in place, a new **(2) 2x10 header** will be required

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above the new pocket door opening within this wall. Provide a triple floor joist under this wall that spans the width of the proposed garage.

a. Option to remove wall below beam will require the addition of a **3 ½ x 9 ½ LVL** directly below this existing beam (or replace existing beam with new LVL).

5) Existing (2) 2x8 roof beam at front of room above proposed garage is partially supported by wall below. Removal of this wall will require the addition of a **3 ½ x 9 ½ LVL** directly below this existing beam. Support each end of this beam with a (2) 2x4 column. Column should have continuous support to foundation and be attached to main house wall.

Please contact us if you have any additional questions or concerns.

Sincerely,

Tony Dumais, P.E.
Casco Bay Engineering

STATE OF MAINE
ANTHONY DUMAIS
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LICENSED
PROFESSIONAL ENGINEER
5-18-16