

August 04, 2017

City of Kelowna
Building Department
1435 Water Street
Kelowna BC V1Y 1J4

**RE: 424 Gibson Road, Kelowna BC
Structural Building Condition Assessment**

RJC No. KEL.118817.0001

Further to your request, Read Jones Christoffersen Ltd. (RJC Engineers) attended the above address on July 24, 2017 to perform a visual review the structural condition of the existing and as-constructed house, exterior decks and cast-in-place concrete retaining walls. The following summarizes our observations and opinion arising from those observations.

BACKGROUND

The subject building is a two-storey wood frame residence with a walkout basement level. Based on correspondence with the City, it is our understanding that the home owner has undertaken extensive renovations to the existing building structure, as well as performed new construction, over a time period of multiple years.

The scope of our review is to provide a high level overview of the work that has been performed and to provide an opinion, where possible, as to the structural integrity of the existing and new construction.

OBSERVATIONS

At the time of our review additions and renovations to the original building structure were in progress and are evident on each side of the building. None of the works in progress are complete, with large areas of the walls and roof structure open to the weather.

The structure of the main house appears to be in various states of construction and deconstruction. Observed conditions include:

- Incomplete enclosure of roof truss ends and side walls.
- Incomplete or partially sheathed walls.
- Moisture staining on OSB and plywood wall elements.
- Cantilevered framing with unknown back-spans, overlain with sheathing.



The wood deck at the main floor elevation on the west side of the house was observed to be in various states of construction and/or deconstruction. Observed conditions include:

- Nail laminated deck with random wood pattern. Nailing cannot be confirmed.
- Nail laminated decking is exposed to weather and exhibits weather related staining and possible deterioration of members.
- Vertical support of the nail-laminated deck appears temporary in nature.
- Glu-laminated beams are exposed to weather and exhibit weathering related staining and possible deterioration at the ends of the members.
- Temporary bracing, temporary supports and temporary guards are in various states of use and were observed to be incomplete or to have incomplete load path.
- No observed permanent lateral load path.

Numerous retaining walls have been constructed by the current property owner. Observations relating to the retaining walls include:

- Retaining walls constructed above existing retaining walls extending their height.
- Significant cracks indicating flexural and settlement failures

Large voids in the cast-in-place concrete walls.

STRUCTURAL OPINIONS

Based on visual observations it is our opinion that there are numerous life safety concerns, both to the occupants of the subject property as well as for the adjacent property owners and general public. Of foremost concern, the open roof structure leaves it susceptible to large winds that could result in either partial collapse of the building or debris flying onto adjacent properties or the street.

While the partially constructed and/or deconstructed deck on the west side of the building has randomly spaced temporary shoring posts installed, no structure was observed that would provide lateral stability to the deck construction. In addition to there not being guardrails on the deck, the deck itself is susceptible to full or partial collapse, representing a life safety risk to the occupants of the property.

The structural retaining walls are less of an immediate life-safety concern, the cracking and settlements observed in addition to poor construction represents a risk of potential damage to the adjacent properties in the event of wall movement or failure. We are not able to observe the wall footings or reinforcing steel if any; it is not known how overall stability of these walls is achieved. .

In conclusion, it is our opinion that the modifications and additions made to the original building structure, as well as the new or modified structural retaining walls on the property, are in non-compliance with the structural requirements of the British Columbia building code. On this basis the structures would be deemed as unsafe.



LIMITS OF COMMISSION

Services performed and outlined in this report were based upon visual observations of the site. Our opinion cannot be extended to portions of the site that were not reviewed or situations reasonably beyond the control of RJC. This report has been prepared in accordance with generally accepted engineering practices.

CLOSURE

We trust this report meets your current requirements. Please contact our office with any questions regarding this matter.

Yours truly,

READ JONES CHRISTOFFERSEN LTD.

A handwritten signature in blue ink, appearing to be 'PH', with a horizontal line extending to the right.

Paul Heinrichs, M.Eng. P.Eng, PE
Senior Project Engineer



AUG. 4/17

PWH/ceb