

GENERAL STRUCTURAL REVIEW



**Of fire damage to existing house at 114 Keith Street,
Whitby, Ontario,**

June 13th, 2024



**Ehsan Tawhidi & Associates,
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The Owners of,
114 Keith Street,
Whitby, Ontario, L1N 1H6

June 13th, 2024.

Attn: - Mr. Sam,

Danger to Life and / or property.
Immediate Action Needed

Project: - **General Structural review**
Collapsing wood framing and cracking foundation walls etc.

Dear Mr. Sam,

As per your request we have performed a site visit of the property located at 114 Keith Street, Whitby, Ontario on June 12th, 2024. The property consists of a 1.5-storey residential facility with semi-finished basement and a single-storey with crawl space at rear side. We were informed that there was a fire incident, a year from now, at the rear side. When we visited the site, we visually noticed that the rear side floor and flat roof framing was severely burnt, and it is not even safe to walk through and inspect. We could still smell the burning smoke and char etc. The fire damage at rear side is very extensive and we have never seen such lateral / horizontal extension of fire or in other words fire encapsulating such larger area. We do these kinds of inspections and usually the fire damage is one vertical shaft, above fire source location and from that level up everything is gutted. The second-floor front side and roof seems intact. However, the framing structure at the joint with rear side is severely burnt and may collapse any time. Furthermore, as the house is left unattended, unoccupied and unheated during recent winters, seems like frost heave has taken toll on it. We do see, visually; some vertical and horizontal misalignments in building superstructure from outside, cracking of existing foundation walls and spalling with exposed rebars of concrete stairs etc. The broken window glass makes it even worse by letting cold air roam in and out of the house. Please see pictures below for reference.





In our opinion, based on our visual observations during our site visit, the interior side show excessive sign of burning and section loss in roof, walls and floors of rear side and at joint with front side. The front side has been showing excessive damage due to winter exposure. The heat due to fire in the rear side already took toll on it and weakened its framing and had less redundancy to withstand cold temperatures. The exterior side shows cracking, spalling, misalignments, bowing and sagging etc. There is no point salvaging any portion and we recommend taking down the entire residential facility in entirety. If needed, a new facility shall be built from scratch. We have advised adding cautionary tape around the property and putting bold signs at main door / front elevation exhibiting danger etc. Also to inform all adjacent neighbours to practice caution and stay away from the party / common area. They may consider relocating until this house is safely demolished.

Executive summary

1. The house is not at all habitable as of now.
2. There is an excessive and extensive number of repairs required to make the house habitable today which is likely to overshoot the cost of full rebuild.
3. The structural components of both the original house and addition have seriously and dangerously compromised the building's integrity.
4. As a result of the fire and structural issues now present, and the extent of the repairs / re-build necessary, the house should be demolished ASAP to ensure public health and safety.



THE FACILITY SHALL BE TOTALLY CORDON OFF / ISOLATED WITH IMMEDIATE EFFECTS. A QUALIFIED, FULLY INSURED, LICENSED AND EXPERIENCED DEMOLITION COMPANY SHALL BE HIRED AND THE SUPERSTRUCTURE SHALL BE REMOVED IMMEDIATELY. THE SUB STRUCTURE CAN BE DONE AT A LATER STAGE SO FAR THE NEWLY FORM DITCH IS ABSOLUTELY PROTECTED FROM ANYONE'S ACCESS. IN OUR OPINION THIS IS THE ONLY SAFE SOLUTION.

You are advised to formally request the Whitby city's municipality office for permission to start the demolition work ASAP taking full advantage of warm weather approaching.

No drawings, specifications or any technical data were provided to us, and our opinion is solely based on our visual observations during our field visit.

The owner or their representative is responsible for obtaining all necessary permits from relevant authorities. It is also recommended that the owner should check with City of Whitby offices for any drawings of this property available in their records and advise us also.

Please feel free to contact us if you need any further engineering advice.

Yours truly,
Ehsan Tawhidi, P.E., P.Eng.

