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September 16, 2024

Joshua Wight
Allstate Insurance Company of Canada
27 Allstate Parkway, Suite 100
Markham, Ontario
L3R 5P8

Preliminary Engineering Assessment of Fire Damage to a Building

Date of Loss: August 29, 2024
Insured: Amjad Shaio
Location: 5306 Mississauga Road, Mississauga, Ontario
Our Client File No.: MI328308
Our File No.: 2409-1203-RF

In accordance with your direction, Element Forensic Engineering attended the building located at the above noted address on September 13, 2024. The purpose of the attendance was to assess the damage to the building following a fire. For the purpose of directional references within this report, the building was assumed to face east towards the road.

The incident building was a detached, two storey, single family dwelling, with an unfinished crawlspace. The building comprised a primary building, an addition that extended from the west elevation, and a secondary addition that extended from the west elevation of the first addition. The footprint of the building included a covered porch that extended from the east elevation.

The building was reported to be approximately 144 years old, having been constructed in 1880.

The building superstructure¹ comprised conventional wood frame construction, supported on a field stone and mortar foundation.

The roof was constructed in two tiers (upper and lower), with the lower tier above the two additions and the front porch. Both tiers appeared to have been constructed with rafters, with the upper tier constructed in a gable configuration that sloped down to the east and west with a gable projection that extended beyond the east pitch, and the lower tier constructed in mono-slope configurations sloping down to the west (atop the additions), and in a gable configuration

¹ Superstructure – the above grade component of the building.

that sloped down to the north and south (atop the front porch). The roof was surfaced with a pitched asphalt shingle roofing application.

The exterior face of the perimeter walls was clad with various types of siding. The interior surfaces (walls and ceiling) were predominantly finished with lath and plaster.

There is the potential for hazardous material (designated substances) within select building materials. A comprehensive list of designated substances can be found within O. Reg 490/09. In the areas anticipated to be disturbed as part of the loss, we have been requested by Allstate Insurance Company of Canada to conduct an assessment of building materials with suspected designated substances. In support of the assessment, we have secured samples which will be submitted for laboratory analysis. Should any suspect designated substances that are not included within the sampling completed to date be uncovered during the repair efforts, they shall be treated as a designated substance, until laboratory results prove otherwise. Further reporting on designated substances will be submitted under separate cover.

The fire resulted in widespread structural damage to the superstructure. Smoke contamination and water damage (from the fire suppression effort) was evident throughout the building.

Prior to our attendance, hoarding had been installed. At the time of our attendance, the contents and interior finishes remained predominantly in place.

The structural stability of the building superstructure was compromised by loss, and as a result may be prone to additional damage, including a sudden and catastrophic collapse. Due to the compromised stability, our office was unable to enter the building to complete a more comprehensive assessment. As such, we recommend it be promptly demolished down to the level 1 floor frame, maintaining the floor subfloor, floor framing, and foundation for reassessment and potential reuse. The demolition requirements have been detailed in the appended drawings.

The building shall be cordoned off with no access until the above referenced demolition is complete and the remaining structure has been reviewed by our office.

In addition to the above noted restrictions, access to the site should be limited to personnel trained, experienced, and alerted to the general and site-specific risks, and equipped with proper personal protective equipment. Personnel accessing the site shall conduct themselves in conformance with the OHSA.

Should a delay be anticipated between the demolition and reconstruction, we suggest a cost comparative analysis between the potential additional damages to the building resulting from the subsequent exposure, against the cost of the requisite additional protective measures. Please contact our office should you require any support in the design of the protective measures.

If the foundation is left exposed to prolonged below freezing (0°C) temperatures, there is the potential for damage associated with the effects of frost related movement. To safeguard against this potential, following the site being made safe, we recommend sufficient temporary heat be provided within the crawlspace, as required, based on exterior temperatures (should construction extend into winter months). To minimise the temporary heating costs, the installation of insulation, a plastic / blue skin membrane, sheathing or supplemental framing may prove effective. Contact Element Forensic Engineering if any supporting design or additional details are required.

Should it be anticipated that our involvement will extend beyond claim quantification documents, following completion of the demolition, we recommend our office re-attend the building to assess the foundation. The contractor shall co-ordinate the re-assessment. Advance notice is appreciated for scheduling purposes. Prior to, or in conjunction with the re-assessment, the contractor shall ensure an unobstructed view of the remaining building elements is possible, removing any temporary coverings, as necessary.

Although subject to further assessment, to restore the building to a pre-loss condition, we anticipate the removal and replacement of the building superstructure.

Due to the nature of repairs, select code required and modern construction equivalent upgrades will be implemented to facilitate the restoration. We note that the modern construction equivalent upgrades would require approval from the insured prior to implementation. These upgrades will include, but may not be limited to:

- Increasing the structural performance of the building, as necessary, to conform with the 2012 OBC.
- Increasing the size of the wall stud framing from 2x4" to 2x6".
- Increasing the thermal performance of the insulation and the energy efficiency performance in doors, windows, HVAC and domestic water heating, as necessary.
- Install an adequate air barrier/vapour barrier where separating conditioned from unconditioned spaces.
- Utilization of gypsum board finishes (modern construction equivalent of the existing lath and plaster).

A demolition permit will be required to complete the emergency demolition. Our office is in the process of completing the associated application with the local municipal building department.

At this time, we have not been requested to prepare a comprehensive scope of repairs, complete restoration drawings, or apply for a building permit. We note that the local municipal building department will require a building permit prior to conducting the loss related repairs. Please contact Element Forensic Engineering if any additional involvement is desired.


Our office is in the process of preparing the necessary documents in support of the claim quantification, comprising claim qualifications drawings and the summary report.

We trust you will find everything in order with our assessment. Should you have any questions or wish to discuss the above content, please feel free to contact us.

Sincerely,

A handwritten signature in black ink, appearing to read "R. Mehany".

Ramy Mehany, P.Eng.
Report 1 – 5306 Mississauga

A handwritten signature in black ink, appearing to read "Jeremy Bishop".

Jeremy Bishop, P. Eng.

cc Rob Notenboom
Refined Restoration Group Ltd.
rob@rrg-peel.ca