ELEMENT
FORENSIC ENGINEERING

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December 12, 2025

Tyler Black
Building Inspections - Planning & Economic Development Department
71 Main Street West,
Hamilton, Ontario
L8P 4Y5

Preliminary Engineering Assessment of Damage to a Building

Owner:	Andrea Horwath
Location:	76 West Avenue North, Hamilton, Ontario
Our Client File No.:	TBD
Our File No.:	2512-1101-BP

In accordance with your direction, Element Forensic Engineering attended the building located at the above noted address on December 11, 2025. The purpose of the attendance was to assess damage to the building. For the purpose of directional references within this report, the building was assumed to face west towards the road. Enclosed within this report are photographs that illustrate site conditions at the time of our attendance. Should it be deemed necessary, we can prepare an expanded report containing additional technical details.

The primary building (henceforth referred to as the building) was a semi-detached, 1.5 storey, duplex, with a finished basement that served as a separate suite. The footprint of the building included a covered porch that extended from the west elevation. There was an attached, raised, two tier wood framed deck along the east elevation, that aligned with level 1, and the dormer atop the roof. The lower level had direct access to the exterior through a basement walkout on the east and west elevations, which comprised and exterior landing and stairway, enclosed by retaining walls.

The secondary building (henceforth referred to as the shed) was an accessory structure utilized for storage. The building was located at the west end of the property, in close proximity to the understood property lines along the south elevation. The secondary building was

detached from the primary building, however was connected to the neighbouring semi-detached building.

The building was reported to be approximately 125 years old, having been constructed in 1900.

The building superstructure[1] appeared to have comprised multi-wythe brick perimeter walls with conventional wood framed interior supports, floor, and roof structures. The basement floor appeared to have comprised conventional wood framing atop the exposed earth. The superstructure appeared to have been supported on a cast in place concrete foundation.

The roof of the building was constructed with rafters in a gable configuration that sloped down to the east and west, with a walkout dormer projection that extended from the west pitch. The roof was sheathed in plank board and surfaced with a pitched asphalt shingle roofing application. The pitched underside of the middle span of the rafters was finished, creating cathedral ceilings.

The shed superstructure appeared to have comprised multi-wythe brick perimeter walls with a conventional wood roof structure. The roof of the shed was constructed with rafters in a monoslope configuration that sloped down to the north. The shed roof was also sheathed in plank board and surfaced with a pitched asphalt shingle roofing application.

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

Section 30 of the Occupational Health and Safety Act (OHSA) places a duty on the project owner (the insured) to prepare a list of all designated substances[2] that are present at the project site. A comprehensive list of designated substances can be found within O. Reg 490/09. Prior to the disturbance of any building materials with suspected hazardous content, we recommend that said building material be tested, prior to disturbance, in accordance with their governing regulation.

Prior to our attendance, select interior finishes had been removed within the basement. At the time of our attendance, the contents and interior finishes remained predominantly in place.

[1] Superstructure – the above grade component of the building.
[2] "Designated substance" means a biological, chemical or physical agent or combination thereof prescribed as a designated substance to which the exposure of a worker is prohibited, regulated, restricted, limited or controlled.

During our assessment we observed the following structural damage which varied in severity in terms life safety to the building occupant and general welfare of the public:

1) Sewer Pipe in Basement

A sewer pipe was exposed and locally fractured, with effluent present within the excavated pit. Strong sewer gas was noted immediately upon entering the basement unit. The sewer pipe was reported to be shared with the neighbouring building. We recommend the sewage pipe be repaired immediately by a qualified plumbing contractor. The condition presented a health hazard due to sewage and sewer gas exposure.

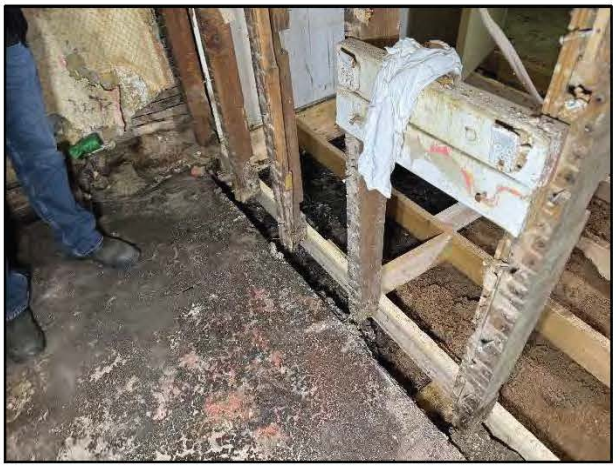
2) Intermediate Load Bearing Wall in Basement

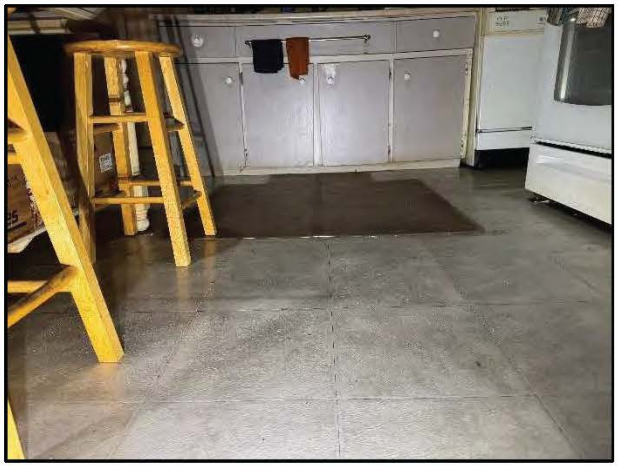
An intermediate load bearing wall within the basement, which supported the Level 1 floor framing, was observed to be deteriorated, including rot, and portions were unsupported. Adjacent to the wall, a section of wood framing, which comprised the basement floor structure and appeared in contact with the ground, appeared to have been recently replaced.

Within the mechanical room, the floor below the water heater appeared to be deflected and locally fractured. The full extent of deteriorated floor structure and load bearing elements was not confirmed at the time of our assessment due to concealed conditions and limited finish removals.

On Level 1, the floor within the kitchen was observed to be locally deflected. This deflection was generally commensurate in location with the unsupported load bearing wall below.

The integrity of select structural elements was locally compromised, and as a result may be prone to additional damage, including a sudden and localized collapse. Should access be required to or through the area, we recommend the immediate application of emergency measures to stabilize it. The emergency measures would comprise shoring elements.



3) The East Deck Structure

The raised two tier deck and its structural elements, including deck boards, joists, beams, and foundation elements, were observed to comprise an unconventional construction methodology with severe deterioration and displacement.

The structural integrity of the deck along the east elevation was compromised, and as a result may be prone to additional damage, including a sudden and catastrophic collapse. To safeguard the health and welfare of the public, we recommend it be immediately demolished. The rear yard, inclusive of the deck, shall be cordoned off with no access until the above referenced demolition is complete and the remaining structure reviewed by the municipality. Prior to the demolition, we

recommend access from the dwelling be restricted. Furthermore, we recommend that the city assess the reduced egress requirements, installing supplemental stairs if and as required.

4) East Wall of Shed

The east perimeter wall of the shed, which comprised the gable end, adjacent to the dwelling, was observed to be partially collapsed. Temporary bracing and stabilizing elements had been installed reportedly by the occupant. Select temporary elements were supported by the deck. We were not provided access into the shed, and observations were made from the available vantage points.

Compensating stabilization measures are recommended prior to, or concurrent with, the

above recommended deck demolition as it appeared the existing temporary supports relied on the deck for stability. Depending on contractor means and methods, this could include temporary shoring or localized controlled removals of unstable brickwork under an engineer's supervision.

5) Roof Condition

At the time of our attendance, there was no access into the upper attic section nor the east knee wall section. We did however have access into the west knee wall area. In addition, snow accumulation at the time of attendance obstructed views of certain exterior roof areas, specifically near the front porch.

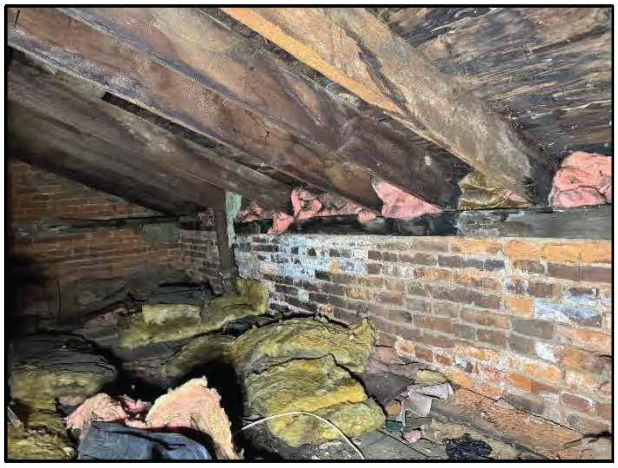
Within accessible roof areas, the condition of roof members appeared commensurate with the building age, and deterioration of plank board sheathing was observed. Ongoing water ingress was reported during heavy precipitation events, consistent with the observed damage to the interior finishes. Paint blistering, moisture staining, and hairline plaster cracking were observed at collar tie to rafter connection areas along the west pitch.

From the exterior, the roof ridge was observed to demonstrate localized downward deflection.

Photographic evidence from Google Street View dated April 2025 depicted that the presumed rafter connection of the front porch roof to the west perimeter wall, at the lower extent of the west pitch, appeared to have potentially locally failed. Multiple photographs across different historic dates suggested the depression at the front porch roof area had been exacerbated over time. At the time of our attendance, snow accumulation covered the lower extent of the west pitch above the front porch, and the roof depression was not visible from exterior vantage points.

Further assessment of the upper roof ridge area and porch rafter conditions is recommended. Further assessment would require selective removal of ceiling plaster at the upper level to review rafter conditions in the upper attic areas, as well as removal of the front porch soffit to review porch rafter conditions and the connection to the perimeter wall.

Based on the observed peripheral damage and the information available at the time this report was prepared, we recommend that the front porch be cordoned off (or shored/stabilized if access is required) until further assessment of the concealed components can be completed and the structural stability confirmed, with any constituent structurally compromised elements being repaired or shored, as necessary.



6) West Retaining Walls

The concrete retaining walls supporting the front porch were deteriorated and locally displaced. Despite this, we observed no evidence to suggest these elements were at risk of imminent collapse. We recommend the concrete foundations be repaired or shored promptly to eliminate the potential for additional damage.

7) Front Porch Steps

When walked upon, the front porch steps from grade to the upper level exhibited deflection. Select mid support columns appeared raised and unsupported above the precast concrete pads below. Stringer joist hangers appeared significantly corroded. Select tread nosings were partially unsupported and deflected under foot pressure.

We recommend localized repairs be completed promptly to avoid potentially hazardous conditions to the public.

Based on the information available during our assessment, select structural and building components posed a potential and immediate danger to the occupant and the public. We recommend installing emergency measures and performing select demolition and or removals until further assessment of the concealed building components can be evaluated for potential reuse and/or repair.

Should there be any evidence to suggest the building has shifted or sustained any additional damage, the building shall be immediately vacated, and the findings shall be immediately reported to Element Forensic Engineering for direction. 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.

The presence of interior finishes and accessibility restrictions may have obscured aspects of damage. Any damaged building elements not reflected within this report must be promptly reported to our office.

At this time, we have not been requested to prepare emergency measure designs, 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 related repairs.

This report represents a preliminary opinion, of the task at hand, based upon the data available from a non-destructive examination of the building and a review of the available evidence. Should additional information or evidence become available, we reserve the right to review and amend our opinion, as necessary.

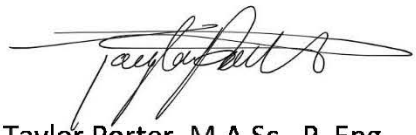
Except where otherwise noted in this report, our scope of involvement was limited to the observable damage and did not include a comprehensive assessment of the building. We have not conducted a detailed review or reverse engineering analysis of the building for conformity

with the Ontario Building Code or the local municipal bylaws, nor have we prepared a comprehensive scope of repairs. Please contact Element Forensic Engineering if any additional involvement is desired.

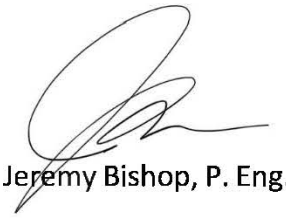
We recommend the owner retain the services of a professional engineer to conduct a further and more comprehensive assessment with repair recommendations.

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,



Taylor Porter, M.A.Sc., P. Eng.
Report 1 – 76 West



Jeremy Bishop, P. Eng.