



CAPACITY ENGINEERING LTD.

Condition Assessment

227/229 St. Patrick St

Ottawa, Ontario

Client: City of Ottawa

Date: 22 July 2024

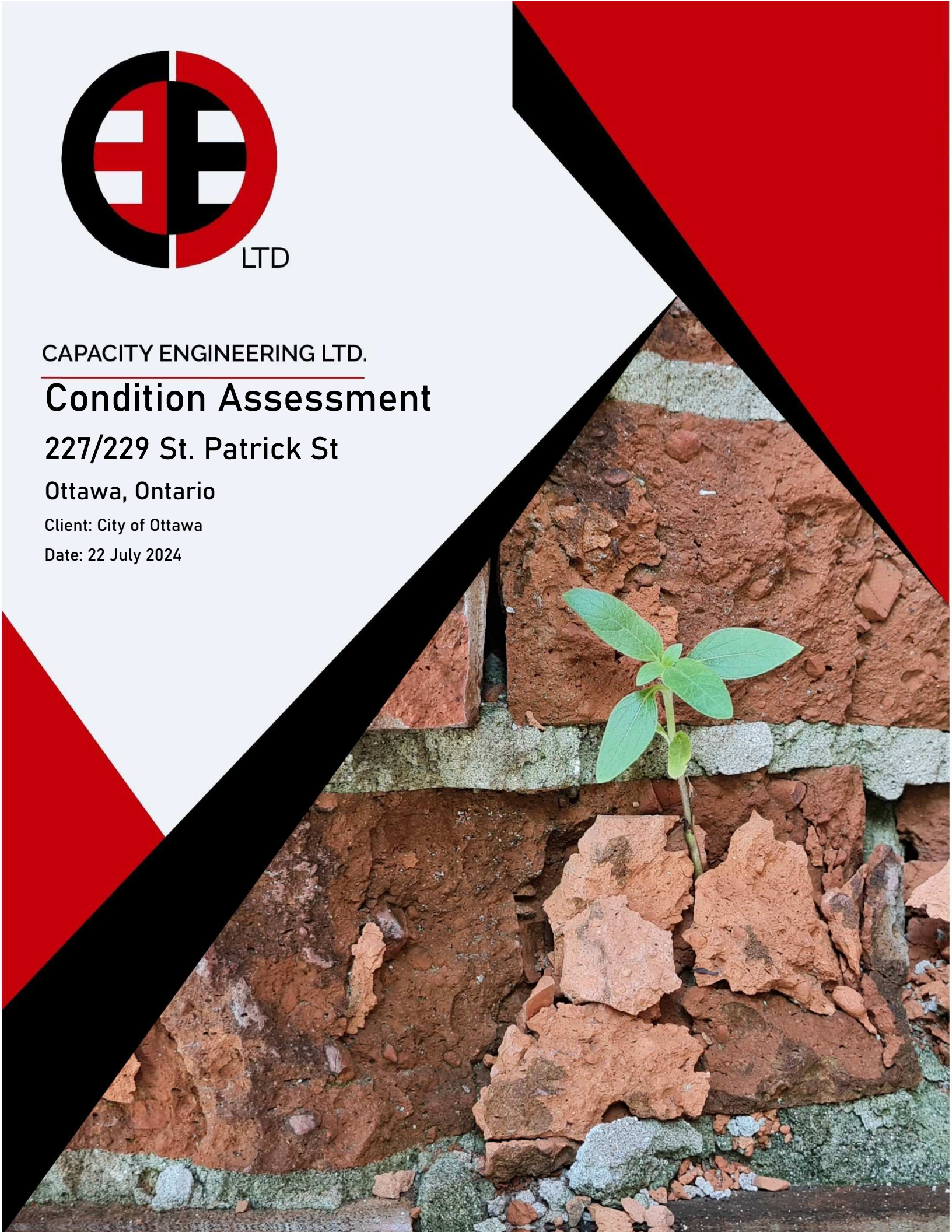




Table of Contents

1.0 Executive Summary.....	3
2.0 Applicable Documentation.....	3
3.0 Limitations.....	3
3.1 Amalgamated Building & Element Condition Ratings.....	5
4.0 Background Information Received.....	5
4.1 Gadiant Engineering Report Summary.....	5
5.0 Observations.....	6
5.1 Main Residence.....	6
5.2 Addition & Shed.....	8
6.0 Discussion.....	10
6.1 Exterior.....	10
6.1.1 South Wall (Front).....	11
6.1.2 North Wall (Rear).....	11
6.1.3 West Wall.....	12
6.2 Interior.....	14
6.2.1 Basement.....	14
6.2.2 Main Floor.....	16
6.2.3 Second Floor.....	17
6.2.4 Third Floor.....	18
6.3 Roof.....	19
6.4 Addition & Shed.....	20
7.0 Recommendations & Conclusions.....	25
7.1 Main Building Conclusion.....	25
7.2 Addition & Shed Conclusion.....	27



Version History

19 July 2024 – '227 & 229 St-Patrick Condition Assessment - Revision 0'

22 July 2024 – '227 & 229 St-Patrick Condition Assessment - Revision 1'

List of Appendices

Appendix A:

'Evaluation of Existing Structures at 227/229, 231/233, 235/237 St-Patrick, Ottawa, ON.'
prepared by Gadiant Structural Engineering Ltd., 13 August 2021

Appendix B:

'Heritage Survey And Evaluation Form – 227/229 St-Patrick St' prepared by City of
Ottawa Department of Planning & Development – M. Carter – January 1990

Appendix C:

'Heritage Survey And Evaluation Form, Category Scoring – 227/229 St-Patrick St'
prepared by City of Ottawa Department of Planning & Development – M. Carter – June
1992



1.0 Executive Summary

Capacity Engineering Limited (CEL) was engaged by Lesley Collins on behalf of the City of Ottawa to provide a condition assessment report for the multi-tenant residence located at 227/229 St-Patrick St. In doing so, CEL attended site to conduct a visual assessment of the property. Following this site visit and a review of relevant documents (see Section 4.0), it is CEL's opinion that the retention of the building is not feasible and warrants demolition. Sections 5.0 and 6.0 outline the deterioration of the property and section 7.0 discusses whether portions of the structure can be remediated.

2.0 Applicable Codes & Referenced Documentation

- ACI 201.1R-08 "Guide for Conducting a Visual Inspection of Concrete in Service"
- ASTM F2659 - Standard Guide for Preliminary Evaluation of Comparative Moisture Condition of Concrete [] NDT Moisture Meter
- BRE's "Foundation Movement and Remedial Underpinning in Low Rise Buildings"
- CAN/CSA A371-14 "Masonry Construction for Buildings"
- CAN-CSA-S478-95 (R2007) Guideline on Durability in Buildings
- English Heritage "Methodology and Guidance for Surveying Listed Buildings"
- National Research Council Canada CBD-230 "Applying Building Codes to Existing Buildings"
- OBC 2012 "Ontario Building Code"
- OSIM "Ontario Structure Inspection Manual"
- Parks Canada "Standards and Guidelines for the Conservation of Historic Places in Canada". February 2011
- Professional Engineers Ontario "Structural Condition Assessment of Existing Buildings and Designated Structures Guideline", November 2016
- PWGSC "Bridge Inspection Manual"
- Timber Frame Engineering Council "Guide to Structural Evaluations of Existing Timber Structures", January 2019



3.0 Limitations

Our report is limited to those issues specifically described herein. Our staff are not qualified to comment on matters other than those generally accepted to be in the purview of Civil Engineering, and where other concerns are raised, we have referred the client to a suitable consultant, contractor or other.

We cannot warrant the work of any other party, nor be held responsible for their work. Where an existing design of an element is deficient but did not show signs of distress at the time of our review, we reserve the right to consider such an element's design as sound.

We have not been engaged to complete a total review of 227-237 St. Patrick St or all the elements within. As such, hidden defects and issues without obvious visible signs or missing from the provided documentation will not have been identified or included in this report. Where further investigation is recommended, the client is strongly advised to undertake further work or investigation, and we stand by ready to assist.

This report represents the best judgment of Capacity Engineering Limited ("CEL Ottawa") given the information available at the time of writing. Any use which a third party makes of this report, or any reliance upon, decisions made in response to or in any way influenced by this report are the responsibility of such third party. Professional Engineering requires significant judgement and can only be held to be valid for a specific client, with known information, for a specific location and timeframe. Any third party that uses this report without written consent of CEL waives any and all liability of CEL.

Any and all decisions made based on this report without the direct involvement of CEL Ottawa are the responsibility of the party(ies) making such decisions. Do not make any interpretation of this or any other project documentation. Note that it is the policy of CEL Ottawa not to charge for phone calls as to interpretations of any of our project documentation, including this report. Contact CEL Ottawa for further assistance.

This report is both confidential and copyrighted. Should you have received this in error, please return to Capacity Engineering Limited.



3.1 Amalgamated Building & Element Condition Ratings

NB: Per PEO Guidelines, reports "should include" definitions of qualitative terms specific to the assessment. As such, these are our terms used in reports. Note that these are an adaptation and blending of the Ontario Structure Inspection Manual (OSIM) from the Ministry of Transportation, and the field methodology of English Heritage (UK).

Excellent

Like new; structurally sound; weathertight; no significant repairs needed.

Good

Structurally sound; weathertight; no significant repairs needed.

Fair

Structurally sound; in need of minor repair; showing signs of a lack of general maintenance.

Poor

Deteriorating masonry; leaking roof; defective rainwater goods, usually accompanied by rot outbreaks; general deterioration of most elements of the building fabric, including external joinery; or where there has been a fire or other disaster which has affected part of the building.

Very bad

Structural failure or clear signs of structural instability; loss of significant areas of the roof covering, leading to major deterioration of the interior; or where there has been a major fire or other disaster affecting most of the building.

Archaeological

Ruins, or structure known to exist / have existed, but is not visible



4.0 Background Information Received

The following documents were provided for CEL's review:

- 'Evaluation of Existing Structures at 227/229, 231/233, 235/237 St-Patrick, Ottawa, ON.' prepared by Gadiant Structural Engineering Ltd., 13 August 2021
- 'Heritage Survey And Evaluation Form - 227/229 St-Patrick St' prepared by City of Ottawa Department of Planning & Development – M. Carter – January 1990
- 'Heritage Survey And Evaluation Form, Category Scoring - 227/229 St-Patrick St' prepared by City of Ottawa Department of Planning & Development – M. Carter – June 1992

4.1 Gadiant Engineering Report Summary

In October of 2023, Mathieu Gadiant of Gadiant Structural Engineering Ltd. was engaged to provide structural assessment of the condition of the structure located at 227/229 Patrick St. The findings of this report are summarized below:

The building is a three-storey multi-tenant rental with its original structure dating back to approximately 1870. The basement, main floor, second floor, third floor, and roof framing were all found to be in poor condition. The overall condition of the main floor support framing in the basement is very poor, with several areas showing signs of rot. Floor joists are inconsistent, many have excessive holes and notching, and some are completely unsupported at one end due to modifications. Teleposts and a single 6" steel I-beam had been added to support sagging or cut joists, but their installation appears to lack specific engineering.

On the main floor, the ceiling was sloped in several locations, indicating issues with the overall framing of the home. Other localized issues such as rot, excessively cut joists, rusting nails, pulling away of members, and plaster degradation were also present. On the second floor, both the floor and ceiling were sloped, indicating issues with the overall framing. Black mold could be observed at the floors. Furthermore, the stairs leading up to the third floor, and the floor itself were found to be sloped. The main roof line was found to be sagging along its ridge, indicating water damage to the framing. The rear addition was found to be severely degraded, with the South-West wall leaning by up to 6 degrees, black mold was also found throughout the addition. The addition could not be safely occupied at the time.

The overall conclusion of the report was that the main floor and roof require near complete reframing, the rear addition would need to be demolished, foundation walls would require repairs, and the exterior cladding would require repairs or replacement. For these reasons, Gadiant Engineering believed the best option would be a complete demolition and rebuild.



5.0 Observations

5.1 Main Residence

Looking at the rear façade of 227/229 St Patrick, a small 1-storey structure with a flat roof and stucco walls, likely an addition, was observed (see Photo 3). The stucco appeared to be in fair condition and minor staining/discolouration was noted on the two exposed sides around the windows and door, along the exterior wall-foundation wall interface and locally at the roof line (see Photo 3). The North façade of the main building is also clad with stucco and appeared to be in fair condition, with the condition being poor around most penetrations in the cladding (see Photo 3). Notable discolouration and cracking were seen where the rear addition was framed into the North wall. Vertical & horizontal cracking was minimal, however there was clear flaking and discolouration around the main door and exterior electrical hookup. All wall penetrations appeared to have deteriorated or non-existent sealant around them. Sporadic discolouration of the wall was also observed.

Underneath the car accessway, cracking in the stucco was noted at the top of the boarded-up window of the West wall and staining/discolouration of the underside of the second floor above was observed (see Photo 4). Where the foundation wall protruded above grade, it was visibly damp and a large section of stucco cladding for the first-floor West exterior wall in this location was bulging out (see Photos 8 and 9). At the front of the building (South wall) two cladding systems were noted: stucco for the upper half of the building and concrete faux-stone for the lower half (see Photo 1). The stucco cladding on the South wall, similar to the North wall, appeared to be in fair condition with minor vertical & horizontal cracking observed, but discolouration of the stucco appeared over the entire surface, and worse below the roof eave and the two second-floor windows (see Photo 2). Again, sealant around penetrations in the exterior wall or where the stucco abutted other assemblies, was noted to be either deteriorated or not present. The concrete faux-stone cladding appeared to be in good condition where it was not defaced. The two wooden balconies appeared weathered but generally in fair condition from the exterior (see Photo 1).

Once inside 227/229 St Patrick, CEL staff noted typical damage to the interior lining including bubbling and peeling (see Photos 45 and 46) in the second-floor ceiling, holes in the lathe & plaster walls on all floors and water damage to the flooring and carpet (see Photo 20). Out-of-plumb walls and sloping of the floors/ceiling on all three floors was also observed (see Photos 22 and 23). Dark staining and decay were noted on the second-floor joists cantilevering past the exterior wall, which had a past repair of sistering with pressure-treated joists (see Photo 19). The exterior wall adjacent to the cantilevered joists as well as where an opening was present beside the front door, appeared to be decayed. When probed with a field-knife, the blade of the knife easily penetrated into the wood in both locations (see Photo 18). On the second-floor of the building in Unit 229, an opening in the wall between building 227/229 into the attic of building 231/233 made prior to the arrival of CEL staff, provided insight into the general condition of the exterior walls, and the type of construction (see Photo 25). The wall assembly observed appeared to be of plank-on-edge construction, a more unique method



of construction during the late 1800's. The exposed plank-on-edge exterior wall in this location was probed with a field-knife and struck with the claw of a hammer, easily penetrated deep into the members by both, indicating a poor condition due to advanced decay. When looking into the opening, a gap of about 1'-0" between the buildings was observed (see Photo 24). In this gap, more of the East exterior wall of 227/229 could be seen as well as the West exterior wall of 231/233. Daylight could clearly be seen when looking up at the roof detailing between the two buildings.

Up in the attic area of the building, extensive dark staining and decay of the wood rafters and plank decking, approximately two-thirds of the roof area, was observed around where the plumbing stack penetrated the peak of the roof (see Photo 26). A previous temporary repair of the plank decking was also noted adjacent to the plumbing stack. The other areas of the roof showed similar signs of disrepair but the extent of the staining and decay, while systemic, was more minor in comparison. A similar stained and moisture damaged condition was observed for both gable end-walls (see Photos 28 and 29). The condition of the eave could not be seen from the interior, however from the exterior, weathering and local signs of water damage were observed.

Upon entering the basement of building 227/229, both a damp, musty odour was smelt and humid air felt immediately. Mold was observed on the interior linings of the stairwell and washroom area. An assessment of the interior of the limestone rubble foundation walls showed an advanced state of deterioration. The mortar in the foundation wall was observed to be very friable when scraped and has been generally reduced to dust at all areas observed. When a field knife was used as a probe, it was easily pressed into mortar joints at several locations and the wall was observed to be very damp throughout (see Photo 10). CEL staff used a Schmidt hammer to determine the strength of the concrete and determined it to be relatively poor (see Photo 17). An attempt to repoint and apply a Portland cement rendering to approximately 10% of the foundation wall surface area appeared to have been attempted during a previous intervention (see Photo 14). The rendering and repointing have separated from the wall surface in most locations, and both appear to now be ineffective. Sand and dust from the wall mortar falling from the wall was observed to have collected at the wall base in numerous areas, and the wall was observed to have bulged out at the base in two localized locations.

After assessing the foundation wall, CEL staff then moved on to the ground floor framing members. The ground floor joists were found to be embedded into the foundation wall and have generally decayed to the extent where they have minimal, to no bearing on the wall (see Photo 11). The bottom row of the plank on edge exterior wall framing, where visible from the basement displayed signs of extensive decay and exposure to moisture. The main support beams for the ground floor joists have all been removed and replaced with steel W-flange sections except for one, which presently displayed extensive rot and is supported by temporary shoring (see Photo 16). The steel W-flange sections had been embedded into the foundation wall and mortared in place with a Portland cement rendering. A field knife was used in numerous locations to probe the existing wood spine beam and floor joists, and generally penetrated the members easily. Additional temporary shoring in the form of steel teleposts were present throughout the basement (see Photo 12).



5.2 Addition & Shed

On the northern side of the property at the rear of the building, a crude wooden shed was observed (see Photo 30). The shed was sheathed with wood on the walls and roof, with the roof further covered with corroding metal roofing (see Photo 35). This shed was poorly connected and flashed to the stairs leading to the upper unit of the rear addition to 229 St Patrick Street. The painted OSB sheathing & rim board for the shed was missing or damaged in areas and weathered on the exterior. On the interior the shed walls, roof joists and roof sheathing had numerous areas of dark staining indicative of continual exposure to moisture over its service life (see Photo 34). The shed had a clear lean to the West (see Photo 27), likely due to the shed having a foundation simply consisting of presently decaying wood in direct contact with soil (see Photo 31).

Following the assessment of the shed, the rear additions to 229 St. Patrick Street were evaluated by CEL staff. The stairs leading into the upper unit for 229 St Patrick Street appeared to only have painted OSB sheathing for cladding (see Photo 35) and like the crude wooden shed, these stairs were poorly attached to the rear addition (see Photo 42). The shingles on the roof of the stairs appeared to be in fair condition, but poorly flashed to the additions exterior wall (see Photo 43). At the base of the stairs, the stucco of the addition's exterior wall had been removed and decayed wood, corroded fasteners, and a poor spray foam sealed opening into the interior of the building noted.

Looking at the North wall of the addition, the building had a clear and aggressive lean to the West (see Photo 36). A view of the West wall from above, taken from the rear addition porch of 235/237 St. Patrick Street, showed that the addition has also settled significantly relative to the adjacent structures (see Photo 40). Looking into the crawlspace underneath the addition from the basement of 227/229 St. Patrick Street, it was apparent that most of the additions structure no longer had bearing on the West foundation wall and had collapsed, indicated by the splintered and angled floor system (see Photo 41). This was consistent with the exterior observations.

This structural instability appears to have been instigated by washing out of the soils beneath the foundation at the North-West corner of the building where downspouts were draining water right beside the foundation wall (see Photo 38). Furthermore, the addition's foundation appeared to only bear onto the exterior mass masonry walls and local piers approximately 3'-0" below grade. Thus, the observed settlement and collapse of the structure may also have been caused by the soils beneath the foundation being susceptible to, and eventually affected by, freeze-thaw cycles.

The stucco cladding on the West wall of the addition was in poor condition, and observed to have multiple areas of debonding, cracking, bulging, local and poor-quality repairs throughout the wall, and notably, one large horizontal crack likely a result of the settlement & partial active collapse of the building (see Photos 37 and 39). Two openings in the exterior wall where stucco was removed showed the underlying wood structure to be in poor condition and experiencing decay. The roofline also showed signs of separation.



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Inside the building, the interior linings on the second floor were observed to have been cracked, torn, peeling or locally removed entirely (see Photos 44-46). Through openings in the ceiling of the second-floor kitchen, dark-stained wood joists and dimensional roof sheathing were observed to have localized areas of decay (see Photo 47). Mold was also present on the cabinetry. On the first floor, similar damage to the interior linings was noted with mold also present on the ceiling linings. The East wall appeared to be clad with metal siding in poor condition. Corrosion and weathering was noted throughout.

6.0 Photographs

6.1 Exterior



Figure 1: Roof plan with property highlighted

In the figure above, the original structure at 227/229 St-Patrick St is outlined in red, the blue line outlines the addition.



6.1.1 South Wall (Front)



Photo 1: Paint peeling and weathering of wooden elements.



Photo 2: Front Stucco weathering & staining.

6.1.2 North Wall (Rear)



Photo 3: Rear view of home, one-storey addition, and stucco deterioration.



Photo 4: Laneway covering is slanted.



6.1.3 West Wall



Photo 5: Horizontal cracking can be observed across the mortar in addition to cracking across the face of the bricks attached to the adjacent property. Cracking can also be observed at the corner above the laneway.



Photo 6: Cracking in back of veneer.



Photo 7: Foundation wall deterioration.



Photo 8: Laneway wall plumbness.



Photo 9: Bulging of laneway wall.

This square is intentionally left blank.

6.2 Interior

6.2.1 Basement

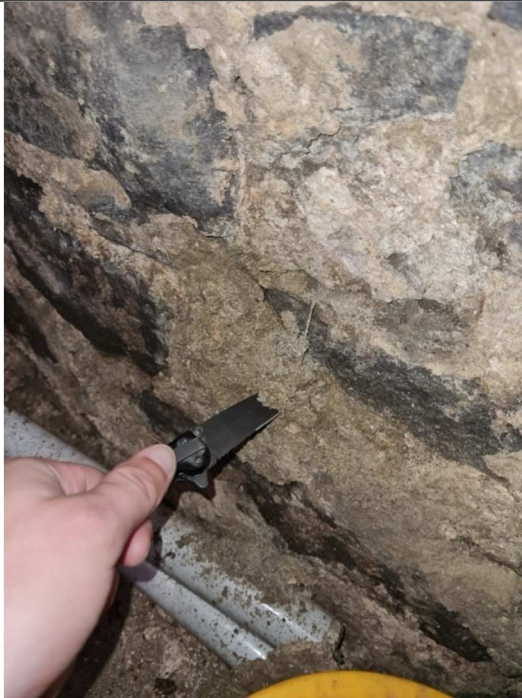


Photo 10: Weak mortar. Field Knife penetrates easily.



Photo 11: Joists going directly into moist foundation wall, decay observed.



Photo 12: Temporary jackposts installed to support sagging floors.



Photo 13: Previous attempted mortar repointing & repair.



Photo 14: Previous Portland cement-based mortar application to interior surface.



Photo 15: Cut/notched joist.

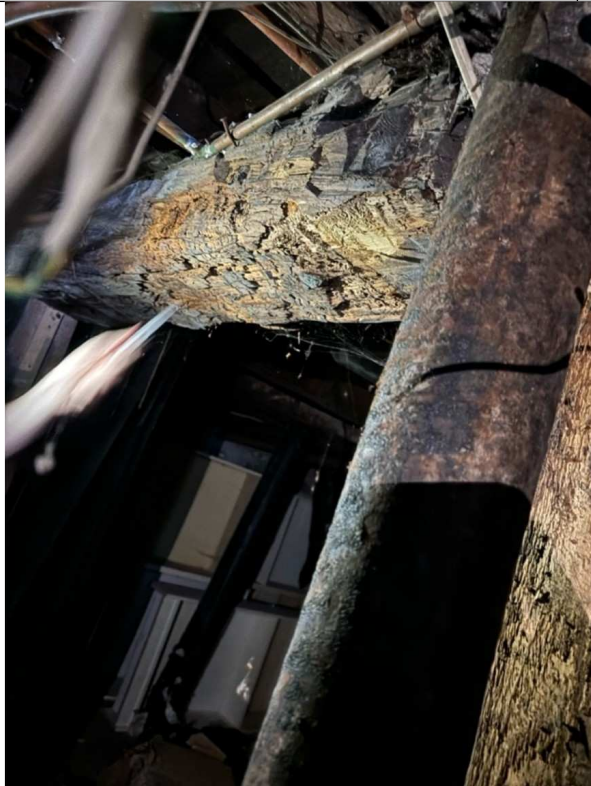


Photo 16: Severe deterioration of beam due to rot.



Photo 17: Schmidt hammer test result for foundation wall.



6.2.2 Main Floor



Photo 18: Exposed exterior wall showing signs of water damage on first floor at the front (South) wall of the building.

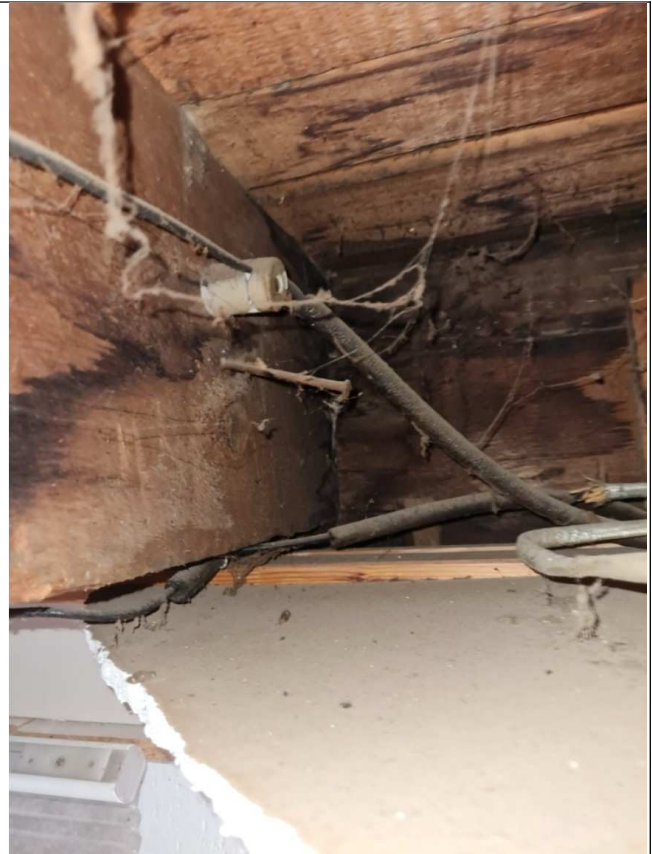


Photo 19: Dark stained joists and rim board in the second floor plenum at the front (South) wall of the building.



6.2.3 Second Floor



Photo 20: Exposed lath and a hole in the ceiling.



Photo 21: Hole in floor displaying signs of rot.

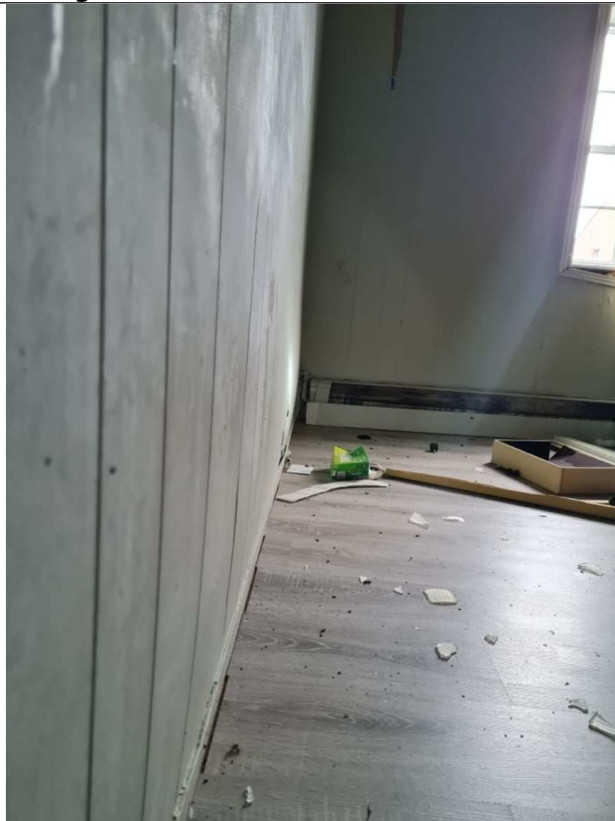


Photo 22: Interior wall bulge and sloped floor above laneway below.



Photo 23: Floor and ceiling are slanted.



6.2.4 Third Floor

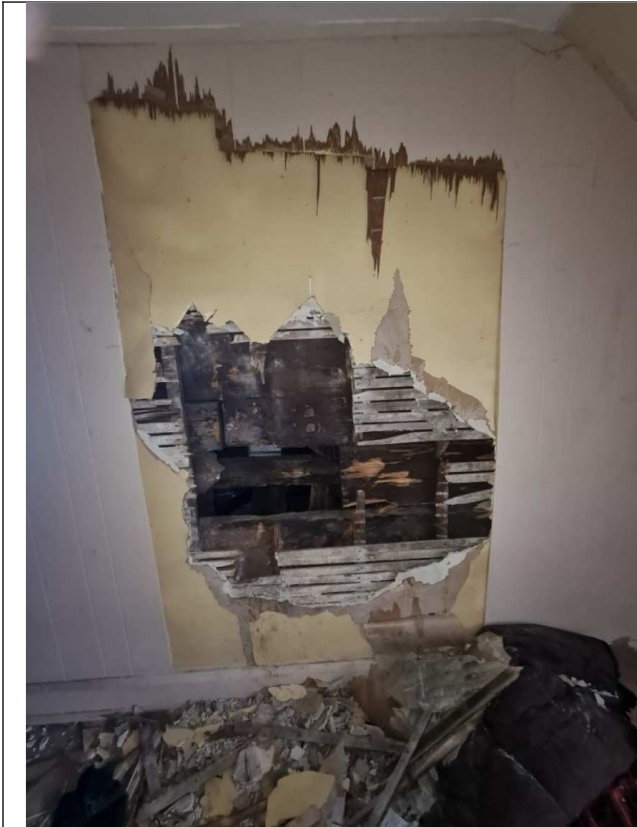


Photo 24: Hole in wall connecting to adjacent attic in 231/233 St-Patrick. Decay noted in plank-on-edge structure.



Photo 25: Inside of wall showing signs of decay along both structures. Daylight observed on all sides.



6.3 Roof



Photo 26: Dark staining in roof by plumbing stack. Prior local repair noted.



Photo 27: Roof line shows signs of sagging near the middle of the roof.

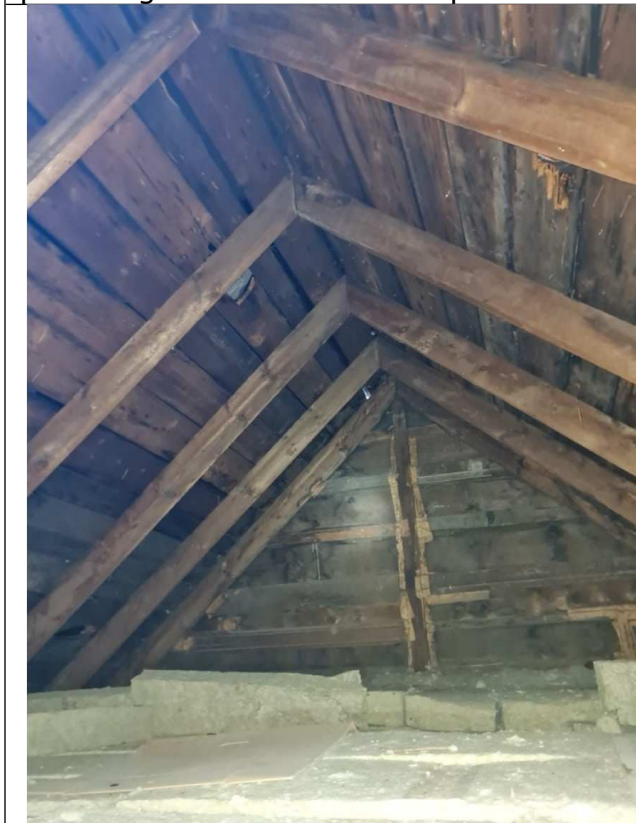


Photo 28: West gable end wall in attic.



Photo 29: East gable end wall in attic.

6.4 Addition & Shed



Photo 30: Certain pieces of wooden wall are broken/missing. Shed is leaning, roof slope is curved.



Photo 31: Shed lacks a foundation, bearing on water damaged areas. The paint is peeling, indicative of weathering of the wood.



Photo 32: Shed is visibly settling and leaning.



Photo 33: Visible damage to exterior walls of the shed.



Photo 34: Dark wet staining on roof joists, indicative of rot.



Photo 35: Corrosion of roof sheathing.



Photo 36: Addition wall leaning dramatically. Unstable structure in state of active collapse.



Photo 37: Stucco cracking and shifting visible on addition.



Photo 38: Downspouts coming down in localised area, washing away soil beside/beneath foundation wall.



Photo 39: Stucco is buckling out and cracked.



Photo 40: The addition has visibly settled relative to the adjacent building(s) as can be seen from 235/237 St. Patrick Street.



Photo 41: Crawlspace under rear addition shows partial collapse of the rear addition.



Photo 42: Timber appears weathered.
Staircase is slanted.



Photo 43: Poor flashing detail, corroding
away.



Photo 44: Ceiling is damaged and appears to be sagging.



Photo 45: Ceiling appears to be sagging and interior walls are damaged.




Photo 46: Ceiling and insulation have been



Photo 47: Fully exposed joists, showing



completely ripped out.	signs of water damage.
	
Photo 48: Water damage to exposed wood.	This square is intentionally left blank.



7.0 Recommendations & Conclusions

7.1 Main Building Conclusion

Built in 1877 this duplex structure (now a triplex), inclusive of carriageway, has a known history of absentee owners with tenants occupying the spaces. The original tenants are known, and recorded in the City of Ottawa Heritage Survey (1990). The survey conducted concluded that the original structural form survives intact, with a Category 2 rating and a score of 74.35 / 100. The date of construction leads to significant value in the built heritage of the Byward Market, being a structure built before 1880. The state of the structure at the time of the 1990 heritage evaluation, as evidenced by photos in the City records (dated 1992), is excellent. The building appears to be of plank-on-edge construction. During the course of our work in Ottawa, we have run into number of buildings which are constructed of plank-on-edge framing, which have been generally in significantly better condition. Examples include 81 Armstrong Street, Ottawa, ON K1Y 2V6 and 98 Merton Street, Ottawa, ON K1Y 1V7.

In our review of a property, we apply a systematic approach to the evaluation of the structural and building envelope elements, with each analysed in accordance with an approach adapted from English Heritage applying the Parks Canada "Standards and Guidelines for the Conservation of Historic Places in Canada", with the structural condition terminology as outlined by PEO. Thus in consideration of Heritage Value, Merit, and Context we score a property in accordance with the Standards and Guidelines, and where we look to the strength, stability, and durability of the structure, we score to PEO standards for field evaluation. Without exception the structure is in poor to very bad condition (heritage) and poor (structurally), with the property at risk of collapse. As discussed in the observations section of this report, the plank-on-edge construction of the building is an uncommon form of construction from the late 1800's timeframe. As such, we believe much of the uniqueness and value of the building is attributed to this uncommon construction style.

In our opinion, the overall condition of the 227/229 building is poor. While the exterior wall stucco appeared to be in fair condition, it appears to have been left unmaintained for an extended period of time, aside from poor localized patch repairs. The stucco could be washed & painted, sealant re-applied around penetrations and likely be returned to a serviceable condition. However, given the observed bulging of the first-floor West exterior wall, staining and cracking of the stucco and a decayed condition of the exterior plank-on-edge wall structure at the observed interior openings, we believe the underlying structure of the building to be experiencing systemic and advanced decay. The East exterior wall opening on the second floor showed that decay has affected most if not the entire cross-section of the plank-on-edge members in this location, comprising their strength entirely. Wood affected by and compromised by rot, can typically be repaired using a penetrating epoxy, however in the course of our works, this is done as a local repair where the lignin of the wood has not already been severely compromised throughout the cross-section of the member.

As the entire extent of the decay was not verified, some of the plank-on-edge structure may be salvageable, but based on site observations, this amount would be minor.



Furthermore, as decay is caused by living organisms and again, the entire extent is not known, we believe a majority of the exterior wall structure is not repairable and requires removal; replacement. Similarly, the plank decking and rafted gable roof, in our view, is heavily moisture-affected for a majority of the roof structure. Where the condition of the roof appeared fair, it is unknown whether the members had internal decay which was not observable from the exterior assessment. Roof elements that have been exposed to less moisture may be able to be treated for fungal rot or with an epoxy injection, however most of the material making up the roof structure would need to be replaced.

Regarding the upper floor framing of the building, aside from the joists cantilevering out to form the balconies, the floor framing appeared to be in serviceable condition. The ground floor framing is in poor condition, with many of the members already replaced or where not replaced, in an advanced state of decay and supported by sporadically installed temporary steel telepost shoring. We believe the ground floor framing will require a complete re-design and replacement. In addition the localized damage to the interior linings could be repaired, but they will likely need to be entirely removed and replaced.

As for the basement, the mass masonry stone foundation wall is currently in such poor condition that the best repair possible would be a complete dismantling and rebuild of the wall, such that it can be brought back to a serviceable condition. The sloping of the upper floors, likely a result of the previous attempts at replacing significantly deteriorated ground floor supporting members and the temporary shoring install, would also need significant remediation to be rectified. Should the uneven floor and wall surfaces be a result of foundation movement due to frost-affected or washed out soils, the on-site soils would also require remediation prior to rebuilding the foundation.

We are concerned that the advanced state of deterioration, significant damage to the interior linings, and the evidence of buckling of the exterior walls are all indications of early onset structural collapse. This structure is now past saving, and in fact may pose a danger to the unsuspecting public if permitted to weather another winter season. Note that the nature and extent of damage gives less concern to lateral events (wind, seismic) than to winter loadings (ice, snow), however the need for immediate shoring cannot be ruled out if planning for immediate interventions proves impossible.

We recommend the structure be demolished without delay.

7.2 Addition & Shed Conclusion

In our opinion, the overall condition of the crude rear shed is poor. There is extensive water damage and decay present in the wooden exterior walls and roof assembly. The metal roofing is also in poor condition, there is no proper foundation present and as a result, the decayed wood which the shed is bearing on, has led to the shed being in a state of active state of collapse. Given the poor condition of the shed materials and the hazard posed to the public as it is in an active state of collapse, we do not believe retention of the structure, or parts of the structure is realistic, and are in agreement with Gradient Engineering that the state of the building warrants complete demolition.



As mentioned in the observations section of this report, it is clear that the addition is in an active state of collapse, but closer to the existing building the structure appears to be more stable, likely relying on the existing structure for stability. Should the structure collapse further, which is likely, this could pose a risk to the main building. Due to the movement of the building, the roof and exterior stucco cladding on the West wall both appear to have sustained considerable damage and would require replacement. As the stucco had no drainage layer and thus face-sealed to the supporting structure, the supporting structure has likely been systemically exposed to moisture and decayed as wind-driven rain drives water behind the cladding through the numerous deficiencies. This assumption aligns with the decay observed in open sections of the wall.

Similar to the crude rear shed, water damage and decay were noted in the exterior walls, floor and roof of the rear addition. Decay from moisture is typically induced by fungal rot, and the structure in many locations appears to have decayed to the extent that significant strength of the member(s) has been lost and replacement would be required. The foundation was not closely examined with hand tools and non-destructive testing, however from a visual assessment it appeared to be in a similarly poor condition to that of the main building foundation, in addition to being much shallower and thus, significantly more susceptible to frost damage to the wall and soil below. While repairable by repointing from both sides, where the addition has not collapsed, frost protection and a drainage system would also be required for the addition foundation to ensure long-term durability. Where the addition has collapsed, we would advise for replacement of the foundation.

Considering the above, we believe the condition of the rear addition is poor. It is also our belief that the rear addition poses a hazard to public safety, a risk of damaging the main building on further collapse and has also sustained considerable damage & decay to both the building envelope and underlying structure. Due to the damage observed, the areas and elements of the structure that could be reused, rehabilitated or repaired are minimal. Thus, in our opinion, we are in agreement with Gadiant Engineering that the building presents enough concerns to justify a recommendation for demolition.

Drafted by: R. Charron & R. Paxton, B.Eng., EIT

Reviewed and Approved for Release by: M. Quinn, P.Eng.



See Notes, next page.



Note:

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Appendix A:

'Evaluation of Existing Structures at 227/229, 231/233, 235/237 St-Patrick, Ottawa, ON.'
prepared by Gadiant Structural Engineering Ltd., 13 August 2021

NB: This appendix contains eight (8) pages, including this one. The appended report is not considered to count towards the total number of pages of our report, and hence is not reflected in the numbering of this document.



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Appendix B:

'Heritage Survey And Evaluation Form – 227/229 St-Patrick St' prepared by City of Ottawa Department of Planning & Development – M. Carter – January 1990

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Appendix C:

'Heritage Survey And Evaluation Form, Category Scoring – 227/229 St-Patrick St'
prepared by City of Ottawa Department of Planning & Development – M. Carter – June
1992

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