

November 18th, 2024

Steve Monuk
79 Guigues Avenue
Ottawa, Ontario
K1N 5H8



Attention: Mr. Steve Monuk

**Re: 79 Guigues Avenue, Ottawa
Structural Review Fire and Water Damage
Our Reference Number: 24-8613**

Dear Sir,

As requested, Cleland Jardine was on site on Sept 4th, 2024 to review the damage done at 79 Guigues Avenue, Ottawa. .



79 Guigues – South Elevation Viewed From Guigues Street

General Description

- The building is a two storey sudo "stacked plank" type log home structure. The exact age of the building is unknown, however, the original houses along Guigues Avenue date back over 100 years. The "planks" are milled to approx. 3.5"by 8" and stacked on edge to create the walls.
- At the time of our site visit, the house was unoccupied and stripped of its interior finishes exposing the plank wall and floor construction.
- The main structure is plank walls on the exterior walls, wood floor joists and rafter stick framed members all supported on rubble stone foundation walls.
- The building is clad with multiple layers of various architectural cladding such as wood siding, stucco, and a composite wood siding with rigid insulation.
- It should be noted that the only the interior face of the planks were visible during our visit, and as such we cannot confirm the condition of the exterior face of the planks.
- The front balcony Structure had sustained significant structural damage from fire.
- Extensive damages to the exterior finishes on the front façade.
- The interior of the building sustained significant water damage as a result of extinguishing the fire.
- Extensive mold on the interior of the building was noted.

Condition of Structural Components

- The plank wall framing has sustained continuous moisture penetration at numerous locations over the decades. Particularly at openings in the building and East Elevation of the building (See Photos One and Seven). This has led to the deterioration of the wood in planks in several locations.
- The wood framing of the roof is in poor condition. There had been water infiltration of numerous years. See attached pick of opening that has rotted thru the roof (See Photo Two). This has occurred at multiple locations. The existing roof planking is in a state of rot needs to be completely replaced over the entire roof area. The roof rafters and joist so signs of dry and wet rot. However, due to the condition of the poor condition of the roof we were opinion that trying to access this area was not safe.



Photo One – Moisture Penetration



Photo Two – Water Damaged Roof Framing and Rot



Photo Three – Dry Rot on Wood Framing

- Areas of dry rot are present in the basement, primarily where the floor joists are embedded in the rubble stone walls (See Photo Three). Which is common with this era of construction.
- The foundation walls are constructed of rubble stone and are in poor condition. The mortar joints are very soft, to non-existent in many locations with signs of obvious water infiltration. The areas where the mortar was still present could easily be scraped away with a screwdriver to the full depth of the screw driver (See Photos Four and Five).
- There are locations of apparent “underpinning/remediation” with concrete. These repairs were poorly executed and are not providing the necessary support that they were originally intended too. When hammer sounded these mass pours are hollow, indicated that they are relatively thin and not bonded to the stone. For all intense purposes they are strictly non-structural and veneer in nature (See Photo Five).



Photo Four – Rubble Stone Wall



Photo Five – Underpinning/Remediation

- The plank log walls have had significant carpenter ant damage over the years. Several boards have been structurally compromised. Replacing these boards is extremely difficult due to their stacking nature (See Photo Six).
- Due to the construction type this building has gone thru multiple expansion and contractions as a result of moisture changes each season, and as a result has loosed the "joinery" of the building. The nails used to hold the planks together are a traditional square tapered nail which are notorious for coming loose after the wood goes thru shrinkage from moisture change. This process has significantly reduced the lateral capacity of the building to resist lateral forces that are imparted on it.
- The front of the building has been structurally modified over the years with larger windows and openings which has structurally compromised the integrity of the plank framing system to support gravity and lateral forces. Most of the walls are no longer plumb and are in the early stages of buckling out (See Photo Six).
- The Front Balcony was severely damaged as a result of fire, to the point that it is no longer safe and must be demolished. Beams, columns, joists, and rafters have been damaged beyond repair at the roof and balcony level.(See photo Eight)
- Extensive mold damage on the inside of the building as a result of firefighting operations soaking the structure to ensure the fire was extinguished. There is most-likely mold on the exterior face of the plank structure trapped behind the multiple layers of exterior finish. (See Photo Nine)



Photo Six – Carpenter Ant Damage



Photo Seven – Out of Plumb Wall/Water Infiltration



Photo Eight Fire Damage



Photo Nine Mold

SUMMARY

It is our professional opinion and recommendation that the building should be completely demolished for the following reasons:

1. Extensive repairs are required to the wood frame elements of the floors, ceilings and roof that it would involve the complete replacement or strengthening of all members.
2. The foundation deterioration has progressed to a point that complete removal and reconstruction is required of the rubble stone foundation wall. A house of this nature would require it be lifted into the air in order to replace the foundations in order to get access to the East wall which is right on the property line. However, the current conditions would likely result in the building collapsing if a lift was attempted.
3. Deterioration of the log walls from dry rot, wet rot, and carpenter ants, are to such an extent that to try and repair/replace with involve the complete removal and reinstatement of complete walls, which is realistically not possible in our opinion.
4. The building has suffered another fire, it is our recommendation that the building be demolished, as it has suffered catastrophic fire and smoke damage that is unrepairable.
5. There is now extensive mold inside the wood building as result of the fire fighting operations. This clean up would require the removal of all exterior finishes to ensure a proper remediation of the building. The removal of the exterior finishes would further compromise the structure and cause it to become unstable and collapse.
6. Due to all the water damage from the fire, it is likely the wood planks will start to warp and twist. This will further destabilize the structure as the wood joints further open up and become disengaged with each other causing the building to collapse.

We trust the preceding is satisfactory. If you have any questions, please contact the undersigned.

Yours truly,

CLELAND JARDINE ENGINEERING LIMITED



Rob Nevin, P. Eng.

