

Municipality of Powassan

Trout Creek Community Centre – Building Condition Assessment

Project No. 20-1243-2

October 2020

DRAFT

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1. INTRODUCTION

Tulloch Engineering (Tulloch) was engaged by the Municipality of Powassan (Municipality) to carry out a visual inspection of the building system of the Trout Creek Community Centre located at 181 Main Street West Trout Creek, Ontario.

The scope of work undertaken by Tulloch was to carry out a visual inspection of the major exposed structural and architectural components of the building. The purpose of the inspection was to review the major exposed components of the roof, walls, floors, foundations and other building systems to determine if maintenance or upgrading work is required and provide recommendations for structural or remedial maintenance work considered necessary to maintain the current level of service.

2. BUILDING DESCRIPTION

The building is a two story municipally owned recreational facility. For the purposes of this report it is assumed that the front of the structure which fronts onto Main Street West is the north side of the structure. The building can be broken into the following three (3) distinct areas with the following features of construction:

1. Lobby and Dressing Rooms
 - Approximately 4,500 ft² includes gallery, men's and women's washrooms, office, concession stand, storage/service room, managers room, dressing rooms 1, 2, 3 and 4 and old timers dressing room
 - Wood framed ceiling
 - Concrete block load bearing walls
 - Cast in place foundation
 - Slab on grade floor
2. Community Hall
 - Approximately 4,500 ft² includes community hall, kitchen, bar area, men's and women's washrooms.
 - Typical stick framed roof framing
 - Concrete block load bearing walls
 - Wood framed floor system
3. Ice surface
 - Approximately 18,000 ft² includes, ice surface and mechanical room, Zamboni room, and storage room
 - Wood Pole frame roof and wall system
 - Cast in place foundation
 - Slab on grade floor

Arena buildings have typically been inspected at regular intervals in the province of Ontario. Arena buildings are subject to significant changes in temperature and humidity throughout each season, and deterioration of the structural components can occur more readily in arena type buildings, compared to more typical structures that do not experience temperature/humidity changes. In the

1970's, a program of regular structural inspections for arenas was initiated in Ontario, and guidelines for carrying out the inspections were prepared by the Professional Engineers Ontario.

The inspection of the Trout Creek Community Centre was carried out by Tulloch in accordance with the requirements of the document "Professional Practice Bulletin – Structural Engineering Assessment of Existing Buildings", prepared by Professional Engineers Ontario, November 2012.

Note that access was not available to all areas of the building's structure. Areas that were covered with finishes or were obscured by stored materials, permanent furnishings or coverings were not inspected.

3. INSPECTION

A visual inspection of the buildings exposed components was carried out by Mr. Frank Palmay, P.Eng. on June 4, 2020. During the inspection, the building's structural components were visually inspected to identify areas of material deterioration or possible structural distress (movements or deflections). An aerial elevating device and ladders were utilized during the inspection to facilitate access to the upper wall and roof framing structural components of the ice. Additionally, the mono sloped roof area above the Zamboni room and storage area at the south end of the building, was accessed from the exterior by means of a ladder. The roof over the ice surface was only visible from the north lobby roof by means of a ladder and therefore this is considered a limited inspection due to safety measures. During our review Municipal staff were present and provided unrestricted access to all areas of the facility.

4. OBSERVATIONS

During our visual inspection of the building components a number of defects were observed and noted. A summary of these observations is as follows:

4.1 Interior

4.1.1 Lobby Area

1. Moisture damage in ceiling in women's washroom, previous leak reported to be repaired.
2. Damaged drywall in hallway leading to dressing rooms.
3. Damaged parging and flaking of paint in dressing rooms
4. Damaged carpet in managers office.
5. AODA non-compliance

4.1.2 Community Hall

1. Overall, in good condition
2. AODA non-compliance

4.1.3 Ice Surface

1. Side bracing at southwest corner is sagging.
2. Knee brace to roof beam connection is separating at southwest corner of structure.
3. Noted steel base plates which were reported to be installed in or around 2008 at the bottom of the wood columns starting to corrode, no section loss noted.
4. AODA non-compliance

4.2 Exterior

1. Damaged steel siding throughout.
2. Minor corrosion of steel posts supporting west roof overhang.
3. No protection of west overhang steel posts. Leaving them susceptible to vehicle impact.
4. Narrow vertical crack in south concrete block wall.
5. Missing shingle on roof above Zamboni room.
6. Failing caulking throughout.
7. Missing section of steel fascia on south face of roof
8. Deterioration of exterior block wall on east side of building as a result of moisture from vents above.
9. Severely deteriorated asphalt at north side of site.

Attached in Appendix C is a costing table which provides timing and pricing for the above noted repairs. Additionally, in this table we have included regular ongoing maintenance items which will require the Townships attention over the next 20 years. These items include things such as the replacement of lighting, windows, doors, etc.

5. DISCUSSION

Generally the building is in overall good to fair condition. With a proper maintenance routine and continued inspection/monitoring of the structure every 3-5 years it is our opinion that the building can remain operational for 20+ years. Most deficiencies noted are non-structural in nature and

once addressed particularly the building envelope concerns (caulking, siding, roofing) will provide protection to the buildings main structural elements.

6. AODA COMPLIANCE

The facility as a whole is not AODA compliant and significant upgrades would be required. These upgrades would include providing an elevator to serve the community centre, upgrading exterior site works to create barrier free paths of travel, installation of ramps where currently 2 to 4 steps are constructed. Should the Municipality wish to upgrade the facility to AODA compliance we believe that the cost would be in the range of \$500,000 to \$650,000.

7. CONCLUSIONS AND RECOMMENDATIONS

Based on our visual inspection of the building components we have developed the following conclusions

1. Repair all areas of roof where damage has occurred, including flashing and roof sheathing
2. Caulk all openings in exterior finishes including caulking of flashing from lower roof to gable end wall.
3. Replace all areas of damaged siding.
4. Wire brush and paint existing steel base plates at bottom of columns around the rink surface.
5. Add a steel gusset plate to the knee braces which are separating from the roof beam.
6. Install protection system (bollards or large concrete blocks) around steel posts which support west roof overhang.
7. Wire brush and paint all steel posts supporting west roof overhang.
8. Repair all interior finishes which have been damaged (drywall in hallway, parging/painting in dressing rooms, carpet in managers office) ✓
9. Asphalt repairs at north side of building
10. Epoxy inject vertical crack in block wall
11. Repair damaged east wall and protect against moisture from vents above.

8. PRICING

Based on the current condition of the facility and the anticipated replacement dates and costs developed in detail found in Appendix C, we anticipate that an expenditure of approximately \$74,000 (2020 dollars) is required within the next year, to maintain the facility to its current standard. Following 2020, in the next 10 years the building will require approximately \$75,000, in

maintenance/repair costs from items noted during our review. We also advise the Municipality to carry an additional \$100,000 for mechanical and electrical systems. With buildings of this nature these systems are often heavily used and therefore have a reduced service life.

Table 1: Maintenance Costs Over Ten Years

Item No.	Description of Work	1-2 Years	3-5 Years	6-10 Years
1	Roof Repairs	\$5,000		
2	Caulking	\$2,000		
3	Siding	\$55,000		
4	Steel base plates		\$5,000	
5	Steel Gusset plate installation	\$10,000		
6	Steel Column protection system		\$5,000	
7	Clean and paint steel columns ✓			\$2,000
8.1	Drywall Repairs ✓		\$2,000	
8.2	Parse and Paint dressing rooms ✓			\$25,000
8.3	Carpet replacement ✓	\$2,000		
9	Asphalt		\$25,000	
10	Epoxy vertical crack in block wall		\$1,000	
11	Repair east wall		\$10,000	
TOTAL ESTIMATED CONSTRUCTION COST		\$74,000	\$48,000	\$27,000

9. CLOSURE

We trust this report is sufficient for your purposes at this time, should you require any further assistance or would like clarification on the above please do not hesitate to contact the undersigned.

Respectfully Submitted,

TULLOCH ENGINEERING INC.

DRAFT

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APPENDIX A

Photographs



Photograph 1: Structure facing south



Photograph 2: General view of lobby



Photograph 3: General view of community centre



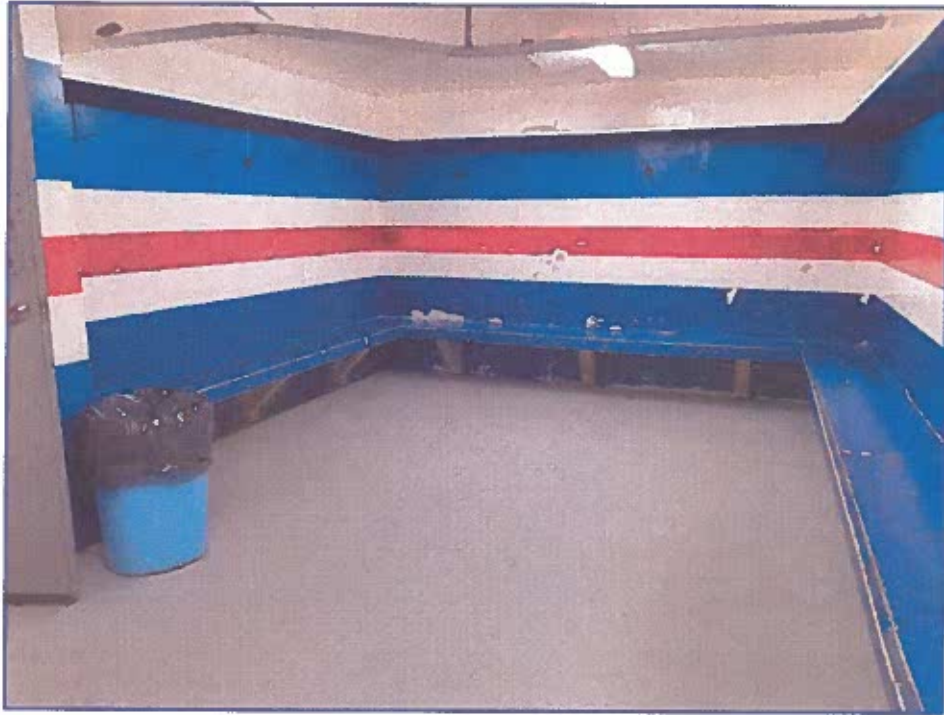
Photograph 4: General view of ice surface



Photograph 5: Moisture damage in ceiling in women's washroom, previous leak reported to be repaired



Photograph 6: Damaged drywall in hallway leading to dressing rooms



Photograph 7: General view of dressing room



Photograph 8: Damaged parging and flaking of paint in dressing rooms



Photograph 9: Damaged carpet in managers office



Photograph 10: Side bracing at southwest corner is sagging



Photograph 11: Knee brace to roof beam connection is separating at southwest corner of structure



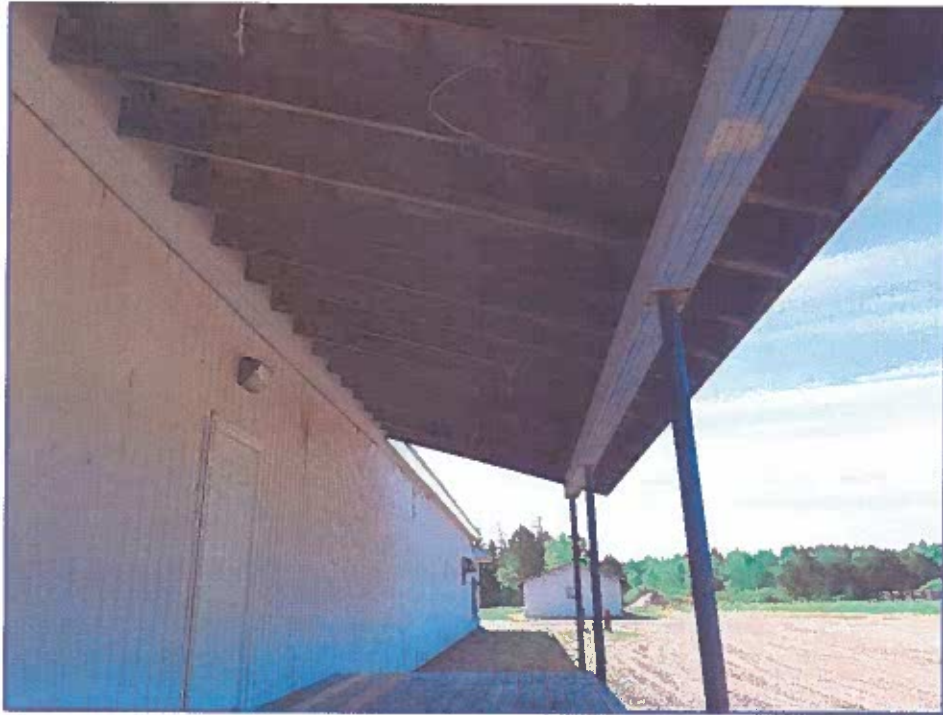
Photograph 12: Noted steel base plates which were reported to be installed in or around 2008 at the bottom of the wood columns starting to corrode, no section loss noted



Photograph 13: Damaged steel siding throughout



Photograph 14: Minor corrosion of steel posts supporting west roof overhang



Photograph 15: No protection of west overhang steel posts. Leaving them susceptible to vehicle impact



Photograph 16: Narrow vertical crack in south concrete block wall



Photograph 17: Missing shingle on roof above Zamboni room



Photograph 18: Failing caulking throughout



Photograph 19: Missing section of steel fascia on south face of roof



Photograph 20: deterioration of exterior block wall on east side of building as a result of moisture from vents above



Photograph 21: Severely deteriorated asphalt at north side of site

APPENDIX B

Statement of Limitations

STATEMENT OF LIMITATIONS AND QUALIFICATIONS

The attached Report (the "Report") has been prepared by Tulloch Engineering Inc. ("Consultant") for the benefit of the client ("Client") in accordance with the agreement between Consultant and Client.

The information, data, recommendations and conclusions contained in the Report (collectively, the "Information"):

- represents Consultant's professional judgement in light of the Limitations and industry standards for the preparation of similar reports;
- may be based on information provided to Consultant which has not been independently verified;
- has not been updated since the date of issuance of the Report and its accuracy is limited to the time period and circumstances in which it was collected, processed, made or issued;
- must be read as a whole and sections thereof should not be read out of such context;
- was prepared for the specific purposes described in the Report; and
- in the case of subsurface, environmental or geotechnical conditions, may be based on limited testing and on the assumption that such conditions are uniform and not variable either geographically or over time.

Consultant shall be entitled to rely upon the accuracy and completeness of information that was provided to it and has no obligation to update such information. Consultant accepts no responsibility for any events or circumstances that may have occurred since the date on which the Report was prepared and, in the case of subsurface, environmental or geotechnical conditions, is not responsible for any variability in such conditions, geographically or over time.

Consultant agrees that the Report represents its professional judgement as described above and that the Information has been prepared for the specific purpose and use described in the Report, but Consultant makes no other representations, or any guarantees or warranties whatsoever, whether express or implied, with respect to the Report, the Information or any part thereof.

Without in any way limiting the generality of the foregoing, any estimates or opinions regarding probable construction costs or construction schedule provided by Consultant represent Consultant's professional judgement in light of its experience and the knowledge and information available to it at the time of preparation. Since Consultant has no control over market or economic conditions, prices for construction labour, equipment or materials or bidding procedures, Consultant, its directors, officers and employees are not able to, nor do they, make any representations, warranties or guarantees whatsoever, whether express or implied, with respect to such estimates or opinions, or their variance from actual construction costs or schedules, and accept no responsibility for any loss or damage arising therefrom or in any way related thereto. Persons relying on such estimates or opinions do so at their own risk.

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Consultant accepts no responsibility, and denies any liability whatsoever, to parties other than Client who may obtain access to the Report or the Information for any injury, loss or damage suffered by such parties arising from their use of, reliance upon, or decisions or actions based on the Report or any of the Information ("improper use of the Report"), except to the extent those parties have obtained the prior written consent of Consultant to use and rely upon the Report and the Information. Any injury, loss or damages arising from improper use of the Report shall be borne by the party making such use.

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