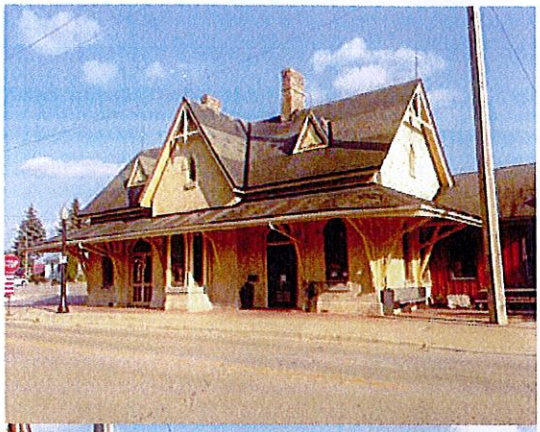

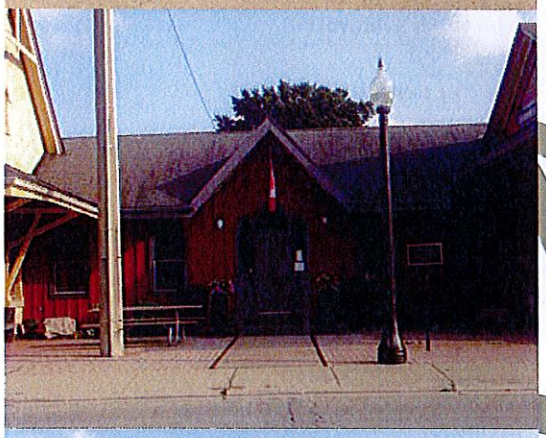

Station Arts Centre
Building Condition Assessment Report

DRAFT

Prepared for:

The Corporation of the
Town of Tillsonburg
Station Arts Centre
41 Bridge Street, West
Tillsonburg, Ont.
N4G 5P2

Prepared by:

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Draft REPORT 20 November, 2018

a+LiNK
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preserve + create + sustain

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Executive Summary

The Station Arts Centre is an amalgamation of two historic railway stations, the Great Western Railway Station (GWR) circa 1879 on the eastern end is original to the site and the west building Tillsonburg Lake Erie Pacific Railway Station (TLEPR) circa 1896 was relocated to this site in the mid 1990's. The interconnecting main gallery addition was constructed in 1995. Both stations have been historically designated under Part 1V, of the Ontario Heritage Act and locally considered a heritage structure. It is recommended that procedures be established to maintain the heritage fabric now and in the future.

Generally, the building is in sound condition and appear to be reasonably maintained. However, there were some observed structural and maintenance deficiencies that will require immediate repairs.

The most problematic issue of the facility is in regards to the fire and life safety building code infractions of the basement. As previously reported there are no fire separations and no proper exits from the basement. The basement has been determined to be unfit for occupancy and has been closed to public use. Significant repairs will be required to upgrade the basement before occupancy can be permitted. See separate fire and life safety report and cost analysis.

Further, and unfortunately, the usual long term maintenance items on this building are coming due for replacement at the same time. The roofing, all furnaces, and water heater equipment have reached their life expectancy and replacement should be expected for each in the near future.

In closing, it is recommended that a professional architect be retained to assist in preparing a program of repairs to bring the building to a usable condition.

Respectfully submitted,

Consultants

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Mechanical / Electrical:
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List of Resources

1. Standards and Guidelines for Conservation of Historic Places in Canada.
   Parks Canada, Second Edition 2010.

2. Ontario Building Code 2012. Ministry of Municipal Affairs and Housing. Building and Development Branch. Updated January 15th, 2015.

3. Ontario Building Code 1986. Ministry of Municipal Affairs and Housing. Building and Development Branch. Updated April 3rd, 1989.

4. Ontario Fire Code 2007. Ministry of Community Safety & Correctional Services. Updated January 2014.

5. A review of the drawings and documents as provided by the owner include the following:
   a. Record Drawings, prepared by Jade Engineers Inc., dated 2011.05.12.
   b. Application for Building Permit, Town of Tillsonburg, dated 1994.04.25.
   c. Emergency plan maps, main floor & lower levels.
   d. Roof Inspection Reports, prepared by Garland, dated 2015.02.11, 2017.10.09.
   e. Roof Inspection Report, prepared by Garland, dated.
   f. Heritage Designation Bylaw TLEPR Station 1994.
   g. Summary of renovations and repairs 1982 to 2018, prepared by Station Arts Centre.

1.0 Introduction

1.1 Objectives of Assessment

a+LiNK Architecture Inc was retained by the Town of Tillsonburg to prepare a building condition survey and maintenance plan for the Station Arts Centre. The facility is a municipally owned heritage building.

The condition survey was intended to identify those building components that are currently in need of repair or replacement as well as those items that are expected to require work within the next few years.

1.2 Description of Building

In order to distinguish between the various buildings at this site we have used the following designations where ever possible:

1. Heritage Building 1 – GWR, (Great Western Railway Station, the east building.)
2. Heritage Building 2 – TLEPR, (The west building, Tillsonburg Lake Erie Pacific Railway Station.)
3. 1995 Addition, (The center Main Gallery building.)

The Station Arts Centre is an amalgamation of two historic railway stations, one which was relocated to this site. The Great Western Railway Station (GWR) on the eastern end is original to the site and the west building Tillsonburg Lake Erie Pacific Railway Station (TLEPR) was relocated to this site in the mid 1990's. The interconnecting main gallery addition was constructed in 1995.

The GWR station constructed in circa 1879 is a wood and masonry building following the Gothic Revival architectural style. The building sits on the original stone masonry foundation. The station has received substantial restoration, alterations, and repairs since 1982. However, the building is locally designated as a Tillsonburg Heritage Site.

The TLEPR station constructed in circa 1896 of wood frame and wood siding. It is a simplified gothic revival architectural style but without the traditional pointed arched window treatment. The building was relocated to this site and sits on a poured concrete foundation.

The interconnected space between the two stations functions as the main gallery. The addition constructed in 1995 of wood frame and siding and sits on a concrete block unit masonry foundation. The addition was built in an architectural style that attempts to be sympathetic to the gothic revival style of the TLEPR station.

Building Data:

Building area:	3806 Sq.Ft. (353 m²)
Gross floor area:	
Basement:	1789.2 Sq.Ft. (166 m²)
First Floor:	3806.6 Sq.Ft. (353 m²)
Total:	5595.8 Sq.Ft. (519 m²)
Occupancy:	Office, OBC, Group A2

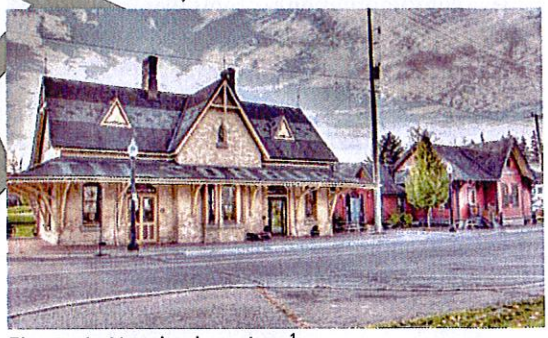

Figure 1, North elevation.[1]

1.3 Scope of Work

a+LiNK performed a building review with Gray & Fick, Consulting Structural Engineers, and Callidus Engineering, Mechanical and Electrical Engineers to assess the current condition of the building. This report contains the observations and recommendations.

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[1] Photo from: https://www.stationarts.ca/history-of-the-station?lightbox=dataItem-ijdd3umx

The scope of work included the following:

- visual onsite review of the current condition of the building.
- assessment to identify obvious areas of concern.
- preliminary observation and comment regarding the architectural, structural, HVAC, and electrical systems.
- photographic record of onsite review.
- recommendations for stabilization and repairs.

Specific areas of interest highlighted in this report, as applicable, are as follows;

i) Roof(s)
ii) Chimney(s)
iii) Eaves + Downspouts
iv) Walls Above Grade
v) Doors + Windows
vi) Insulation
vii) Foundation Walls
viii) Structural Condition
ix) Heating/ Ventilation Systems
x) Plumbing System
xi) Electrical System
xii) Barrier Free
xiii) Interior & Exterior Finishes
xiv) Life Safety

Findings presented in this report are based on a visual review of the building at the time of site visit. No destructive testing was implemented. The Town of Tillsonburg acknowledges that deficiencies may exist in areas not referenced in this report which could have been visually hidden or inaccessible at the time of the review. Where recommended, the need for further destructive testing has been highlighted in this report. a+LINK Architecture Inc. and their consultants cannot be considered liable for any costs incurred by the consequent discovery of deficiencies identified after the completion of this assessment.

2.0 Methodology

2.1 Assessment Team

Completion of this assessment involved the collaboration of numerous technical experts, city representatives and end users. The project team included the following firms:

Architectural:	a+LiNK Architecture Inc.
Heritage:	a+LiNK Architecture Inc.
Structural:	Gray & Fick LTD Structural Eng.
Mechanical:	Callidus Engineering Limited
Electrical:	Callidus Engineering Limited

2.2 Available Documentation

Our approach to this collaborative effort consisted of the following;

a) A review of the drawings and available documentation as provided by the client, See List of Resources above.

b) Site visits to 41 Bridge Street, Tillsonburg, Ontario were carried out on September 18th, 2018 at 1:00 pm to conduct a general review of the existing conditions of the building.

2.3 Costing Methodology

Cost estimates have been prepared based on 2018 values.

Recommendations have been made based on present site assessments. Any delay in remediation and/or routine maintenance work will result in inevitable interim failures and increase cost.

3.0 Site Conditions

Description

The building is situated on lands owned by the Town of Tillsonburg and bounded by Bridge Street on the north and Bidwell Street and Coon Alley on the east and west sides respectively. The site is predominately landscaped with hard surface, brick pavers and concrete, materials on the north and east sides. There is some grassed areas on the west and south sides of the building. There is no onsite parking lots.

The site appears to be relatively flat and the grading of the entire area has been raise approximately 6 – 8" from its original grade level. The brick paver sidewalk on the north rises minimally to create a level barrier free entrance at the GWR station and appears to be above the foundation line of that building. The addition and TLEPR station are accessed by elevated stairs at their entrances. The planter areas on the north side of the main gallery addition is also above the top of foundation and the wood siding is buried into the dirt.

There are two catch basin drains along the south side which are maintained by the town. The roof rain water leaders are connected underground. It is assumed that the underground drains are connected to the storm water system. No ponding water was observed at the time of visit.

There is no delineated barrier free path of travel to the barrier free entrance.

Figure 2, Current grading south side.

Figure 3, Original grading levels.[2]

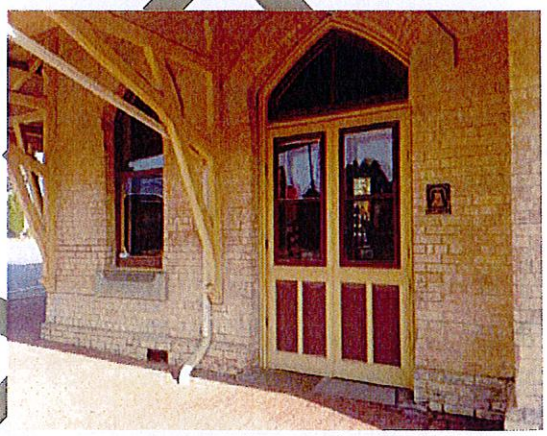


Figure 4, Current grading north side.

Condition and Recommendations

3.1 Grading north side: although rather shallow, the grading on the north side appears to slope away from the building. However, the grading is above the top of foundation and the crawlspace vents at the GWR station are buried below grade.

a) Recommend – provide a detailed topographical survey of the entire property including underground services and utility locates.

b) Recommend – provide destructive investigation below grade to ascertain the condition of the foundation walls. See section 4.8 Foundation walls.

[2] Photo from: https://www.stationarts.ca/history-of-the-station?lightbox=dataItem-ijdd3umz.

c) Recommend – provide areaways with grating covers for the crawlspace vents.
d) Recommend – lower grade inside basement window wells to a minimum of 6" below window sill.

3.2 Grading south side: The grading on the south side is above the top of foundation and the wood siding is buried into the dirt at some locations.
a) Recommend – Cut and regrade to below the top of foundation and slope away from building.

4.0 Building Envelope

4.1 Roof(s)

Description

The roof is predominately asphalt shingles applied over a wood substrate on all three buildings. The asphalt shingles on the GWR station are patterned after the original slate shingles which were removed in 1995.

It was reported that the current roof was installed in approximately 1995 and has had some repairs and partial replacement in isolated areas to address leak issues. It was reported that there are currently three (3) known roof leaks.

The roofing system has exceeded its life expectancy and should be replaced and a series of recent roof inspection reports, prepared by others, confirm that replacement of the entire roofing membrane system is required.

Rotted wood deck and other structural deficiencies were observed in the roof decking and structural supports in both stations. There were observed open holes in the gable ends of the TLEPR station which will require further investigation to determine the appropriate repairs. The exterior corners of the canopy roof on the GWR station have sagged significantly and the corner brackets have separated from the wall. See section 5.0 Structural Condition below.

There are areas of observed rot in the roof fascia boards. However, the full extent is not known. It is recommended that all roof fascia boards and trim be examined during the roof replacement.

Figure 5, Sagging canopy roof and deteriorate shingles.

Figure 6, Exposed deck boards no drip flashings.

Condition and Recommendations

4.1.1 Roofing membrane system:
a) Recommend – Remove and replace entire roofing membrane system with new.
b) Recommend – Restructure the south gallery addition roof to eliminate the flat roof area.
c) Recommend – Reinstate the slate roofing to match the original to maintain the heritage integrity.

d) Recommend – Provide new drip edge flashings.
e) Recommend – Provide dutchman repair for rotted fascia boards.

4.1.2 Roof Framing & Gable ends:
a) Recommend – Remove and replace rotted wood framing and repair deficiencies. See section 5.0 Structural Condition below.
b) Recommend – Repair open holes in gable ends of TLEPR.

4.1.3 Roof ventilation: The heritage roofs do not have adequate air ventilation in the attics.
a) Recommend – design and install new attic ventilation strategy.

4.2 Chimney(s)

Description

There are two (2) decorative heritage masonry chimneys on the GWR station. They protrude through the centre of the roof ridge and are located on either side of the north gable.

The chimneys appear to have been reconstructed at some point. The current chimneys deviate from the photographs (circa 1960) received from the owner. This office cannot ascertain if the current chimneys conform to their original heritage style at this time.

It could not be confirmed if the chimneys are open flue or vented at the time of visit. The summary of repairs report indicate that the chimneys had been repaired and have received a number of applications of "silicone" treatment since 1999. Silicone is not usually a breathable type material and is not recommended for heritage masonry. It is recommended that the owner confirm the silicone material applied to the chimneys.

Condition and Recommendations

4.2.1 Chimneys appear to be in fair condition. Masonry deficiencies: some brick spalling was observed.
a) Owner to confirm the silicone material applied to the chimneys.
b) Recommend – remove and replace all damaged bricks, assume 24 bricks for each chimney.
c) Recommend – repoint all deteriorated mortar joints, quantity is unknown.

4.2.2 Chimney Caps: it is recommended to install new metal rain chimney caps to protect from water infiltration. The caps should be vented at the flues.

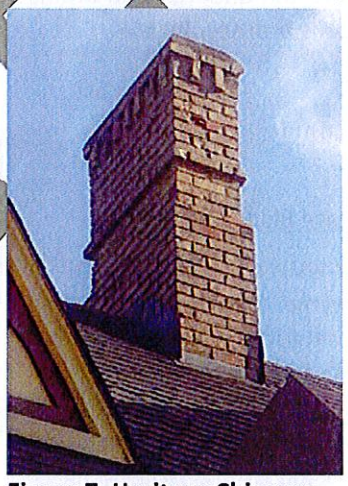


Figure 7, Heritage Chimney

4.3 Eaves, Gutters + Downspouts

Description

The current gutters and downspouts are standard residential grade prefinished aluminum. In accordance with photographic documents, the original gutters and downspouts were galvanized iron. No gutters were observed on the TLEPR station photographs received. The current downspouts are connected to underground drains. Gutters and downspouts appear to be in fair condition. However, some gutter deformation damage was observed probably from ice damming. The gutters on the GWR station will need to be

removed to allow repairs to the canopy framing and fascia boards. It is not recommended to reinstall removed aluminum gutters and replacement should be considered at that time.

Condition and Recommendations

4.3.1 Gutters & Downspouts:
- a) Recommend – design and install new gutters and downspouts.
- b) Replacement as part of the roof replacement project.
- c) Install new drip edge flashings into gutters.

4.3.2 Wood Fascia Boards and Trim: paint wood trim and boards.

4.3.3 Underground Connections: Confirm the connections to the underground drains and municipal storm sewer.

4.4 Walls Above Grade

Description

Exterior Walls (Heritage Bldg. 1 GWR)

The exterior walls of the heritage GWR station are mult-wythe brick masonry. The interior face of the exterior walls incorporate a number of interior finishes including plaster, full height wood plank paneling, and partial height wainscoting in the Bridge Street Gallery. It should be noted that the wainscoting has been modified from the original by removing the T&G wood wainscoting and reinstalling it the reversed position, (rough cut back side facing out).

The exterior masonry is laid up in a "Common – Header Bond" pattern with a header bond course every 4th course and a projecting plinth brick at the base of wall. The original mortar appears to be lime based and the joints have a traditional single bead tooling. Brick arches have tapered (gauged) bricks and decorative cut stone elements at the spring line and keystone locations. The mortar joints in the arches are uniform in width and incorporate a white penciling treatment. This noteworthy treatment should be preserved as a heritage element.

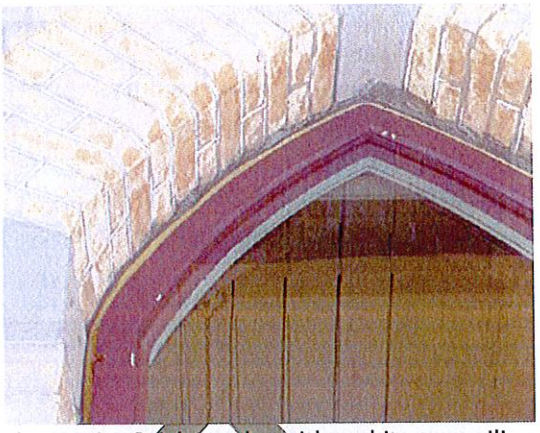


Figure 8, Brick arch with white penciling treatment.

Based on a visual review, the exterior masonry appears to be in fair to good condition. However, there are observed deficiencies including the following:

a) The brick at the base of the building is unusually smooth and appear to have been ground or sandblasted. It was reported that the base of the building was previously painted and it has been confirmed that the previous paint was removed using sandblasting. The natural fired hardened surface of the bricks have been removed which compromises the original weathering characteristics of the brick against water absorption and consequent spalling. It is recommended that all sandblasted bricks be removed and replaced with new colour matched salvaged bricks.

b) There is evidence of brick spalling and damage at grade level possibly aggravated by the use of de-icing salts along the sidewalk.

c) The previous repointing repairs are inconsistent and some are not to heritage preservation standards.

d) Diagonal cracking and displaced brick may be an indication of a water infiltration or possible foundation problem, further investigation is recommended.

Figure 9, Deteriorated bricks at base of building.

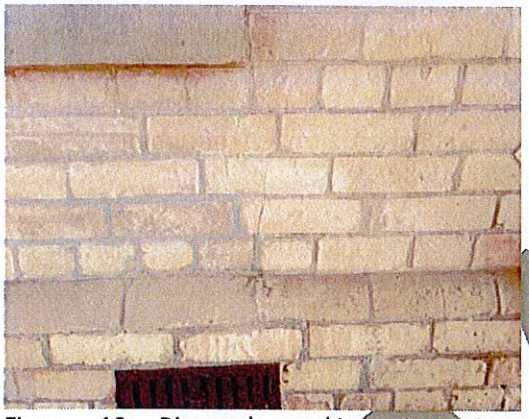


Figure 10, Diagonal cracking, inconsistent mortar repairs and brick mortar patch.

Exterior Walls (Heritage Bldg. 2 TLEPR)

The exterior walls of the heritage TLEPR station are constructed of wood frame with beveled wood siding exterior and appear to be in fair to good condition. The exterior and interior corners are accented with painted wood trim. The building is painted in a two (2) contrasting colour scheme and off-white soffits.

It appears that there were some siding replacement and the original painted finish has been removed. A portion of original siding with original finish appears to have survived inside the connection with the main gallery. This siding should be preserved as a heritage element.

The original interior finish of exterior walls has been removed and replaced with gypsum wall board.

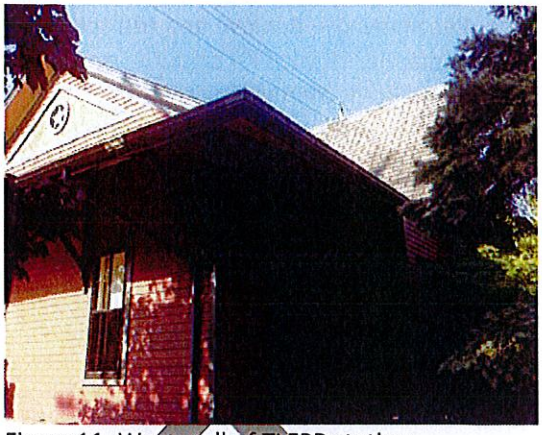


Figure 11, West wall of TLEPR station.

Exterior Walls (1995 Addition)

Exterior walls of the addition are wood framed stud walls with board and batten siding. There are a few random cracks in the board siding and evidence of previous repair patches. It appears that an opaque penetrating stain was used on the siding. The interior face of the exterior walls are clad with gypsum wall board.

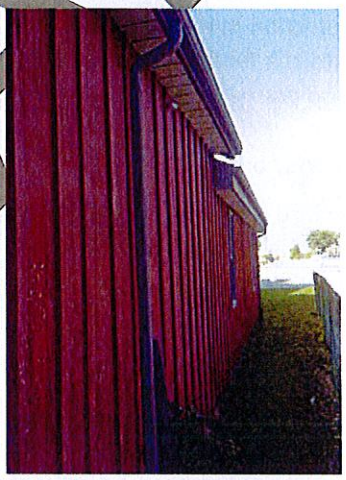


Figure 12, Previous patches on siding (1995 Addition).

Condition and Recommendations

4.4.1 Masonry Walls GWR:

a) Recommend – Confirm method of paint removal.
b) Recommend – Provide destructive investigation of foundation condition.

c) Recommend – Remove and replace damaged face brick and inconsistent mortar repairs.
d) Recommend – provide routine maintenance.

4.4.2 Wood Walls TLEPR:
a) Recommend – provide routine maintenance and painting.

4.4.3 Wood Walls (1995 Addition):
a) Recommend – provide routine maintenance and painting.

4.5 Doors + Windows

Description

Heritage Building 1, (GWR)

Doors:

The existing painted heritage doors on the exterior north side of the station are paired wood style and rail doors with inset raised panels and decorative bolection mouldings. The doors currently swing into the building and are mounted on a solid wood frame with a single pane glazed transom. The doors appear to be functional and in fair to good condition.

The east doors are half glazed and have a pair of half glazed wood style and rail storm doors on the exterior side. The eastern pair of doors is identified as an emergency exit on the emergency plan map. However, there is no illuminated exit sign at this door and the dead bolt locks and required special knowledge to open the doors may prohibit this door as acting as an exit. Further review of the exiting strategy from the building is recommended.

The west door has a new fully glazed aluminum door, swing out, with a glazed side light on each side. This door and frame is installed on the exterior side of the heritage wood doors and has a functional barrier-free operator. It is recommended that the heritage doors be fixed in the open position for display purposes only.

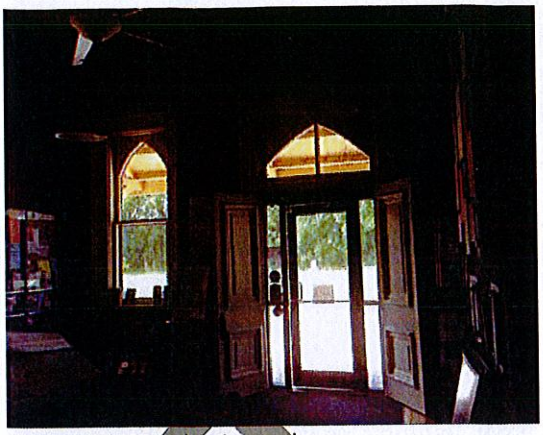


Figure 13, West heritage doors.

Doors on the south side of the building have been removed. The west door frame and transom remains in place. However, the east door, frame, and transom have been removed and filled in with brick.

Condition and Recommendations –
(GWR) Doors

4.5.1 Doors General:
a) Recommend - Review the exiting strategy for the building.
b) Recommend – provide routine maintenance and painting.

4.5.2 East Doors:
a) Recommend - Review the exiting strategy for this door.

4.5.3 West Door:
a) Recommend – Heritage doors to be fixed open.

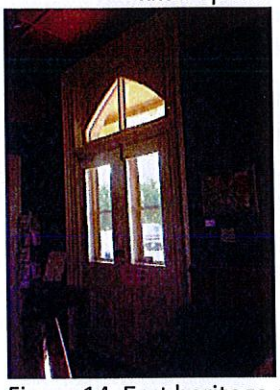


Figure 14, East heritage doors.

Windows:

The existing heritage windows are single pane glazed hung windows with wood style and rail sashes set into painted wood frames. The window units on the ground floor have single glazed wood storms screw fastened to the exterior side. The windows and storm units appear to be in fair to good condition.

The window units are non-functional and have been painted shut. It was reported that the storm units are removed seasonally for window maintenance and cleaning.

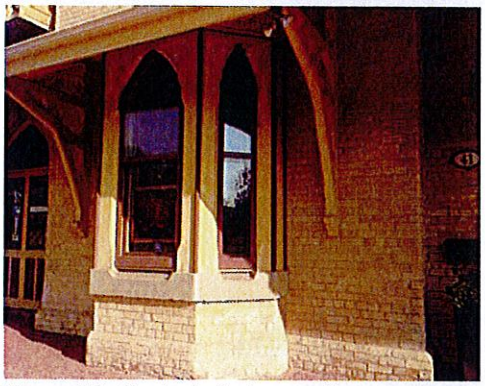


Figure 15, Typical window units.

There are glazed wood sash window units in the gable ends of the attic set in masonry openings. These windows appear to have been modified from the original. There are numerous holes and gaps around the frame perimeter and in the fixed sashes. The sashes are secured to the wood frame with bent ardox nails. A more suitable anchoring devise is recommended.

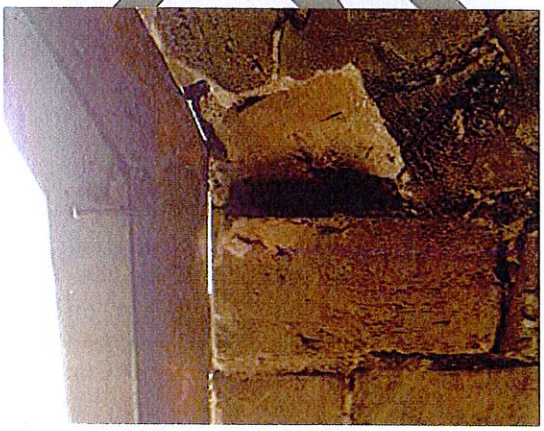


Figure 16, Attic windows (GWR).

Condition and Recommendations –
(GWR) Windows

4.5.4 Windows General:
- a) Recommend - provide routine maintenance and painting.

4.5.5 Attic Windows:
- a) Recommend – Provide perimeter caulking around window frame.
- b) Recommend – Provide new anchoring devise for sashes.

Heritage Bldg. 2 (TLEPR)

Doors:

The exterior doors and a few interior doors in the TLEPR station are wood style and rail construction with flat recessed panels. The doors would be considered heritage elements. The other doors are residential grade replacement doors.

The exterior exit doors currently swing into the building and are mounted on a solid wood frame and have a wood storm door with two glazed panels. The storm doors swing to the outside. The doors appear to be functional and in fair to good condition.

The West exterior door is currently designated as an exit, it is however, blocked with stored materials preventing access to the door. This door is to be immediately cleared in the short term while the overall fire and life safety strategy for the entire facility is established. See separate fire and life safety report prepared by this office.

Condition and Recommendations –
(TLEPR) Doors

4.5.6 Doors General:
- a) Recommend - provide routine maintenance and painting.
- b) Maintain clear unobstructed travel paths to all exit doors.

4.5.7 West Exit Door: Recommend - Review the exiting strategy for this door.

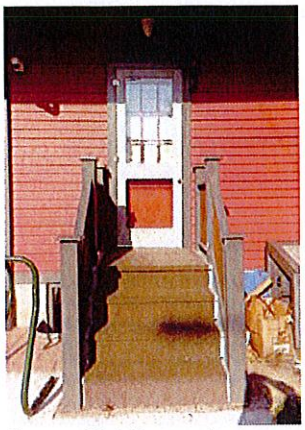


Figure 17, West exit door and stairs (TLEPR).

Windows:

The existing heritage windows are single pane glazed hung windows with wood style and rail sashes set into painted wood frames. The window units on the ground floor have single glazed wood storms secured in place with butterfly clips on the exterior side. The windows and storm units appear to be in fair to good condition. Some minor localized glazing putty replacement and painting is required.

The window units are non-functional and have been painted shut. Lifting hardware has been removed or disabled. It was reported that the storm units are removed seasonally for window maintenance and cleaning.

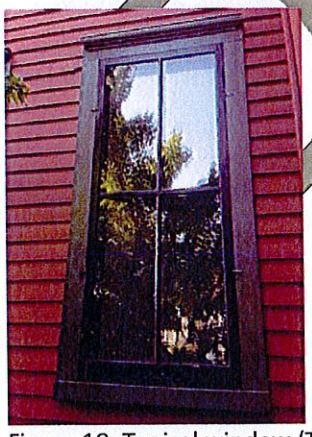


Figure 18, Typical window (TLEPR).

The attic windows are a wood sash hung type unit but appear to be fixed in place. The windows are single pane glass without storm windows. The attic windows are in fair condition with some minor wood rot developing at the glazing seat particularly at the meeting rails and sills.

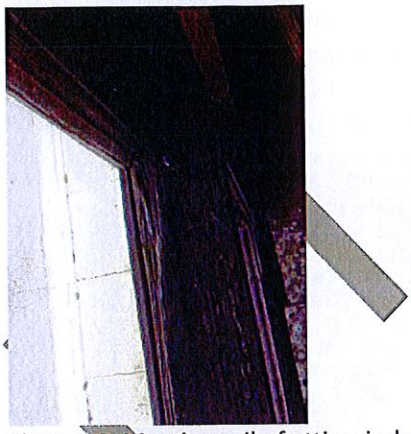


Figure 19, Meeting rail of attic window.

Condition and Recommendations – (TLEPR) Windows

4.5.8 Windows General:

a) Recommend - provide routine maintenance and painting.
b) Provide localized glazing putty repairs.

4.5.9 Attic Windows:

a) Recommend – Repair rotted wood trim and stops.
b) Apply liquid epoxy treatment to wood rot areas and treat entire window with Alback linseed oil.

Main Gallery, (1995 Addition)

Doors:

The door on the north elevation is a wood style and rail door with inset raised panels and decorative bolection mouldings. The doors currently swing out and are mounted on a solid wood frame with a single pane glazed side lights on each side. The door appear to be functional and in fair to good condition.

Windows:

The windows on the north side of the gallery are wood sash arched top double glazed modern window units and appear to be in fair to good condition.

The windows on the south side are square wood sash double glazed modern units with exterior insect screens. These windows appear to be in fair condition. Water staining and sill deterioration was observed on a number of windows and will need to be monitored for long term performance.

Condition and Recommendations –
(Gallery Addition) Windows

4.5.10 Windows General:

a) Recommend - provide routine maintenance and painting.

Figure 20, Water staining and sill deformation.

4.6 Exterior Stairs & Landings

Description

There are three (3) raised porches and stairs two on the TLEPR station and one at the main gallery addition. None of the raised landings are original to the building and have no heritage significance.

The stairs, railings, and landings are of wood frame construction and appear to be in fair to good condition.

Condition and Recommendations

4.6.1 Exterior Stairs & Landings:

a) Recommend - provide routine maintenance and painting.

4.7 Insulation

Description

Typically, thermal insulation is applied to the exterior walls and roofs of a building to improve the thermal performance of the assembly to reduce energy consumption and the resulting heating and cooling costs. Foundation wall, exterior walls above grade, and roofs are typically insulated to improve the building envelope.

Heritage Building 1, (GWR)

Insulation was not observed and it is not known if the foundation walls or exterior walls are insulated. It was observed that the attic has 4" R12 fiberglass batt insulation installed over the ceiling but without a vapour barrier. However, numerous gaps and displaced batts where observed.

Adding additional insulation is an effective means of improving heat loss through the roof. The existing attic ventilation is insufficient and it is recommended that a ventilation strategy be reviewed and implemented as part of the new roofing project.

Adding insulation to the walls above grade would require the removal and replacement of interior finishes. Perform a cost benefit analysis to determine if adding additional insulation to the walls would be recommended.

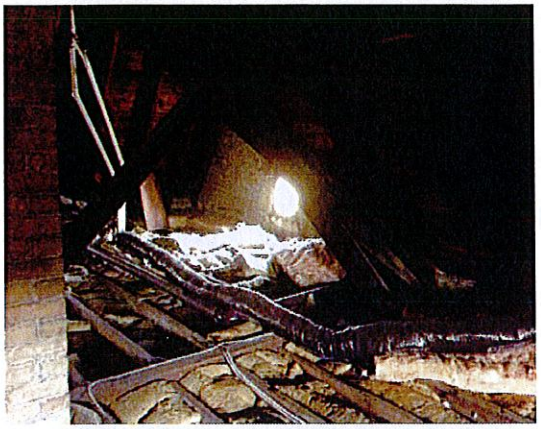


Figure 21, GWR station attic.

Heritage Building 2, (TLEPR)

Insulation was not observed and it is not known if the basement walls or exterior walls or roof are insulated. Some unknown quantity of insulation was observed in isolated areas of the attic.

Adding additional insulation is an effective means of improving heat loss through the roof. The existing attic ventilation is insufficient and it is recommended that a ventilation strategy be reviewed and implemented as part of the new roofing project.

Adding insulation to the walls above grade would require the removal and replacement of interior finishes. Perform a cost benefit analysis to determine if adding additional insulation to the walls would be recommended.

Main Gallery, (1995 Addition)

Insulation was not observed and it is not known if the foundation walls or exterior walls are insulated. No documentation was received to indicate if insulation was installed in the walls of the 1995 gallery addition, although it would have been required by the Ontario building code at the time of construction. It was observed that the attic has 6" R15 fiberglass batt insulation installed over the ceiling but with a polyethylene vapour barrier.

Condition and Recommendations

4.7.1 Heritage Bldg. 1 (GWR):
- a) Recommend – Perform cost benefit analysis for additional insulation.
- b) Provide new attic ventilation and vapour barrier.

4.7.2 Heritage Bldg. 2 (TLEPR):
- a) Recommend – Perform cost benefit analysis for additional insulation.
- b) Provide new attic ventilation and vapour barrier.

4.7.3 Main Gallery, (1995 Addition)
- a) Recommend – Perform cost benefit analysis for additional insulation.
- b) Provide new attic ventilation.

4.8 Foundation Walls

Description

See sections: 4.7 Insulation, 5.0 Structural Condition

5.0 Structural Condition

5.1 Functional Statement

The structural review is based on visual observations with no destructive measures and would be limited due to existing finishes, unless noted otherwise.

5.2 Heritage Bldg 1 (GWR)

5.2.1 Chimney (west side)

Condition and Recommendations

5.2.1.1 From ground level, the west side chimney projecting above the roof was observed with spalled masonry facings. See section 4.2 above.

5.2.1.2 Masonry repairs and/or replacement should be provided to deter moisture migration and further spalling. To ensure structural stability, the use of booms or lifts should be undertaken to thoroughly examine the chimney condition up close.

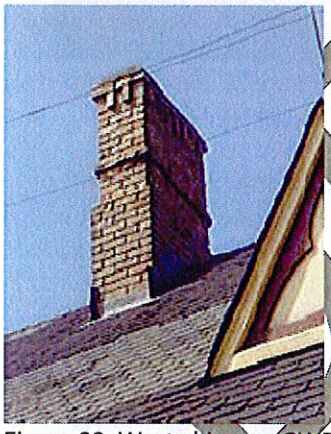


Figure 22, West chimney GWR station.

5.2.2 Attic Space

Condition and Recommendations

5.2.2.1 The attic (roof) framing consists of:

- 2"x8" roof rafters at 30" o.c.

-2"x8" ridge and valley boards

-7"X7" timber mid-purlins

-timber roof trusses (inc. steel rod vertical web)

-2"x6" ceiling joists @ 16" o.c. bearing on exterior east and west walls and between trusses.

- All members are rough cut and full sized

Attic (roof) framing appeared to be in sound condition. One location was observed with a missing web member in the trusses. (See attached sketch SK1-1 for location.)

5.2.2.2 Missing truss web should be replaced immediately.

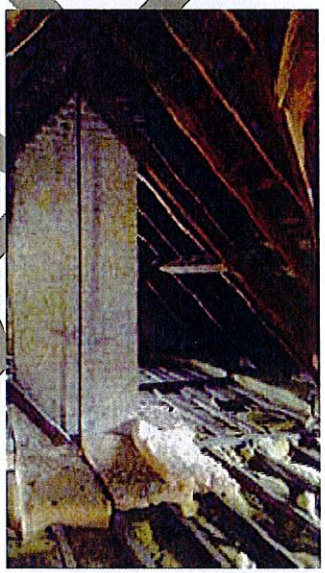


Figure 23, GWR station attic missing truss web.

5.2.3 Upper Decorative Gable Framing

Condition and Recommendations

5.2.3.1 The upper decorative gable framing on the west side was observed with damage at the connection to the fascia board.

5.2.3.2 The decorative gable framing and fascia board connection should be replaced in the near future.

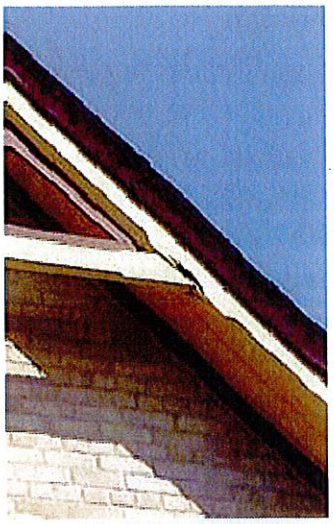


Figure 24, GWR station gable framing damage.

5.2.4 Lower Roof Overhangs (Canopy)

Condition and Recommendations

5.2.4.1 The large lower roof overhangs are constructed of wood roof planking on 2"x6" wood joists spanning between large timber soffit braces anchored to the multi-wythe masonry wall. Anchorage of the braces was not evident. Water damage was observed in several locations throughout the overhang and quite evident on the exposed ends at the fascia.

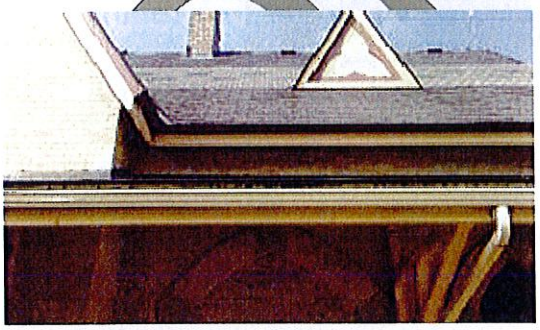


Figure 25, GWR station canopy.

In addition, the overhang was observed with a significant droop in the roof line (fascia's) on the northwest and northeast corners. A slight droop was observed on the southeast corner.

From our understanding, the fascia boards were replaced some time ago with members slightly smaller than original, also evident from viewing the fascia return at the Gallery addition.

The hip rafters were observed with major separation from the masonry wall, caused by the dropping of the overhang framing. This in turn is causing additional stress on the timber soffit braces and showing signs of separation from the masonry wall.

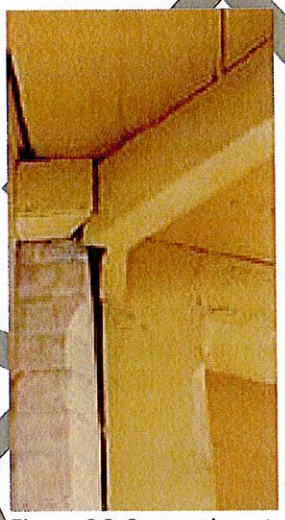


Figure 26, Separation at hip rafter connection.

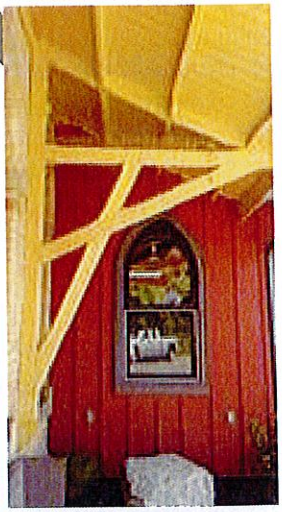


Figure 27, Fascia return at Gallery addition.

The cause of the droop is insufficient support of the roof and hip rafters in the outside corners. In theory, the rafters would be supported from cantilevered fascia boards supported from the timber soffit braces. The replaced fascia boards were provided with spliced joints at each of the braces, providing no cantilever action at the corners, except the southeast corner fascia which is the only fascia board with a cantilevered board and is why this corner has only slightly dropped.

5.2.4.2 Roof planking boards should be replaced where required, prior to new roofing placed (scheduled for 2019).

5.2.4.3 In addition, the large overhang corners should be repaired immediately, including anchorage of the timber soffit braces, to prevent catastrophic failure.

5.2.5 Floor Framing (Crawl Space)

Condition and Recommendations

5.2.5.1 With a limited and restricted access, our review and comments are limited to visual observations from the crawl space access in the barrier free washroom.

5.2.5.2 Floor joists are framed with original 3"x12" rough sawn lumber @ 16" o.c.. Some areas consisted of newer dressed 2"x12" joists @ 16" o.c. and the floor joists under the barrier free washroom were newer dressed 2"x6" floor joists @ 16" o.c. Floor joists were bearing on rubble stone foundations on the outside walls and large timber beams internally. Timber beams were bearing on the rubble stone foundations and timber posts, bearing directly on the dirt floor of the crawl space.

Visual observations from the access point, indicated the timber posts immediately adjacent the access point appeared to be rotating and not providing full bearing for the timber beam above.

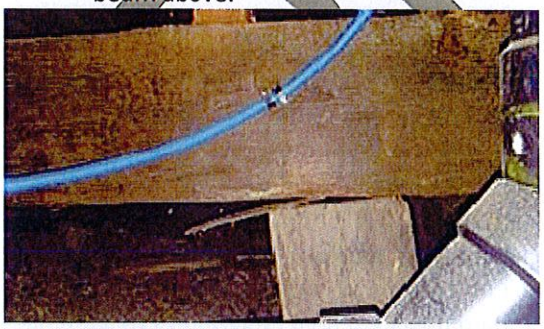


Figure 28, GWR station timber shims.

Also, hardwood shims appear to be utilized for the newer 2"x12" floor joists bearing on the timber beams. These shims appeared to be not fully engaged.

Figure 29, GWR station timber beam and posts.

5.2.5.3 Timber posts at the access point should be repaired and hardwood shims require adjustments to fully engage proper bearing.

5.2.6 Foundation

Condition and Recommendations

5.2.6.1 With a limited and restricted access, our review and comments are limited to visual observations from the crawl space access in the barrier free washroom.

5.2.6.2 The foundation is a rubble stone masonry foundation. There appears to be efflorescence deposits on the inside of the wall in the crawl space indicating significant water infiltration from the exterior side. It is recommended that part of the foundation be excavated on the exterior side to further investigate the foundation condition and possible water related issues.

5.3 Gallery Addition (1995)

5.3.1 Exterior Siding

Conditions and Recommendations

5.3.1.1 Exterior board and batten siding on the South side was observed extending down into the sodded side yard. See section 3 Site Conditions.

5.3.1.2 Measures should be taken to re-grade the south side yard to allow siding above grade and deter possible exaggerated deterioration.

5.3.2 Foundation Walls

Conditions and Recommendations

5.3.2.1 The foundation appears to be concrete block as observed in the basement mechanical room. No structural concerns observed at the time of visit. However, efflorescence deposits were observer on the north wall of the mechanical room indicating water migration through the wall.

5.3.2.2 It is recommended that the exterior foundation wall be excavated to investigate the below grade conditions.

5.3.3 Exterior Walls

Conditions and Recommendations

5.3.3.1 No concerns observed at the time of visit.

5.3.4 Roof

Conditions and Recommendations

5.3.4.1 No concerns observed at the time of visit.

5.4 Heritage Bldg 2 (TLEPR)

5.4.1 Foundation Walls

Condition and Recommendations

5.4.1.1 On the northwest corner (north face) of the foundation walls, cracking and some 'dead' spots were observed in the parging. 'Dead spots' are parging areas in which the parging has separated from the foundation wall behind.

5.4.1.2 It is recommended that the cracked foundation be excavated the full height of the crack and repaired. The extent of cracking and repair methodology should be reviewed by a professional engineer.

5.4.1.3 A review of the existing waterproofing and foundation drainage system should be performed during the crack investigation.

5.4.1.4 Monitoring of the parging should be undertaken for maintenance purposes.

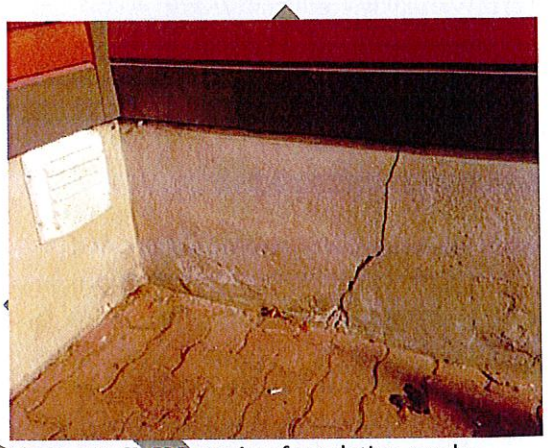


Figure 30, TLEPR station foundation crack.

5.4.2 Roof

Condition and Recommendations

5.4.2.1 The attic is currently used as a storage space. Traditionally ceiling joist, rafters, and collar ties are not designed to carry the volume of additional storage loading observed.

5.4.2.2 It is recommended that the attic be cleared of stored materials. However, if the use is to continue then the loading and existing structure should be reviewed by a professional engineer to confirm the adequacy of the structure to safely support the anticipated loading in the attic.

5.4.2.3 Cut rafters, missing ridge boards, and damaged deck boards were observed.

5.4.2.4 Damaged and missing rafters to be repaired immediately.

5.4.2.5 It would be recommended that new plywood sheeting be applied over the existing wood deck boards during the

re-roofing project. The existing heritage deck boards should remain.

Figure 31, Attic storage

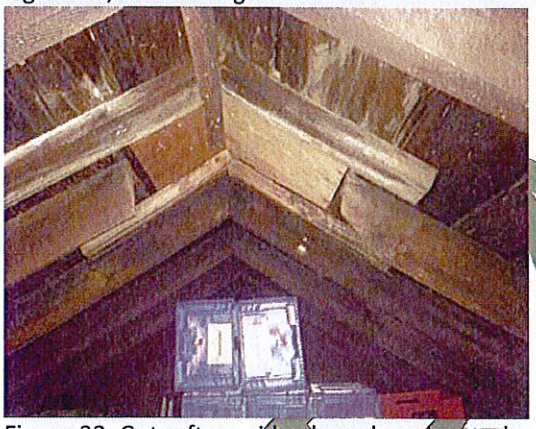


Figure 32, Cut rafters, ridge board, and rotted deck boards.

5.4.3 Exterior Walls

Conditions and Recommendations

5.4.3.1 No concerns observed at the time of visit.

5.4.4 Attic Access Ladder

Conditions and Recommendations

5.4.4.1 Access to the attic is a spring loaded folding access ladder. It appeared to be rated for 250 lbs. Plywood shims were added at the joints of the ladder and the stringers were not fully bearing on the floor.

5.4.4.2 Based on the observations and modified condition of the ladder, contrary to the manufacturers recommendation, the access ladder should be replaced.

Figure 32, Attic ladder.

Figure 33, Modified ladder.

6.0 Heating/ Ventilation Systems

6.1 Functional Statement

It should be noted that the terms "estimated service life" and "life expectancy" have been used interchangeably in this report. The figures used in this report are from ASHRAE (American Society of Heating Refrigeration and Air Conditioning Engineers) published guidelines and reflect the median life expectancy for a particular type of equipment. (ASHRAE Handbook: HVAC Applications, 2015). These figures are guidelines only and the actual life span of a particular piece of equipment may vary from these figures.

The estimated construction costs listed represent an estimate of probable costs. They are based on industry standards for cost estimating (RS Means '16) and previous related project costs. These are Class D estimates and expected to be accurate to within 30%. Class D estimates are based upon a statement of requirements and an outline of potential solutions. They are strictly an indication (rough order of magnitude) of the final project cost and should be sufficient to provide an indication of relative costs between options.

The scope of this report was limited to a visual review and interviews with property management personnel. No destructive testing as performed. No testing of life safety systems including fire detection devices was carried out. No data was collected on the performance of the systems in terms of temperature, CO2, humidity, noise levels or other air pollutants.

6.2 Description

The HVAC systems consist of three residential furnaces, one serving the GWR, one serving the TLEPR and the third serving the 1995 Addition.

GWR: This furnace is located in the ceiling space above the washroom and is ducted into the reception, baggage room and Bridge St Gallery, with minimal duct distribution. The thermostat is located in the baggage room.

The furnace is a Bryant model 340MAV0360, with a gas input of 60,000 BTUH and it was built in 1997.

TLEPR: This furnace is located in the mechanical closet in the basement and is ducted to provide air to both the basement Pottery area and the Van Gastel Studio, Office and Kitchen on the ground floor. It is a Rheem/RUUD model UGED-12, with a gas input of 120,000 BUTH and was built in 1992. It is in fair condition given its age. Air conditioning was added to the system in 2008, based on the service records.

1995 Addition: This furnace is located in the mechanical room in the basement and is ducted to provide air to the main gallery space, with two branches providing air to the Van Gastel Studio. It is a Rheem/RUUD model, but the nameplate was inaccessible and so the exact capacity of the furnace is unknown. It is in fair condition given its age. Air conditioning was added to the system in 2002, based on service records.

Dehumidication for the building is achieved through the air conditioning systems of the 1995 Addition and the TLEPR. No humidification is provided for any of the furnace systems. Consideration should be given to providing humidification to the building.

Condition and Recommendations

6.2.1 GWR Furnace: Fair condition with no noted deficiencies.

a) Has exceeded life expectancy of 18 years.
b) Replacement is recommended.
c) Replacement will require new vent piping as piping doesn't meet current codes.
d) Consider upgrading to provide cooling. This would require modifications to the ductwork system, possible reconfiguration of furnace.

6.2.2 TLEPR Furnace: Fair condition with no noted.

a) Has exceeded life expectancy of 18 years.
b) Replacement is recommended.
c) Replacement will require new vent piping as piping doesn't meet current codes.

6.2.3 1995 Addition Furnace: The nameplate for this furnace was inaccessible, but it is assumed to be the same age as the TLEPR furnace, since the addition was constructed at the same time as the basement for the TLEPR. The furnace is in fair condition with no noted deficiencies. Air conditioning was added to the system in 1999.

a) Has exceeded life expectancy of 18 years.
b) Replacement is recommended.
c) Replacement will require new vent piping as piping doesn't meet current codes.
d) Air conditioning system condensing unit is approaching its end of expected service life and should be considered for replacement.

6.2.4 TLEPR Attic space: has an exhaust fan that is used to provide ventilation and dissipate heat from the attic. It was not operating at the time of our visit.

a) This should be repaired or replaced.

6.2.5 Ductwork for the furnaces serving the TLEPR and the 1995 addition route at the ceiling level of the basement and discharge air to the space through floor grilles. There are no fire dampers between floors as the floor has not been constructed with a fire resistance rating. There are also no fire resistance ratings for the mechanical rooms.

Figure 33, GWR Ductwork in Baggage Room Area

Figure 34, GWR Furnace in Ceiling Space of Washroom

Figure 35, TLEPR Furnace

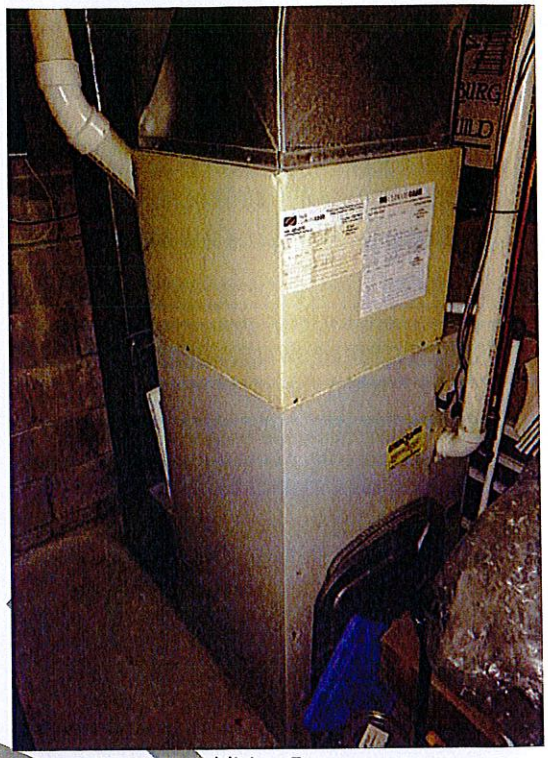


Figure 37, 1995 Addition Furnace

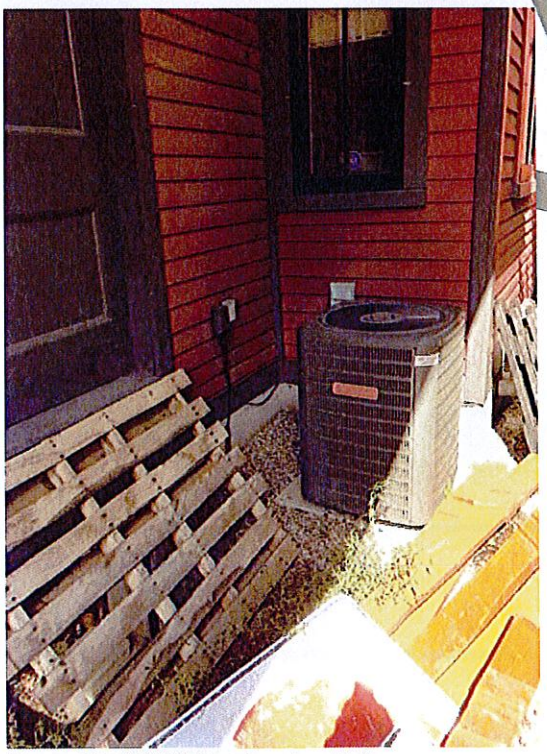


Figure 36, TLEPR Condensing Unit

Figure 38, 1995 Addition Condensing Unit

Figure 39, TLEPR Attic Exhaust Fan

7.0 Plumbing System

7.1 Functional Statement

See statement in section 6.0 above.

7.2 Description

The review of the plumbing systems is based on visual observations with no testing of piping materials.

The plumbing systems consist of sanitary drainage from the relatively minor amount of fixtures and domestic hot and cold water piping. The piping systems are in good condition. The sanitary drainage from the GWR routes to the 1995 addition. The water service for the building enters the GWR crawl space and from there branches to serve the washroom in the GWR and the TLEPR plumbing fixtures.

Hot water is provided to the TLEPR by a gas-fired water heater in the basement mechanical room, installed as part of the 1995 addition. The vent piping is ABS material, not acceptable by today's code requirements. The washroom in the GWR is provided with hot water by a point of use electric water heater located in the crawl space.

In the basement Pottery room there is a large three compartment sink that is used for cleaning pottery equipment. It is equipped with a DIY sediment interceptor to protect the drainage system from being filled with clay.

The plumbing fixtures in the washrooms are in good condition.

There is a sump pit and sanitary sump pump in the basement mechanical room. No records were available for the age or condition of the sump pumps. The sump pump is operating well, as it serves the sink, toilet and pottery sink in the basement. It is assumed to be original to the 1995 addition.

Condition and Recommendations

7.2.1 Water heater:

a) Has exceeded its life expectancy and should be scheduled for replacement.
b) Replace vent piping when water heater is replaced.

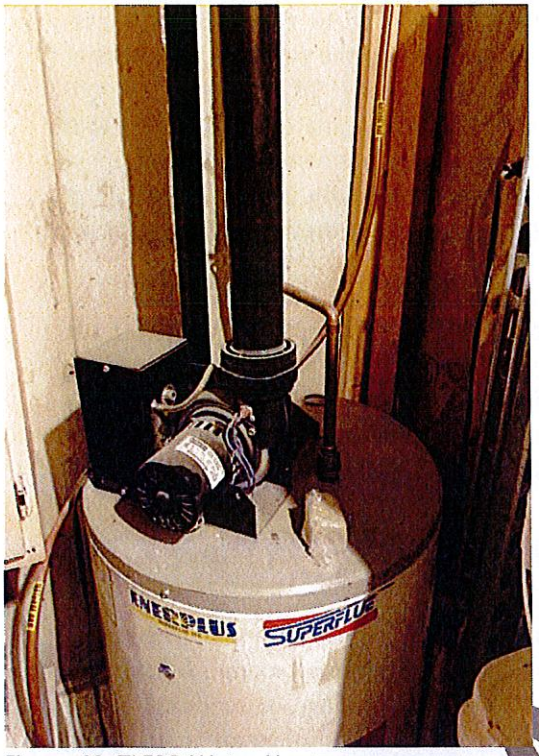


Figure 40, TLEPR Water Heater

Figure 42, Typical Lavatory – Barrier Free

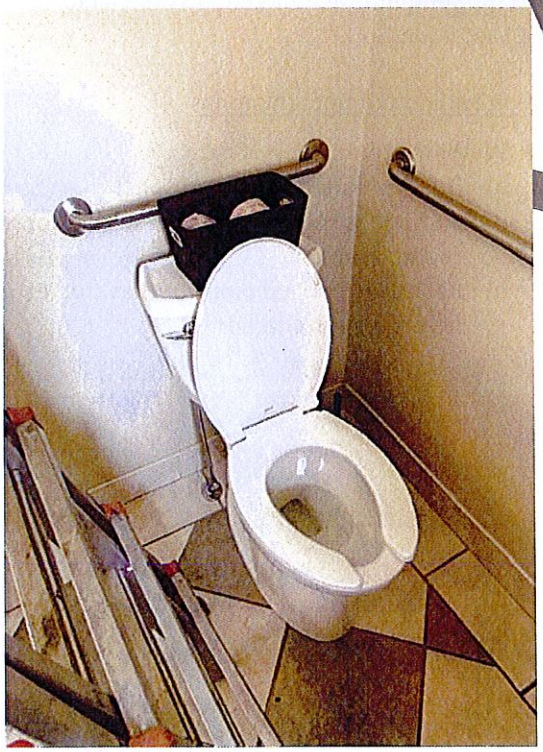


Figure 41, Typical Toilet

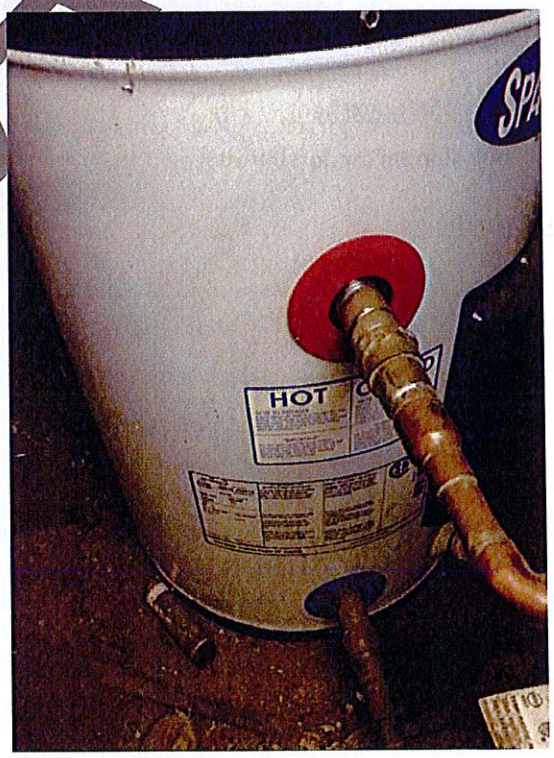


Figure 43, GWR Water Heater

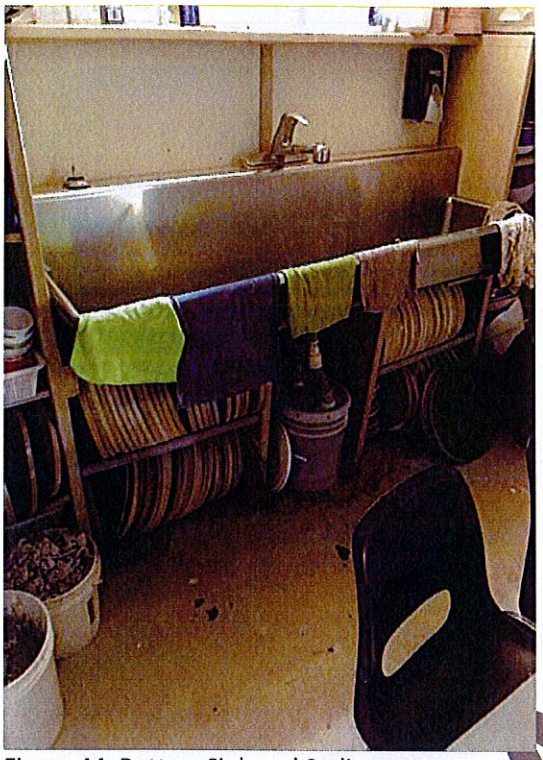


Figure 44, Pottery Sink and Sediment Interceptor

8.0 Electrical System

8.1 Functional Statement

See statement in section 6.0 above.

8.2 Description

The electrical service to the building is a 200A, 120/240V service that feeds an electrical panel located in the Pottery Room in the basement of TLEPR. There is a second electrical panel that is fed from that one, located in GWR. This panel is significantly older, estimated to be from the 1980's. The electrical panels are in fair condition. In general the wiring that was visible for observation, was installed with good practices. One section of wiring observed in the attic of the 1995 addition was not supported adequately to the requirements of the Ontario Electrical Safety Code.

Lighting systems have been upgraded over the past number of years. Lighting fixtures and lamps have been upgraded to use LED lamps, reducing the consumption of electricity. These fixtures are in good condition.

Exit signage and emergency lighting: The exit signage and emergency lighting are inadequate for the facility. There is inadequate exit signage to direct occupants to the appropriate exits. The exit signs in the basement are only connected to battery power and so only light up when the power is out. This is not adequate per code requirements. Emergency lighting is sporadic and again not adequate to provide lighting to occupants in an emergency situation.

Condition and Recommendations

8.2.1 Main Electrical Panel:
- a) Good condition. No recommended upgrades.

8.2.2 GWR Panel:
- a) Fair condition. No recommended Upgrades.

8.2.3 Lighting:
- a) Pottery room lighting: The only switch for the pottery lighting is on the ground floor. Wiring should modified to allow threeway switching.

8.2.4 Exterior Receptacle:
- a) The conduit for an exterior receptacle has been physically damaged. It is recommended to repair this.

8.2.5 Exit signage and Emergency Lighting:
- a) Repair existing exit sign wiring so they are permanently lit, not just in loss of power condition.
- b) Upgrade emergency lighting to adequately light the facility in a loss of power condition. This could be done with an inverter system if standard emergency lighting heads don't fall in line with the heritage aspects of the building.

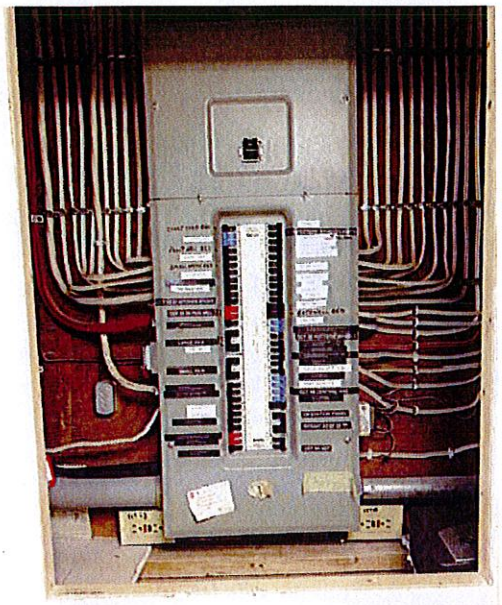


Figure 45, TLEPR Main Electrical Panel

Figure 47, Typical Lighting – LED Lamps

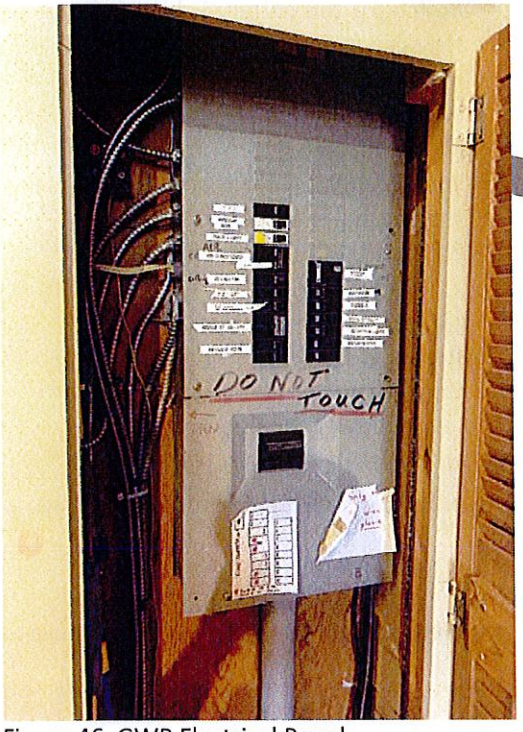


Figure 46, GWR Electrical Panel

Figure 48, Exterior Receptacle Requiring Repair

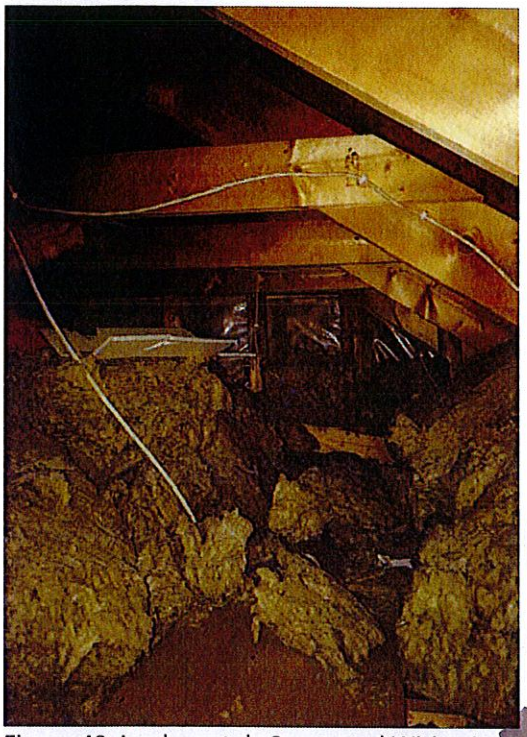


Figure 49, Inadequately Supported Wiring In Attic

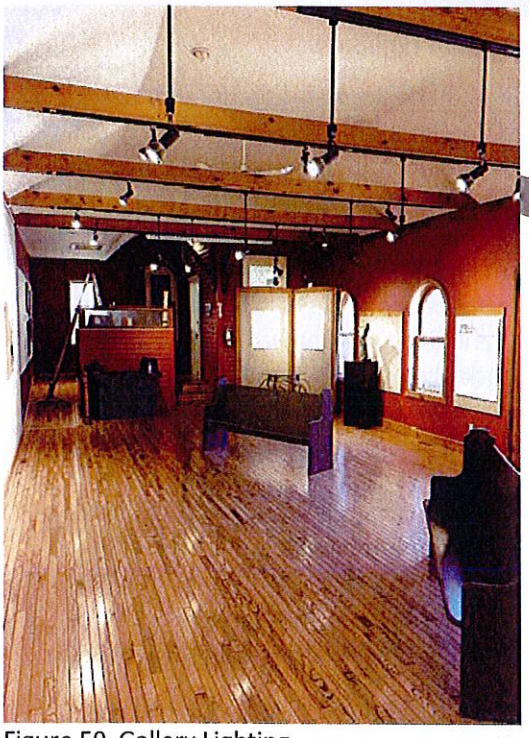


Figure 50, Gallery Lighting

9.0 Barrier Free

Description

Based on a cursory review the building has a limited level of barrier free accessibility. The facility has a grade level entrance and a barrier free operator on the front door. However, without an elevator or barrier free lift the lower level is not accessible.

There is a barrier free washroom on the ground floor with some level of accessibility. However, it is not in conformance with the current code.

Some deficiencies observed include but are not limited to the following: missing handrails on ramps and stairs in the main gallery, use of knobs on some doors, and inadequate sink clearances in washrooms.

Figure 51, Ramp slope 1:12, no handrailings.

It should be understood that while there is no regulation requiring the building be upgraded to meet the current code, human rights legislation could require upgrading to provide accommodation if requested by an employee or visitor to the building.

It is recommended that consideration be given to conducting a barrier free audit as a risk management approach and budget for future barrier free upgrades.

10.0 Interior Finishes

Description

10.1 Flooring

Conditions and Recommendations

10.1.1 The hardwood strip flooring in the GWR station and Gallery addition appear to be in fair to good condition.

10.1.2 The laminate flooring in the TLEPR station was recently installed and appears to be in good condition. Follow the manufacturer's maintenance instructions.

10.1.3 The washrooms and kitchen have ceramic tile flooring and appear to be in fair to good condition.

10.1.4 The basement has sealed concrete floors.

10.1.5 Follow routine maintenance as required.

Description

10.2 Walls

Conditions and Recommendations

10.2.1 The interior walls are predominately painted and in the station and appear to be in fair to good condition.

10.2.2 Some ware spots were observed on the gypsum wall board at the high use traffic locations and spot repairs and painting may be required for aesthetic purposes.

10.2.3 The main gallery has fabric wrapped panels and they appear to be in fair to good condition.

10.2.4 Follow routine maintenance as required.

Description

10.3 Ceilings

Conditions and Recommendations

10.3.1 The interior ceilings of the GWR station are predominately plywood with wood battens and appear to be in fair to good condition. The use of plywood would indicate that they were installed sometime after the original construction.

10.3.2 The ceilings of the main Gallery and the TLEPR station are gypsum wall board and appear to be in fair to good condition.

10.3.3 There is a lay-in tile ceiling in the barrier free washroom on the ground floor and appear to be in fair to good condition. Some water staining is evident probably from the water heater or piping in the ceiling space above.

10.3.4 Provide routine maintenance as required and replace stained ceiling tiles.

10.3.5 The ceilings in the basement are not fire separations and will need to be upgraded. See fire and life safety report prepared by this office.

Description

10.4 Interior Doors

Conditions and Recommendations

10.4.1 Most interior doors are 1 3/8" thick, residential grade, hollow core, or pressed panel doors in wood frames. Except for the wall around the kilns in the basement there are no intact fire separations or doors in the facility.

10.4.2 Various door hardware finishes and locks are utilized. Most interior doors have ball knob handles.

10.4.3 It should be expected that frequent repairs will be required for the residential grade doors and hardware and it is recommended to replace with commercial grade hardware with lever handles on an as needed basis.

10.4.4 Provide routine maintenance as required.

11.0 Exterior Finishes

Applied exterior finishes on the heritage wood elements appear to be paint on the two stations and a penetrating type stain on the gallery addition.

Description

11.1 Painted trim, siding and wood elements.

Conditions and Recommendations

11.1.1 The painted surfaces on the GWR station are nearing the end of its service life and repainting will be required in the near future.

11.1.2 The finish on the TLEPR station is in fair to good condition.

11.1.3 The finish on the Gallery addition appears to be a penetrating stain and is nearing the end of its service life and re-staining will be required in the near future. The type of stain material use is to be confirmed.

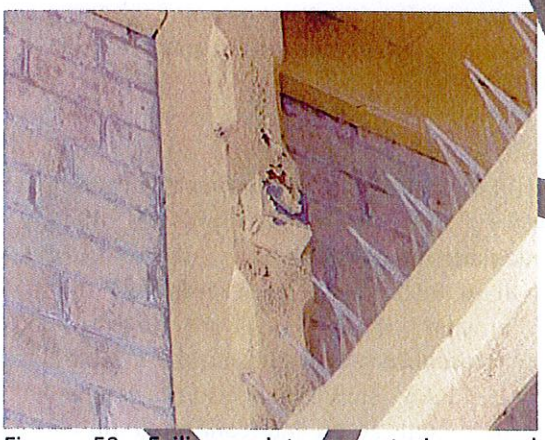


Figure 52, Failing paint on exterior wood elements.

12.0 Fire and Life Safety

Description

As an existing building the codes applicable to this facility include Part 11 of the Ontario Building Code and Part 9 of the Ontario Fire Code. It is assumed that the addition conformed to the 1994 OBC at the time of construction. The OFC uses parts of the 1986 OBC as its base criteria.

This assessment will concentrate on the following life safety aspects:

a) Containment; the floor assembly over the basement is not appropriately fire separated as required by OBC part 3.2.1.4. This separation is to have a ¾ hour fire resistance rating and appropriate rated closers on door openings.

b) Suppression; the current fire suppression protection is fire extinguishers located at various locations in the building. They are required to be mounted in clear view near exit doors. The building does not have a fire sprinkler system.

c) Early Warning; there are existing smoke detectors but no fire alarm system. Interconnected Smoke Alarms are recommended as per 3.2.4.22. A Fire Alarm would be needed if the occupant load exceeds 150 for any licensed events.

d) Evacuation; There are no code compliant exits from the basement. The existing basement access to exit stair wells are not fire separated and exit into the ground floor occupied spaces. This is not permitted in accordance with OBC part 3.4.

The stairs from the basement also have a number of deficiencies including uneven riser heights, low headroom, and missing handrail extensions that are not in compliance with code requirements.

The designated exit doors on the ground floor are blocked with stored materials and displayed objects and swing into the building. This is unsafe, and a Fire Code violation.

Emergency lighting and illuminated exit signs are installed in the basement only. The current code would require emergency lighting and exit signs be installed on the ground floor as well.

e) The emergency plan maps posted in the facility do not correspond to the actual conditions found onsite and should be updated immediately.

Condition and Deficiencies

The Fire and life safety deficiencies observed are serious and need immediate attention. Refer to letter issued by this office to the Town of Tillsonburg, Dated October 10, 2018 for a list of deficiencies to be addressed.

Fire & Life Safety Condition Assessment – Costing Options Matrix

We have reviewed a number of options to rectify the identified fire and life safety deficiencies for this facility based on the revised building code classification. The OBC identifies buildings according to their building classification. This is an Assembly building and is classified as group A2. The OBC further defines them as sprinklered or not sprinklered as the case may be. The existing building is not sprinklered. It should be noted that sprinklered buildings are granted certain relaxations in regards to the required travel distances to exits and the fire resistance rating for the fire separation of the basement. Part 11 of the OBC allows a reduction of certain requirements or alternate measures to allow existing buildings to be maintained yet still maintain safety levels.

For this facility, we have identified three options that will meet the building code stipulations and have determined what specific requirements are and are not required for each.

Option 1, Non-sprinklered Building:
In this option, the building is viewed without a fire sprinkler system. The implications for this option include the following (see options matrix):

a. Item 12.1: Provide new ceilings to create a ¾ hour fire separation above basement under OBC 3.2.1.4. Reduced to 30min in Part 11.
b. Item 12.2: Provide fire rated protection on post and beams supporting the basement ceiling under 3.2.1.4.
c. Item 12.3: provide direct exits from the basement per 3.4.2.
d. Item 12.4: Two exits would be required from the basement under 3.4.2.5.
e. Item 12.5: Provide interconnected smoke alarms or fire alarm system and upgrade the exit signs and emergency lighting to the entire facility is recommended per Part 11.
f. The remaining items 12.6 to 12.11 inclusive are required.

While this option is possible, the cost implications and intrusions on the facility are perceived to be too great to recommend and requires the communication stairs to have fire rated doors.

Option 2, Sprinklered Building:
This option views the building with a fire sprinkler system. The implications for this option include the following:

a. Item 12.1 and 12.2: Sprinklers to be provided in lieu of floor ratings in accordance with Part 11 Table 11.4.3.4A. This option also views the basement as an interconnected floor space under 3.2.8.2.(6) allowing the communication stairs to remain open.
b. Item 12.3: Provide a single direct exit from the basement per 3.4.2.
c. Item 12.4: Increased floor area for a single exit is permitted from the basement with sprinklers under 3.4.2.1.2(b).
d. Item 12.5: Recommendation: Provide interconnected smoke alarms or fire alarm system and upgrade the exit signs

and emergency lighting to the entire facility.

e. The remaining items 12.6 to 12.11 inclusive are required.

This option utilizes Part 11 of the OBC to have sprinklering in lieu of fire separations. This is more cost effective than upgrading the fire ratings and adding fire dampers and doors. With sprinklering, only one exit is required form the basement per 3.4.2.1.2B. Also the communication stairs are permitted as part of an interconnected floor space that is sprinklered per 3.2.8.2

While not required, we strongly recommend adding at minimum interconnected smoke detectors on both levels to improve early warning. This should be monitored by your security company. An ULC monitored fire alarm system would be even better.

Option 3, Basement Area Reduction:
This option investigated the possibility of reducing the occupied area of the basement to eliminate the requirement for a second exit from the basement as noted in item 12.4 on the matrix. Option 2 does not require this reduction as sprinklering increases that allowable area for 1 exit. All the requirements listed for option 1 would be required for this option as well. This option was deemed to be infeasible.

The cost for option 2 is identified on the main building condition assessment cost matrix item 12.1 under priority one items and is recommended.

13.0 Historic Preservation

Description

The two older stations are designated as a Tillsonburg Heritage Site and under Part 1V of the Ontario Heritage Act. The buildings should be preserved to maintain their heritage value.

It is recommended that all new works and repairs be completed in accordance with The Standards and Guidelines for the Conservation of Historic Places in Canada.

Condition and Deficiencies

13.1 RECOMMEND - To protect the heritage asset, establish and maintain a policy and procedures protocol regarding future repairs to ensure compliance with standard conservation principles.

13.2 Materials should be replaced with "like for like" materials to maintain architectural consistency for both the heritage and contemporary building.

13.3 Establish a list of creditable conservation / restoration contractors to perform work on the heritage stations.

13.4 Replace all inconsistent mortar joints with appropriate material and profile.

13.5 Prepare a set of reference drawings to monitor and record repair works and to assist with routine maintenance procedures for the facility.

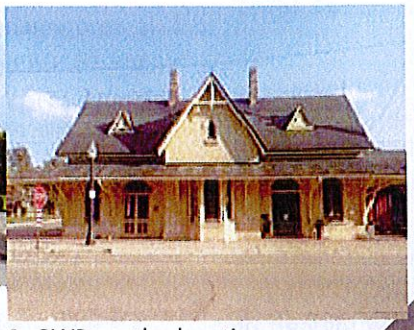
13.6 Rebuild chimneys to conform to known historical documentation.

Appendices:

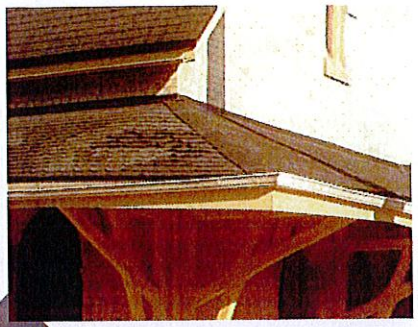
APPENDIX A Photographs
APPENDIX B Fire & Life Safety Report
APPENDIX C BCA Drawing SK1-1
APPENDIX D BCA Costing Matrix

Appendix A – Photographs

1. GWR east elevation.

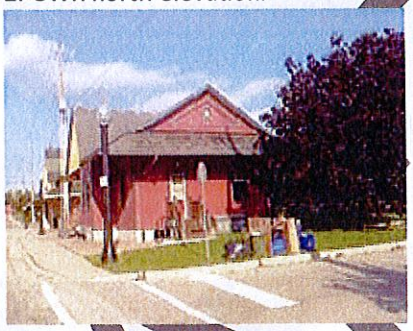


2. GWR north elevation.

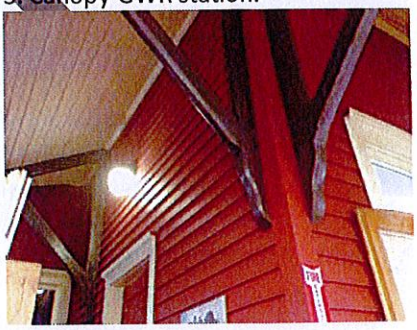


3. Canopy GWR station.

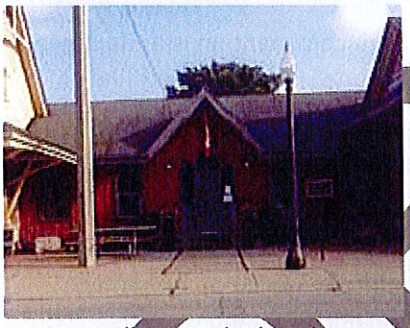
4. TLEPR north elevation.



5. TLEPR west elevation.

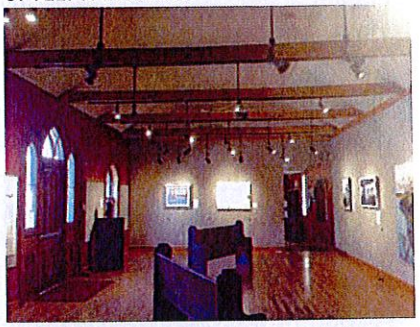


6. TLEPR interior.



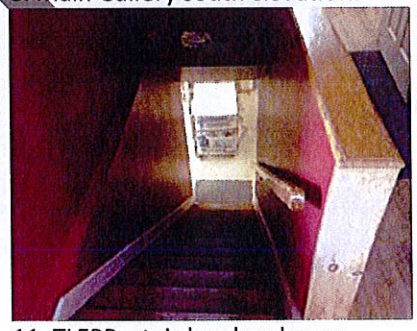
7. Main Gallery north elevation.

8. Main Gallery south elevation.

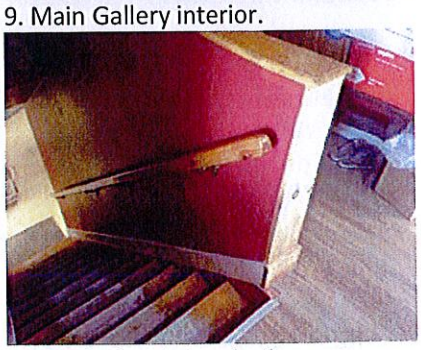


9. Main Gallery interior.

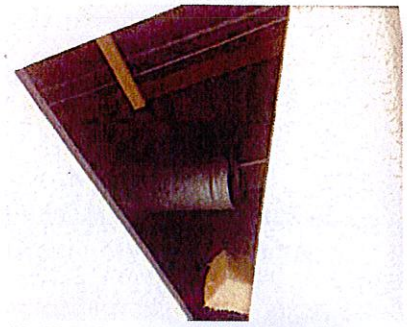
10. GWR stair, un-uniform risers.



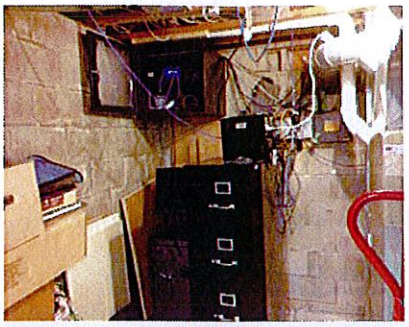
11. TLEPR, stair low headroom.



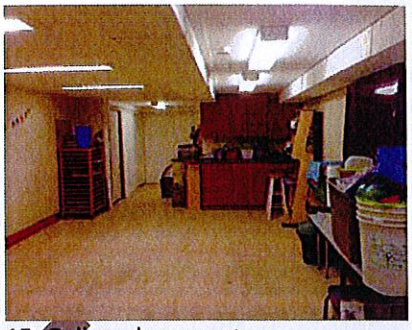
12. Typical stair handrail.



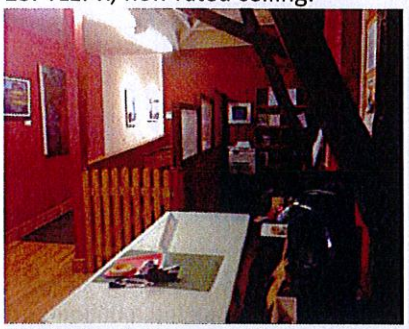
13. TLEPR, non-rated ceiling.



14. Gallery foundation.

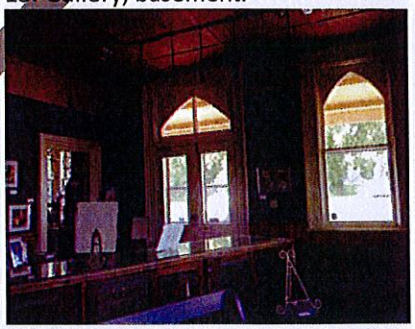


15. Gallery, basement.

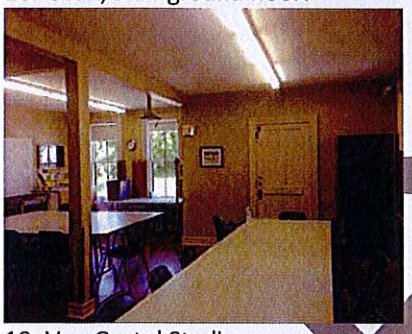


16. GWR, stair ground floor.

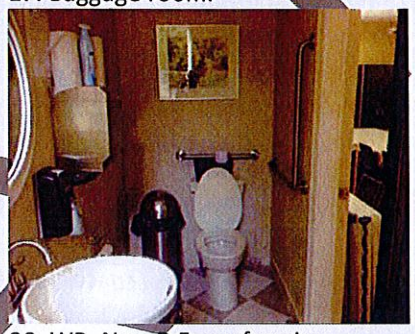
17. Baggage room.



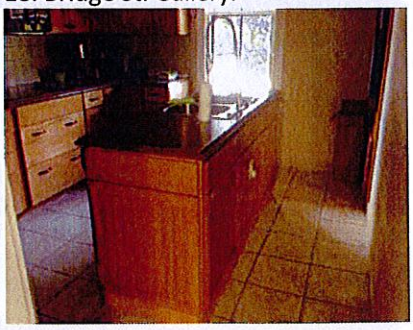
18. Bridge St. Gallery.



19. Van Gastel Studio.

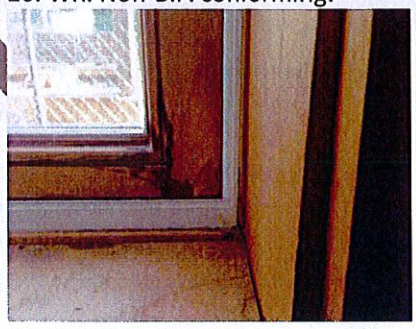


20. WR. Non-B.F. conforming.

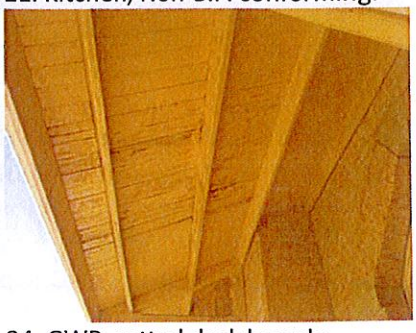


21. Kitchen, Non-B.F. conforming.

22. Gallery, water stains on ceiling.



23. Window, water leak.



24. GWR, rotted deck boards.

a+LiNK architecture inc.
preserve + create + sustain

126 WELLINGTON ROAD
LONDON ON N6C 4M8
519.649.0220
www.aLiNKarch.ca

October 10, 2018

The Corporation of the Town of Tillsonburg
10 Lisgar Ave.
Tillsonburg ON
N4G 5A5

By Email: RCox@Tillsonburg.ca
Attach: 2 pages

Att: Rick Cox, Director of Recreation, Culture & Parks

Re: Station Arts Centre, 41 Bridge Street
a+LiNK project 1831

Dear Rick,

As part of the building condition assessment for the above noted project we have completed a building code review of the facility in relation to the current Ontario Building and Fire Codes. This has revealed some very serious life safety concerns.

During our investigation a number of code deficiencies were observed including the following:

1. Incomplete or non-existent fire separation of the floor above the basement space as required by OBC part 3.2.1.4. This separation is to have a ¾ hour fire resistance rating or be sprinklered.
2. Incomplete or unprotected supports of the ¾ hour required basement fire separation or be sprinklered.
3. There are no direct exits from the basement to the exterior. All access to exits from the basement exit by internal stairs into the ground floor occupied space. THIS IS NOT PERMITTED in accordance with OBC part 3.4.
4. The basement area is 166m2 which exceeds 150m2 and therefore requires 2 compliant exits. Neither stair qualifies as an exit.
5. There are smoke detectors but no fire alarm system. We RECOMMEND interconnected Smoke Alarms per 3.2.4.22. A Fire Alarm will be needed if the occupant load exceeds 150 for any licensed events and over 300 people otherwise.
6. The existing east stairs are constructed with inconsistent variable height risers that would make them a trip hazard. The variance is 1"+/- and they should be reconstructed.
7. The handrails on both stairs do not have the required 12" extensions at the top and bottom of the stairs in accordance with OBC part 3.4.7.5 (7). This would have been required at the time of construction and therefore is considered a deficiency.
8. It is suspected that the headroom clearance of approximately 6'-1" in the west basement stair is not in accordance with current code requirements.
9. The designated exit doors on the ground floor are blocked with stored materials and displayed objects and swing into the building. This is unsafe, a Fire Code violation and subject to fines. Either decommission the exit or remove the materials.
10. The Fire plan as posted requires updating. This is a Fire Code requirement.

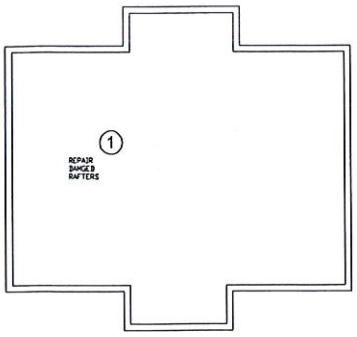
Based on the above, we are of the opinion that the basement is an unsafe area and ***should not*** be occupied by the public and only have limited staff use until proper exiting and fire separation deficiencies are corrected.

Due to the serious nature of this finding, it is our professional responsibility to report this to both the CBO and Fire Chief by copy of this letter.

Sincerely,

Ed J. van der Maarel
Principal Architect + Heritage Consultant
Dipl. Arch. RAIC, dipl. Arch. Tech., CAHP, ICOMOS

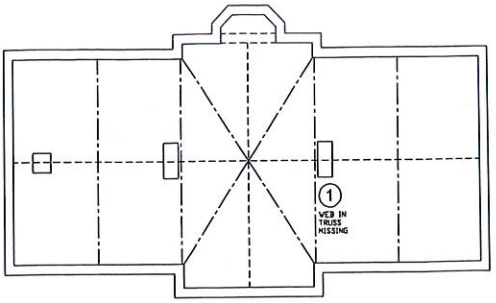
cc: Town of Tillsonburg, CBO



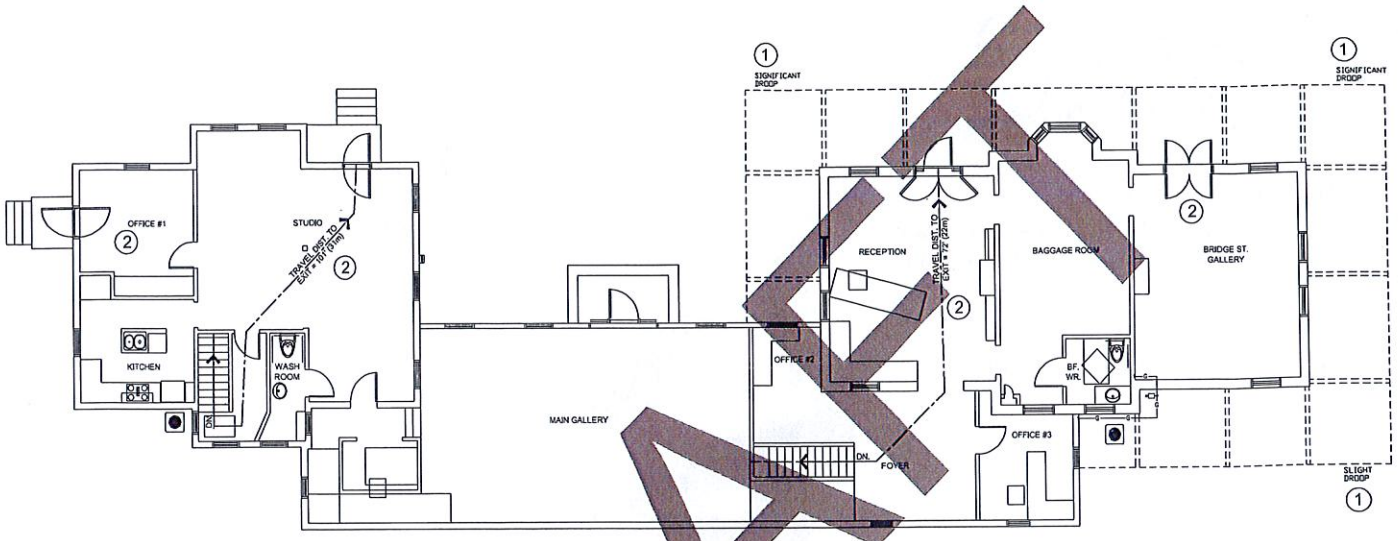
LEGEND

(1) STRUCTURAL DEFICIENCIES

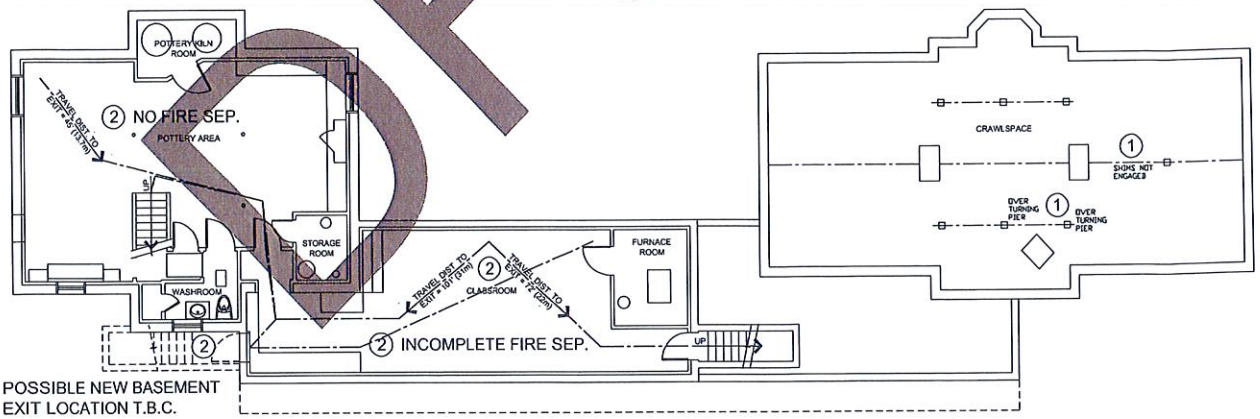
(2) FIRE & LIFE SAFETY DEFICIENCIES
- FIRE SEPARATIONS
- EXITS FROM GROUND FLOOR
- EXITS FROM BASEMENT
- SEE SEPARATE FIRE & LIFE SAFETY REPORT



ATTIC PLAN



GROUND FLOOR PLAN



POSSIBLE NEW BASEMENT EXIT LOCATION T.B.C.

BASEMENT PLAN (Lower Level)

a+LiNK architecture
126 WELLINGTON ROAD, LONDON ON N6C 4M8 P:519.649.0220 www.aLiNKarch.ca

DATE: 2018.10.31

SCALE: NTS

Station Arts Centre - BCA

1831

SK1-1

Project: Station Arts Centre - Building Condition Assessment

ion: Tillsonburg, Ontario — 20-Nov-18

loor Area: 5,600 sq.ft. [520m²] — Preliminary Budget

Client: Town of Tillsonburg — 1831

Elemental Cost Analysis Prepared By: a+LiNK Architecture Inc., London, On

Reference	Description	a+LiNK Estimate	Maintenance Priority (1,2,3)	Year 1	Year 2	Year 3	Year 4	Year 5	(After Year 5)
Station Arts Centre - Building Condition Assessment									
3.0 Site Work									
3.1	Grading north side								
a)	Provide a detailed topographical survey of the entire property	$ 3,500	2		$ 3,500				
b)	Provide destructive investigation of the foundation walls. See Section 5.0		2						
c)	Provide areaways with grating covers for the crawlspace vents	$ 500	2		$ 500				
d)	Lower grade inside basement window wells	$ 750	2		$ 750				
3.2	Grading south side								
a)	Cut and regrade to slope away from building. See Section 5.3 a) below		1						
4.0 Roof									
4.1.1	Roofing membrane system								
a)	Remove and replace entire roofing membrane system with new	$ 17,500	1	$ 17,500					
b)	Restructure the south gallery addition roof	$ 4,500	Optional						$ 4,500
c)	Reinstate the slate roofing to match the original	$ 200,000	Optional						$ 200,000
d)	Provide new drip edge flashings	$ 2,500	1	$ 2,500					
e)	Provide dutchman repair for rotted fascia boards	$ 1,800	1	$ 1,800					
4.1.2	Framing & Gable Ends								
a)	Remove and replace rotted wood framing and repair deficiencies	$ 8,600	1	$ 8,600					
b)	Repair open holes in gable ends of TLEPR	$ 500	1	$ 500					
4.1.3	Roof Ventilation								
a)	Design and install new attic ventilation strategy	$ 7,500	1	$ 7,500					
4.2 Chimneys									
4.2.1	Masonry Deficiencies								
a)	Remove and replace all damaged bricks, assume 24 for each chimney	$ 3,000	1	$ 3,000					
b)	Repoint all deteriorated mortar joints, quantity is unknown	$ 5,000	1	$ 5,000					
4.2.2	Chimney Caps								
a)	Provide new metal caps	$ 1,000	2		$ 1,000				
4.3 Eaves Gutters & Downspouts									
4.3.1	Gutters and Downspouts								
a)	Provide new gutters and downspouts	$ 6,500	1	$ 6,500					
4.3.2	Wood Fascia Boards and Trim: paint wood trim and boards	$ 2,600	1	$ 2,600					
4.3.3	Underground Connections: Confirm the connections to drains	$ 500	2		$ 500				
4.4 Walls Above Grade									
4.4.1	Masonry Walls - GWR								
a)	Remove and replace all sandblasted damaged face brick	$ 35,000	3			$ 35,000			
b)	Provide destructive investigation of the foundation walls	$ 1,200	2		$ 1,200				
c)	Remove and replace inconsistant mortar joints. Included in a) above.								
d)	Provide routine maintenance	$ 800	3			$ 800			
4.4.2	Wood Walls - TLEPR								
a)	Provide routine maintenance and painting	$ 1,500	3			$ 1,500			
4.4.3	Wood Walls - (1995 Addition)								
a)	Provide routine maintenance and painting	$ 1,500	3			$ 1,500			
4.5 Doors & Windows									
4.5.1	GWR - Doors								
a)	Review the exiting strategy for doors	$ 1,500	1	$ 1,500					
b)	Provide routine maintenance and painting	$ 1,800	2		$ 1,800				
4.5.3	West Door								
a)	Heritage doors to be fixed open for exit	$ 1,200	1	$ 1,200					
4.5.4	GWR - Windows								
a)	Provide routine maintenance and painting	$ 1,250	2		$ 1,250				
4.5.5	GWR - Attic Windows								
a)	Provide perimeter caulking around window frame & painting	$ 500	2		$ 500				
b)	Provide new anchoring devise for sashes	$ 650	2		$ 650				
4.5.6	TLEPR - Doors								
a)	Provide routine maintenance and painting	$ 800	3			$ 800			
4.5.7	TLEPR - West Door								
a)	Review the exiting strategy for doors	$ 500	1	$ 500					

Reference	Description	a+LiNK Estimate	Maintenance Priority (1,2,3)	Year 1	Year 2	Year 3	Year 4	Year 5	(After Year 5)
4.5.8	TLEPR - Windows								
a)	Provide routine maintenance and painting	$ 2,000	3			$ 2,000			
b)	Provide localized glazing putty repairs	$ 600	2		$ 600				
4.5.9	TLEPR - Attic Windows								
a)	Provide perimeter caulking around window frame & painting	$ 500	1	$ 500					
b)	Repair rotted wood trim and stops	$ 850	2		$ 850				
4.5.10	Gallery - Doors & Windows								
a)	Provide routine maintenance and painting	$ 500	3			$ 500			
4.6 Exterior Stairs & Landings									
a)	Provide routine maintenance and painting	$ 600	3			$ 600			
4.7 Insulation									
4.7.1	GWR Station								
a)	Provide new attic insulation and vapour barrier	$ 4,000	3			$ 4,000			
4.7.2	TLEPR								
a)	Provide new attic insulation and vapour barrier	$ 3,000	3			$ 3,000			
4.7.3	Main Gallery								
a)	Provide new attic insulation and vapour barrier	$ 2,500	3			$ 2,500			
4.8 Foundation Walls									
	See sections: 4.7 Insulation, 5.0 Structural Condition								
5.0 Structural									
5.2	GWR Station								
5.2.1	Provide chimney masonry repairs, See section 4.2								
5.2.2	Replace missing truss web.	$ 1,200	1	$ 1,200					
5.2.3	Replace decorative fascia board	$ 3,000	2		$ 3,000				
5.2.4	Canopy Roof								
a)	Re-Frame corner rafters and fascia boards.	$ 5,000	1	$ 5,000					
b)	Replace rotted roof deck boards	$ 6,500	1	$ 6,500					
c)	Repair corner braces and anchorage.	$ 3,500	1	$ 3,500					
5.2.5	Floor Framing								
a)	Repair timber posts and hardwood shims	$ 3,100	1	$ 3,100					
5.2.6	Foundation								
a)	Excavate and investigate the foundation condition below grade	$ 7,500	2		$ 7,500				
5.3	Main Gallery Addition								
a)	Provide regrading on south side to 6" below top of foundation	$ 4,500	1	$ 4,500					
b)	Excavate and investigate the foundation condition below grade	$ 5,000	2		$ 5,000				
5.4	TLEPR Station								
a)	Repair crack in foundion	$ 850	1	$ 850					
b)	Excavate and investigate the foundation condition below grade	$ 3,500	1	$ 3,500					
c)	Provide waterproofing membrane & drainage system	$ 5,000	2		$ 5,000				
5.4.2	Roof / Attic								
a)	Engineering services to review attic storage	$ 3,500	1	$ 3,500					
b)	Repair cut and missing rafters and framing	$ 4,000	1	$ 4,000					
c)	Provide plywood sheeting on roof (during roof replacement)	$ 4,500	1	$ 4,500					
5.4.4	Attic Access Ladder								
a)	Remove and replace ladder	$ 1,500	1	$ 1,500					
5.5	Structural Repairs Engineering services not including 5.4.2	$ 7,500	1	$ 7,500					
6.0 Heating / Ventilation Systems									
6.2.1	GWR								
a)	Replace furnace with new	$ 5,000	2		$ 5,000				
b)	Provide new furnace venting	$ 500	2		$ 500				
c)	Provide A/C system with ductwork modifications (Optional)	$ 6,000	3					$ 6,000	
6.2.2	TLEPR								
a)	Replace furnace with new	$ 5,000	2		$ 5,000				
b)	Provide new furnace venting	$ 500	2		$ 500				
6.2.3	Gallery Addition								
a)	Replace furnace with new	$ 4,500	2		$ 4,500				
b)	Provide new furnace venting	$ 500	2		$ 500				
c)	Replace A/C unit	$ 3,500	2		$ 3,500				
6.2.4	TLEPR Attic Space								
a)	Replace exhaust fan with new	$ 550	1	$ 550					
6.2.5	Ductwork - TLEPR & Gallery Addition								
a)	Provide new fire dampers at duct floor penetrations (See Fire & Life Safety List)		1						
6.2.6	Add Humidification								
a)	Provide new humidification (Optional)	$ 15,000	3					$ 15,000	

Reference	Description	a+LiNK Estimate	Maintenance Priority (1,2,3)	Year 1	Year 2	Year 3	Year 4	Year 5	(After Year 5)
Plumbing Systems									
7.2.1	Water Heater								
a)	Replace with new including venting	$ 5,000	2		$ 5,000				
8.0 Electrical Systems									
8.2.3	Writering modifications for pottery room lighting	$ 2,000	1	$ 2,000					
8.2.4	Repair damaged exterior recepticales	$ 1,000	1	$ 1,000					
8.2.5 a)	Repair exit signs to be continuously lit. (See Fire & Life Safety List)		1						
8.2.5 b)	Upgrade emergency lighting & exit signs for whole facility. (See Fire & Life Safety List)		1						
9.0 Barrier Free									
9.1	Upgrades are not manditory, scope of work to be confirmed by risk management								
10.0 Interior Finishes									
10.1	Flooring								
a)	Clean and provide routed maintenance	$ 2,500	3			$ 2,500			
10.2	Walls								
a)	Clean and provide routed maintenance	$ 2,000	3			$ 2,000			
b)	Paint all interior walls	$ 10,000	3			$ 10,000			
c)	Provide spot repairs and painting	$ 500	3			$ 500			
10.3	Ceilings								
a)	Replace stained lay-in ceiling tiles	$ 1,500	3			$ 1,500			
b)	Upgade ceilings in basement for fire separation. (See Fire & Life Safety List)		1						
10.4	Interior Doors								
a)	Upgrade doors in fire separations (See Fire & Life Safety List)		1						
b)	Replace non-heritage ball knobs with lever handles (Optional)	$ 750	3			$ 750			
11.0 Exterior Finishes									
11.1.1	Paint exterior woodwork. (GWR Station)	$ 5,000	1	$ 5,000					
11.1.2	Paint exterior woodwork & siding. (TLEPR Station)	$ 8,000	3			$ 8,000			
11.1.3	Paint exterior woodwork & siding. (Gallery Addition)	$ 3,000	2		$ 3,000				
Fire & Life Safety									
12.1	See separate fire and life safety report	$ 118,150	1	$ 118,150					
13.0 Heritage Preservation									
13.1	Owner to establish conservation protocol policy and plan.		2						
13.2	Replacement materials to maintain heritage value.		1						
13.3	Owner to Establish a list of creditable conservation contractors.		2						
13.4	Replace all inconsistent previous masonry repairs.		3						
13.5	Prepare a set of reference drawings.		2						
13.6	Rebuild chimneys to conform to known historical documentation.		3						
14.0 Access Lift & Scaffolding									
14.0	Access Lift & Scaffolding	$ 20,000		$ 10,000	$ 7,000	$ 3,000			
Subtotal		**$ 619,100**		**$ 245,050**	**$ 68,100**	**$ 80,450**	**$ -**	**$ 225,500**	**$ -**
Contractor OH&P (20%)		$ 123,820		$ 49,010	$ 13,620	$ 16,090	$ -	$ 45,100	$ -
Consulting Fee (10%)		$ 74,292		$ 29,406	$ 8,172	$ 9,654	$ -	$ 27,060	$ -
SubTotal		**$ 817,212**		**$ 323,466**	**$ 89,892**	**$ 106,194**	**$ -**	**$ 297,660**	**$ -**
Contingency (20%)		$ 163,442		$ 64,693	$ 17,978	$ 21,239	$ -	$ 59,532	$ -
TOTAL PROJECT ESTIMATE		**$ 980,654**		**$ 388,159**	**$ 107,870**	**$ 127,433**	**$ -**	**$ 357,192**	**$ -**

** HST Tax of 13% is additional to the cost estimate

Notes:

1. Maintenance Priority (1,2,3) is defined as 1 = within 1 year, 2 = within 2 to 3 years, 3 = 3 to 5 years.
2. High priority items identified in the report of a structural or fire and life safety nature will require immediate attention.
3. All costs indicated are based on 2018 values.

Project: Station Arts Centre - Fire & Life Safety Condition Assessment
Location: Tillsonburg, Ontario
Gross Floor Area: 5,600 sq.ft. [520m²]
Client: Town of Tillsonburg

20-Nov-18
Preliminary Budget
1831

Elemental Cost Analysis Prepared By: a+LINK Architecture Inc., London, On

Reference	Description	Maintenance Priority (1,2,3)	Option 1 W/O Sprinklers	Estimate	Option 2 With Sprinklers	Estimate	Option 3 Reduce Area	Estimate
Station Arts Centre - Building Condition Assessment								
12.0 Fire & Life Safety								
1.	Provide 3/4 hour fire separation to floor assembly above basement. 3.2.1.4	1	Is required		FRR is not required if sprinklered under Table 11.4.3.4.A		Is required	
.a	Remove existing ceiling finishes and provide new GWB membrane.			$ 17,600		$ -		$ 17,600
.b	Upgrade walls separating the basement to 3/4 hr. FRR.			$ 10,500		$ -		$ 10,500
.c	Provide new labeled doors, closers, and hardware to 3/4 hr. FRR in fire sep.			$ 6,000		$ -		$ 6,000
.d	Provide fire dampers and fire stopping at penetrations in fire sep.			$ 5,000		$ -		$ 5,000
.e	Provide new sprinkler system whole building.					$ 65,000		
2.	Provide 3/4 hour fire separation for supports. 3.2.1.4	1	Is required		Is not required		Is required	
.a	Coordinate with item 1 above.			$ 4,000		$ -		$ 4,000
3.	Provide direct exits from basement.	1	Is required		Is required		Is required	
.a	See item 4 below.							
4.	Provide 2 exits or reduce floor area.	1	Two exits are required		One exit is required		Two exits are required	
.a	Two exits, min. travel distance is [30m] if unsprinklered. 3.4.2.5 (1) f.		Upgrade lobby GWR	$ 30,000				
.b	Two exits, min. travel distance is [45m] if sprinklered. 3.4.2.5. (1) c.					$ -		
.c	Reduce basement floor area to less then 150 m².		Is required for one exit		Area increaed to 200 m² with Sprinklers		Not feasible	
.d	One exit, min. travel distance is reduced to [25m]. 3.4.2.1 (2) b if sprinklered.					$ -		
.e	One exit, min. travel distance is reduced to [15m]. 3.4.2.1 (2).							
.f	Construct exterior stair from basement to grade on west end of gallery addition.			$ 25,000		$ 25,000		$ 25,000
5.	Provide interconnected smoke alarms	1	Is recommended		Is recommended		Is recommended	
	Option 1: Upgrade existing smoke alarms, exit signs, and emergency lighting							
.a	Upgrade smoke alarms to interconnected on all levels			$ 9,500		$ 9,500		$ 9,500
.b	Upgrade Exit Signage and Emergency Lighting			$ 5,000		$ 5,000		$ 5,000
	Option 2: Provide new fire alarm system							
.c	Fire alarm would be required if occupancy over 150 for licensed events. 3.2.4.1 g. Fire alarm may be connected to the existing security monitoring co. Sprinkler signal to Fire Alarm - ULC Monitored?		$ 22,000					
6.	Rebuild east access to exit stair to provide uniform risers.	1	Is required		Is required		Is required	
.a	Partial demolish, form and re-pour stairs over existing.			$ 5,000		$ 5,000		$ 5,000
7.	Provide new handrails on basement access to exit stairs with extensions.	1	Is required		Is required		Is required	
.a	Remove existing and install new railings - one side if under 1100mm.			$ 3,000		$ 3,000		$ 3,000
8.	Headroom clearance on west stair.	1	Is required		Is required		Is required	
.a	Remove existing shelf and patch ceiling GWB.			$ 650		$ 650		$ 650
.b	If min. headroom clearance cannot be obtained, rebuild stairs and landing to suit.			$ 5,000		$ 5,000		$ 5,000
9.	Clear pathways at ground floor exit doors. 4 exits required.	1	Is required		Is required		Is required	
.a	Tenant to remove stored materials and maintain clear paths to exits.			-		-		-
.b	Decommission west exit - not required.		Is recommended	-	Is recommended	-	Is recommended	-
10.	Modify & update facility Fire Plan Map	1	Is required		Is required		Is required	
.a	Update fire plan map posted on walls to reflect current & future site conditions.			-		-		-
11.	Remove stored materials under west basement stair.	1	Is required		Is required		Is required	
.a	Tenant to remove stored materials.			-		-		-
Subtotal				$ 126,250		$ 118,150		$ 96,250
Contractor OH&P (20%)				$ 25,250		$ 23,630		$ 19,250
SubTotal				$ 151,500		$ 141,780		$ 115,500
Contingency (20%)				$ 30,300		$ 28,356		$ 23,100
TOTAL PROJECT ESTIMATE				$ 181,800		$ 170,136		$ 138,600

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