FACILITY CONDITION ASSESSMENT

AIRPORT TERMINAL

FEBRUARY 2016

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ENCLOSURES

1. OVERVIEW

The Airport Terminal building is a small one storey pre-manufactured wood frame building. It was originally constructed prior to 1992 with minor renovations between 2012 and 2015.

The cladding is metal siding and a sloped metal roof with snow guards installed for winter months. The roof supports are gang-nailed wood truss and the ceiling is insulated with fiberglass batt insulation.

There is a low crawlspace with a poured concrete foundation to support the walls and a gravel floor. The floor is not insulated in the crawlspace.

The internal wall finish is mostly gypsum wallboard with some exposed wood panelling in the electrical room. The ceiling is a mixture of gypsum wallboard and pre-fabricated ceiling panels.

The floor is compressed fibreboard decking covered with linoleum. The floor of the electrical room is untreated compressed fibreboard decking.

There is a large timber deck on the east side of the building. There is a timber gazebo over the deck and the deck is supported by poured concrete piers.

A visual inspection of the Airport Terminal building was conducted on 01 September 2015 by members of the Cascade team:

Project Director	Bill Low, PEng, RPP President Cascade
Team Leader	Les King, PEng Cascade Associate
Architectural	Cal Meiklejohn, AIBC Meiklejohn Architects Inc.
Electrical	Robert Epp, PEng Williams Engineering Canada Inc.
Mechanical	Michael Raiva, PEng Williams Engineering Canada Inc.
Cost Consultant	Lyndon Thomas, PQS LTA Consultants Inc.

This report summarizes the results of the facility assessment and provides some budgetary direction for the Town of Golden.

The results and analysis from this inspection are a professional opinion based on the accessible features of the buildings. No destructive testing was undertaken.

There are practical limitations inherent in such a visual inspection. Where building components are hidden behind walls, inferences on condition that cannot be confirmed by direct observation are drawn based on experience of the observers.

To assist Cascade, the Town of Golden provided in-house statistical information, recent reports and historical information previously commissioned .This information and reports were considered relevant to the assessment of the condition of these facilities and have been relied upon in preparing this report.

2. FACILITY CONDITION

The facility condition assessment concluded that the overall condition of the Airport Terminal building is good. Overall, it scored 426 out of 490 possible points. This gives the Airport Terminal building an overall condition rating of 87%.

The structural condition is reflective of that it is a simple structure.

The replacement cost of the Airport Terminal building is estimated as shown below. These costs assume the worst case where complete loss of the building is experienced.

These costs do not include any allowance for internal furnishings, including any specialized Airport Terminal or meteorological related equipment.

The potential additional project costs are typical for building replacement. These may not apply directly since the Town of Golden is the building owner and may absorb or adjust some of these costs.

AIRPORT TERMINAL		
Building Area (sq. ft.)		1,420
Building Area (sq. m.)		132
Construction cost of identical building and on-site development work	Does not include building additions or enhancements that may be required in a new building. Off-site service upgrades specifically excluded	$259,302
Demolition	Demolition of the existing structure and clean-up of the site - **Asbestos Abatement Specifically Excluded**	$22,500
Applicable taxes (5% GST)	PST is included in the building and demolition costs	$14,090
	Base Replacement Estimate	**$295,892**
Escalation allowance	These costs are as of fall 2015	Excluded
Project design	6% - 12% for architectural & engineering	$35,507
City costs allowance	10% for for Building Permit	$29,589
City costs allowance	DCC's, Off-Sites, Consultations etc	Excluded
Project administration	2% - 3% for tendering, review and award	$8,877
Project management	5% for provision for external project management resources, if utilized	$14,795
Contingency	5% for provision for unexpected requirements or uncertainty in project	$14,795
	Potential Additional Project Costs	**$103,562**
	Probable Maximum Cost - Total Project	**$399,454**

3. IMMEDIATE CONSIDERATIONS

While the overall condition rating is considered good, there are always things in every building that should be addressed.

The facility assessment identified minor items that can be corrected or attended to through normal maintenance. These items are listed on the attached Facility Audit Template in Enclosure A and generally do not affect the day to day operation of the facility.

For the Airport Terminal building, the only critical issue for the Airport Terminal is inspection of the north exterior wall.

Photo B9 – north wall showing expanded metal cladding

The metal cladding is buckling outward. This is quite unusual and may be indicative of water getting into the wall cavity and expanding when frozen.

At the present time, there is no evidence of water on the interior wall surface.

I any case, the cladding should be removed and the situation assessed.

This is the north side of the building so it gets minimum sunshine. The wall cladding should be pressure washed to remove the growth on the walls.

4. BASIC BUILDING STRUCTURE

One of the most common requests is to determine an estimated life of a building. Historically, civic buildings had a design life of 40 years – the time when either the building required replacement or it no longer was suitable for the current use.

More recently, many organizations have not wished to replace buildings on such a short timeline. In many cases, re-purposing of civic buildings, rather than demolition and replacement has become the norm. So how long can a building last?

For almost all buildings, the most important parts of the structure are the foundation, structural walls and the roof support system. If these three components are maintained and refurbished as required, any building can be made to last much longer than 40 years. All the other components of the building – HVAC, plumbing, electrical, furnishings, roof covering, etc. can be systematically replaced as required.

For many office oriented civic buildings, an expected life of 60 years is reasonable. A well maintained and looked after building can even last much longer.

The actual age of the structure is not known, but was believed moved to this site in 1992, making it at least 23 years old. For the Airport Terminal building, the foundation, walls and current roof support structure are all sound. The building is very simple in its construction and is reasonably new and well maintained, so continued maintenance and responsible investment should allow the building to last a minimum of 20 years.

FOUNDATIONS

This is the basic building block for every building. As long as the foundation is solid and does not deteriorate, the remainder of the building can rest on a firm footing.

The foundation for the Airport Terminal building is poured concrete walls providing a low crawlspace beneath. The foundation is in good condition with no significant concerns visible. The crawlspace walls are insulated and it was very dry inside. It would be wise to ensure the foundation insulation continues to be covered from the elements and possible damage.

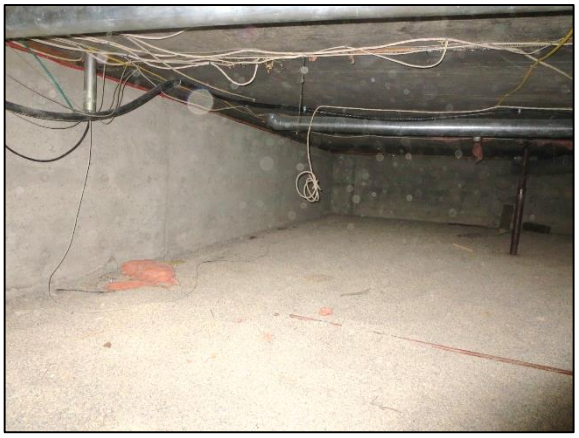

Photo B19 - crawlspace walls and floor

Photo B11 - showing foundation insulation

The only other issue identified was exterior penetrations into the crawlspace. These should be sealed.

Photo E10 - sample penetration

Photo A51 - crawlspace hatch in electrical room

BUILDING STRUCTURE

The wood frame structure appears to be in very good condition for its age. There are no obvious concerns with this structure.

The building envelope, exterior walls and finishes, windows, interior walls and finishes are reasonable given the age of these units.

The only significant issue is the buckling on the north wall as noted in Section 3. This should be investigated to determine the cause and whether it affects the integrity of the wall.

There are several wall penetrations that should also be sealed to keep moisture out of the wall cavity.

Photo E19 - example of exterior wall penetration

ROOF SYSTEMS

The third pillar in the building structure is the roof structure. The roof structure is the structural system that spans the structural walls and supports the waterproof roof covering, in this case, a sloped metal roof.

The main roof support structure is accessible through a ceiling hatch. The roof has a laminated wood beam that spans the centre of the structure and supports the gang nailed wood trusses.

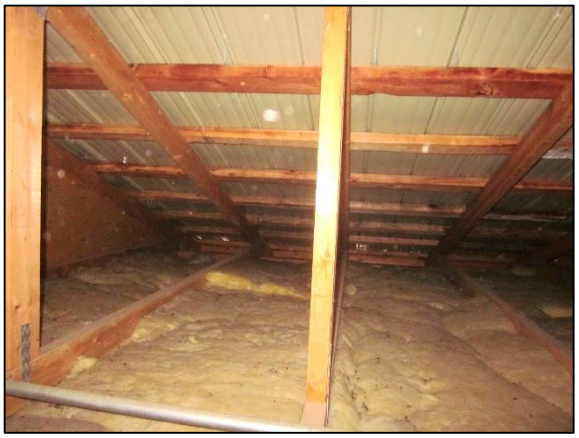

Photo A34 & A35 - roof truss showing insulation on ceiling

Photo A41 - laminated wood beam

Photo B24 - ceiling access hatch

There are no signs that there is any concern with these roof structures.

5. OTHER BUILDING COMPONENTS

The building is generally a simple structure and is in reasonable condition for its age.

INTERIOR WALLS, CEILINGS & FLOOR

Interior walls are generally gypsum wallboard and are in reasonable condition. Ceilings are pre-manufactured panels and are showing some wear and tear. The floors are linoleum and are in good condition.

Photo A27 - separated ceiling panel

DOORS & WINDOWS

All of the doors worked correctly when tested. The windows were in good condition and the opening windows operated smoothly.

The exterior stoop at the west airside door is exposed wood. Even though this is covered by a porch roof, it should be sealed or covered similar to the exit door at the east end of the building.

Photo A9 - airside door stoop

Photo B2 - exit door, east end

ROOF

The rood covering is metal with snow stops strategically located. It was in very good condition

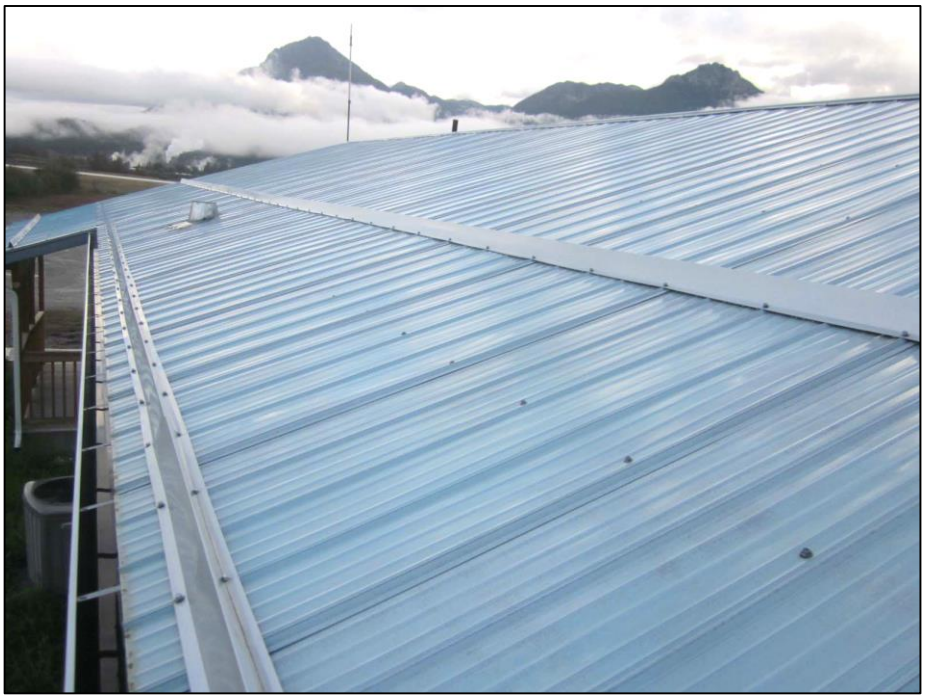

Photo A59 - metal roof

GAZEBO

There is an exterior free-standing gazebo constructed on the airside of the terminal building. The pergola is constructed of fir and the deck is constructed of pressure treated wood.

The pergola and deck is in very good condition, however, the deck of the gazebo is showing normal wear and tear and would benefit from a waterproof re-surfacing.

Photo B4 - gazebo

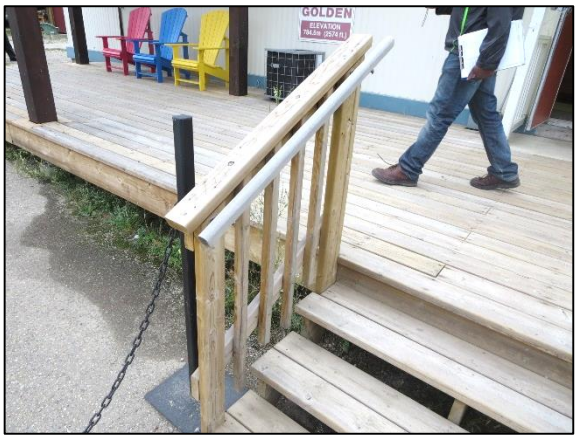

Photo B26 - gazebo deck

6. MECHANICAL

The building is a simple structure and the mechanical systems in this building are also relatively simple.

All mechanical systems appeared to be functioning well at the time of the assessment.

7. ELECTRICAL

There is only a simple electrical system in the building.

The supply and circuit breaker panel, distribution and lighting were functioning well, subject to the maintenance issues outlined below.

The circuit breaker panel should be re-labelled for clarity and the exposed coiled wire at the side of the building should be made safe.

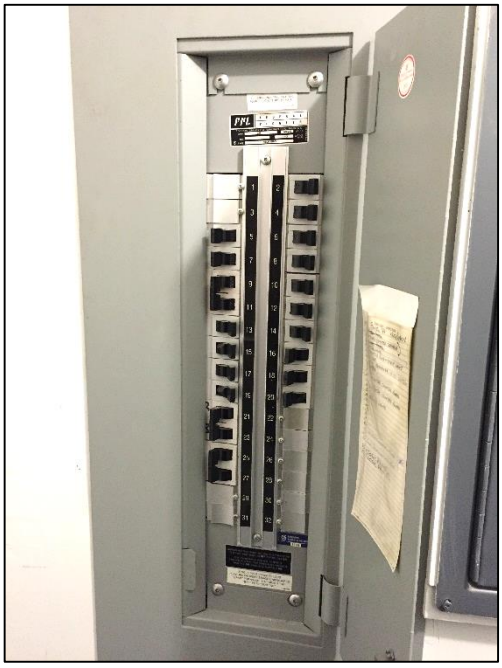

Photo E3 - electrical panel

Photo E7 - exposed wire

The existing incandescent lamps could be replaced with compact fluorescents or LED lamps for energy savings.

The exits are marked but are not illuminated. Although all doors lead directly to the exterior, the signage could be considered for upgrading.

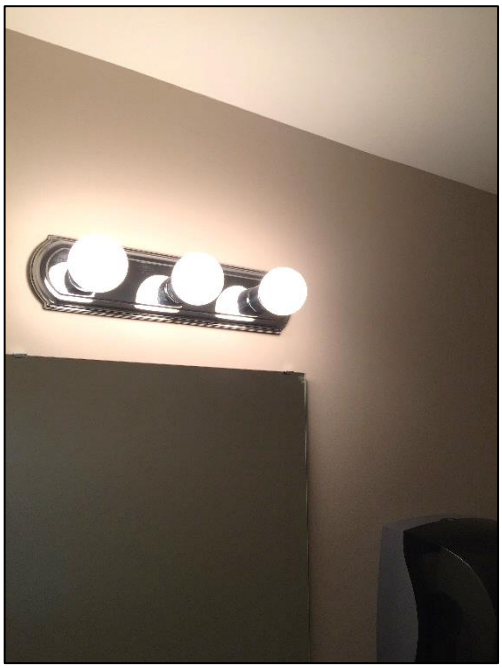

Photo E5 - incandescent lamps

Photo E11 - existing exit signage

8. LIFE SAFETY

There were no specific issues identified as life safety concerns.

9. BUILDING CODE DEFICIENCIES

The BC Building Code, Electrical Code, Health Regulations, etc. are continually under review and amendment. In general, the amendments are either to account for new materials in the construction industry, new building techniques, and/or public safety concerns.

Cascade was asked to identify any known code deficiencies as part of the facility assessment. They are included in the Facility Assessment templates that accompany this report and are listed below for convenience.

Most code amendments are progressive but are not mandatory. It is then up to the owner to determine whether these code changes should be implemented.

There were some building code deficiencies to be considered by the Town of Golden:

a. Exterior foundation and wall penetrations should be properly sealed

b. The building is not handicap accessible. A wheelchair ramp was installed to the front door but there is no handicap actuators to open/close the door. The door threshold is raised and would be difficult for a wheelchair occupant to negotiate the threshold while trying to keep the door open.

Photo A24 - front entrance ramp

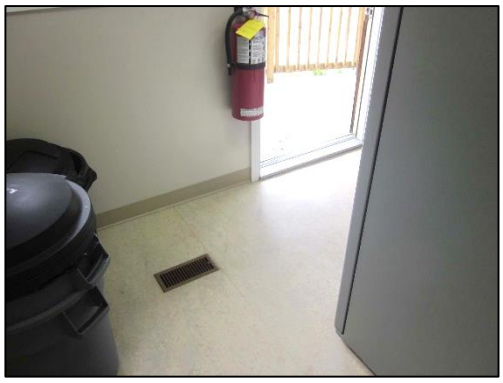

Photo A22 - front door threshold

The washroom has grab bars installed, but the other fixtures are not handicap accessible. The Town of Golden should identify whether this is a requirement for this building and its uses.

10. SUITABILITY FOR CURRENT USE

The building is currently in use and is considered suitable as an Airport Terminal building.

While this is a municipal building, it is generally occupied by tenants/lessees. Those that were present during the building assessment indicated they were satisfied with their building space.

The 2011 report by EBA, Consulting Engineers & Scientists, entitled *Golden Airport, Business Case Selective Airport Initiatives,* identified improvements that may be required for future service levels at the Airport Terminal.

11. SUMMARY

The actual age of the structure is not known, but was believed moved to this site in 1992, making it at least 23 years old. However, the condition of the Airport Terminal building is considered to be good.

It is a very simple building structure that requires minimal maintenance and investment to keep it operating successfully. It is currently being well maintained.

With continued maintenance and reasonable capital investment, it should continue to perform well over the long term.

Cascade is available to assist the Town of Golden with all aspects of the report.

Sincerely,

Bill Low, PEng, RPP
President
Cascade Facilities Management Consultants Ltd

Les King, PEng
Project Team Leader