

Crowsnest Pass Facility Evaluation Report

**Albert Stella Memorial Arena
12602 - 17 Avenue
Blairmore, Alberta**



**Architecture | Arndt Tkalcic Bengert
October , 2014**

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EXECUTIVE SUMMARY

On August 28, 2014 Architecture | Arndt Tkalcic Bengert, conducted a Facility Evaluation of the Albert Stella Memorial Arena of Blairmore, Alberta. Accompanying Architecture | Arndt Tkalcic Bengert was the Director of Community Services Lyle Hannan and Facility Maintenance Staff.

The purpose was to review and report on the existing facility relative to the current condition of the building and site, also to review viability and probable short and long-term operational costs. The Facility Evaluation Costing Report is attached in Appendix A. The total estimated cost for modernization is \$4,215,000.00

The Stella Arena serves the Crowsnest Pass Communities in many unique and innovative ways. This building originally designed for Hockey, Curling and ice activities is dated and as many deficiencies, some of which are life safety issues. On first impressions this building rates very low but when you tour the facility and see the many uses of this dilapidated building it is inspiring to see the community make the most of the available facility which otherwise would remain empty.

The Stella Main Arena has been repurpose into an indoor field used for soccer, lacrosse, and baseball practice. The Original Curling rink has been transformed into a indoor skateboard park, and Climbing and Gymnastic Gym. Although this facilities has limitations, this building is well used by the community groups throughout the year. The Stella requires extensive repairs to be a safe environment for the public and in the event that the costs out way the benefits of upgrading this valuable community space, an alternate facilities should be provided to allow the youth of the community to continue to benefit from the healthy lifestyles of sport.

A synopsis of the Facility is provided as follows:

- .1 Civil: The Stella Arena Facility site is located adjacent to the local ski Lodge and shares a paved access with the Isabelle Sellon School. The site is generally in Poor condition as the grading immediately around the arena is rough and undeveloped and in some cases prohibiting proper drainage. The paved access/parking to the arena has deteriorated and requires repair and increase slopes to improve the drainage. The fire lane access provided around the entire facility appears to be partially gravel and requires regrading to ensure proper drainage away from the complex. A proper swale area around the building should be provided to keep the runoff from the adjacent mountain away from the arena structure. The front entrance sidewalk and stoops require to be replaced.
- .2 Architectural/Structural: The Stella Arena requires extensive repairs and a complete modernization. Based on observed conditions and information from operational staff, there has been 1 or 2 partial renovations to the Facility. The building is in Critical condition; and

health and safety issues should be addressed immediately or the building should be closed. The building envelope requires replacement to ensure the integrity of the structure. Further investigation to determine the severity and extent of the hazardous materials in the building is required prior to use of the facility or any other work. Interior finishes have deteriorated and require replacement

- .3 Mechanical: Mechanical systems are generally in poor to critical condition, the building systems require upgrades and repairs to be operational. **Cost for mechanical upgrades at ~\$35.00/ sq ft = \$1,260,000.00.** The estimate is based on the existing mechanical systems in the buildings being totally demo'd and all new piping, plumbing, ductwork, digital building controls, HVAC equipment and sprinklers/fire extinguishers for the Arena.
- .4 Electrical: Electrical systems are generally poor to critical. Items of concern if the facility is to continue to operate in its present configuration are the electrical systems for safety. Emergency lighting and exit lighting are require to be upgraded. **Cost for electrical upgrades at ~\$25.00/ sq ft = \$900,000.00.** The estimate is based on the existing electrical systems in the buildings being totally demo'd and all new conduit, wiring, distribution, lighting (interior and exterior), communications and fire alarm for the Arena.

1.0 PROJECT METHODOLOGY AND APPLICABLE INFORMATION

Architecture | Arndt Tkalcic Bengert undertook an on-site visual and photographic review of the facility and all internal and external spaces on August 28, 2014. The Team also informally interviewed and was accompanied by a Director of Community Services / Building Operator to acquire subject facility history and desired or anticipated operational needs.

The Facility Evaluation was completed with the use of photographic and documented observations, as well as direct input and consideration from the Municipality representatives and in some cases acquired knowledge of alterations done to the facility over the years.

Also factored was a review of an existing November 16, 2011 Capital Asset Study, that was conducted by FT3 Architects. Few of the observations and recommendations of that Report appear to have been implemented in the years since the report was released. As the FT3 Report is now 3 years old, it is recommended to review the outstanding issues and plan to address the concerns before the facility deteriorates further.

This Facility Evaluation is intended to provide and outline immediate and ongoing maintenance needs and costs for the facility, as well as long term viability of the various spaces within the facility.

2.0 EXISTING FACILITY EVALUATION DESCRIPTION

2.1 FACILITY EVALUATION REPORT OUTLINE

All of the observations and information identified during the site review of each facility is documented in the Facility Evaluation Report. (Refer also to Appendix A.)

The Facility Evaluation Report includes architectural/structural building system descriptions, as well as mechanical and electrical systems and civil observations and/or comments based on discussions with the Crowsnest Pass Operational Personnel. The descriptions identify the condition of each system using a rating from 1 to 6, with respect to the observed condition of the system. The information in the report is the basis for the Executive Summary.

2.2 FACILITY EVALUATION REPORT FORMAT

The Facility Evaluation Report is a summary, in chart form, that identifies the condition of each of the facility and the individual systems and its probable cost to maintain and / or upgrade. The chart contains the following reviewing format:

1. Facility and/or venue Name
2. Chart Rating Definitions:

1 Critical	Unsafe; high risk of injury or critical system failure.
2 Poor	Does not meet requirements; has significant deficiencies.
3 Marginal	Meets minimum requirements; has significant deficiencies.
4 Acceptable	Meets present requirements; has minor deficiencies.
5 Good	Meets all present requirements; no deficiencies.
6 Excellent	As new / state-of-the-art; meets present / foreseeable needs.
FI	Requires further investigation.
N/A	Not applicable.
CU	Currently being upgraded.

Life Expectancy	Less than 5 years for replacement (<5) 5 to 10 years for replacement (5-10) Greater than 10 years for replacement (>10)
Priority	High (H), Medium (M), Low (L)
Life / Safety Code Infringement	Meets code (No); Does not meet code or endangers life (Yes)

** Denotes a definition or category that is not applicable to this Study.

2.3 FACILITY EVALUATION REPORT EXPLANATION

1. A system noted as Further Investigation (FI) denotes a system that information was unavailable, could not be readily determined, and / or could not adequately be reviewed with a visual examination on site.
2. System Priorities have been established as High (H), Medium (M), Low (L).
3. Life / Safety Code Infringement are major infringements to the current Alberta Building Code 2006, which would affect life / safety for users and staff. It is anticipated in existing facilities that some requirements of the current Alberta Building Code may not be met. For the purposes of this Study, it is only those infringements which specifically involve fire and / or life / safety that are identified.
4. Cost to Upgrade identifies costs to each individual system, accurate to approximately \$5,000.00 and this level of accuracy is sufficient for this early stage of costing.
5. Mechanical and Electrical system conditions and costs have been reviewed and provided on a rudimentary basis and with input and needs / performance assessments from operational staff; they are not a detailed review or an engineering based assessment of the systems.

3.0 Albert Stella Memorial Arena REVIEW

3.1 Facility History:

The original Albert Stella Memorial Arena located in the community of Blairmore, in the Municipality of Crowsnest Pass, Alberta was built in 1959 with a Curling Rink addition in 1972. The facility had a kitchen upgrade in 1984 and a hockey change room addition in 1991. The Facility is currently being used as an indoor soccer pitch in the original hockey ice arena structure and the original curling rink has been converted to a Skateboarding Park, Climbing and Gymnastics Facility.

3.2 Civil (Site) Review:

- .1 The debris around the site requires to be removed and landscaping around the immediate building requires to be regraded to allow positive drainage away from the foundation. The present site grading is causing moisture to collect round the foundation and could be compromising the structural foundations. The paved surface for parking and driving access to arena has deteriorated and requires repair and resurfacing. The pavement at the main entrance of the building does not appear to provide sufficient slope for spring runoff. At time of paving repairs a survey should be provided to insure the drainage and water management is adequate. The gravel fire lane access provided around the buildings requires regrading for proper drainage. A swale should be created around the outside of the gravel lane to control the spring run-off from the adjacent mountain. (Refer to Photos C1, C2, C3 and C4)

3.3 Architectural Review:

- .1 Building Envelope:

The exterior envelope materials of the building for this facility are primarily metal ribbed roofing and siding, load bearing concrete block, stucco, and painted wood fascia. All finishes to the facility are in critical condition and require complete replacement. (Refer to Photos A1, A2, A3, A4, and A5)

There is a small area of low sloped roof over the mechanical room which has a membrane roofing over an insulated wood structure, this roof has been leaking and some temporary patching has been completed without proper lapping of flashings. The roof has extensive moisture trapped inside the cavity and mould is present. This area requires immediate attention to remove the mould and the

entire roof structure must be replaced. Further investigation is required to review the extent of the damage and mould and provide direction for proper removal. (Refer to Photos A6, A7, and A8)

The main arena Quonset-type wood roof structure is not insulated. The curling rink roof structure where the skateboard and climbing facility is located has a insulated panel system.

Collection of water and control of snow falling from the building is poor. Snow fencing and a gutter system would improve the drainage and mitigate the freeze thaw cycles and foundation deterioration. (Refer to Photos A9, and A10).

The building envelope protection at the base of the wall has seriously deteriorated. Existing materials require removal and replacement with proper membranes and a durable abuse resistant base to protect the building structure from moisture and further structural damage. Soffits and roof materials are damaged and require replacement (Refer to Photos A11, A12, and A13).

The load bearing concrete block walls at the main entrance and change room addition from 1991 is not insulated and the paint is spalling. The walls should be protected with air barrier, insulation and exterior rainscreen material.

The main entrance doors are aluminum storefront and have extensive wear and door hardware is failing. Exit doors around the facility are primarily wood and hollow metal and all have past their life expectancy. All doors, frames and hardware should be replaced.

.2 Interior Finishes:

Finishes within the facility are primarily painted wood material and are very tired and dated. The skate tile flooring is damaged throughout and should be replaced with an appropriate flooring as this facility is not used for ice skating. The main arena/soccer pitch has an indoor/outdoor turf that is extremely worn and should be replaced. There are many tripping hazards through the facility due to uneven flooring and deterioration.

The kitchen and washrooms are considered marginal. Renovated last in 1984. Countertops, some cabinetry require replacement. Floor wall, and ceiling finishes require repair. The t-bar ceilings are damaged and stained and should be replaced. A view into the ceiling space indicated an existing 12 x 12 acoustic ceiling tile on the underside of the floor structure above. These tiles appear to be of an

era of Asbestos ceiling tiles and should be tested for hazardous materials before any work is completed in this area.

The change room addition from 1991 has concrete block walls and steel roof structure. The washroom and shower facilities require tile at the showers and urinals by code. The block walls appear damaged from the moisture in the showers as these are load bearing concrete block and the block is exposed to the exterior without a moisture barrier or insulation protection. Further investigation is required to determine if the block walls at the shower areas have deteriorated structurally. New ceramic floor and wall tile should be provided in the change room washroom areas. (Refer to Photo A-15)

.5 General:

There are many building code infractions in the facility. Storage rooms are not fire separated, the wood floor and supporting structures above the main floor require to be fire rated. The client identified that the indoor skateboard park equipment is not CSA approved and requires replacement. Janitor rooms, Mechanical rooms and Electrical rooms are required to be fire rated and should not be located under exit stairs. All of these building code violations were observed on site and require to be fixed by providing fire rated wall and ceiling separations and fire rated doors. (Refer to Photo A-16)

3.4 Structural

.1 General:

Only basic structural elements were reviewed by Architecture ATB and further investigation should be provided regarding items noted as a concern.

.2 Structural System Descriptions:

The Skateboard Park and Climbing Centre Arena has wood decking over 2 x 10 wood arched joists supported with horizontal purlins. The arched structure extends down to concrete buttresses visible on the exterior. The floor structure appeared to be concrete and is built-up with a sprung floor at the climbing wall and gymnastics area and wood skateboard ramps. In the Soccer Pitch Arena the structure is large glue laminated arched beams that extend down to reinforced concrete buttresses. The wood roof decking appeared to be supported by 2 x 6" wood purlins spanning between the glue

laminated beams. The public lobby area between the 2 arenas is built of wood structure. The Locker room additions is constructed of metal decking on open web steel joists. Mechanical rooms appear to be wood construction. The Zamboni Garage appeared to be metal prefab structure.

.3 General Structural Observations and Recommendations:

The concrete buttress structural foundation support appear to be damaged and should be repaired to maintain the structural integrity of the building. The wood roof structures are showing signs of damage due to water infiltration. The mechanical roof structure has been shored up recently as the structure was failing. The load bearing concrete block supporting the steel roof structure is showing deterioration and requires to be protected from freeze thaw cycles and moisture inside the showers. Further investigation is required to ensure the structural integrity of all structures have not deteriorated. (Refer to Photos S1, S2, and S3)

3.5 Mechanical:

.1 General:

The site review conducted was not a detailed review of the mechanical systems. The operation of the mechanical equipment was a visual review of the installed mechanical systems. As part of the site review, the building staff assisted in outlining deficiencies in the mechanical systems to date.

.2 Mechanical System Summaries:

The mechanical systems serving the Stella Arena complex are noted as one furnace for the central lobby area as well as unit heaters and electric baseboard heaters. There are infrared heaters located in the Soccer Pitch Arena and the change rooms have unit heaters. The skateboard park Arena has several unit heaters. The kitchen has a commercial fume exhaust hood. The arenas have turbine ridge vents.

From the onsite review, it would appear that the mechanical systems are in poor to condition and require extensive upgrading due to Building Code violations as well as Lifecycle Replacements:

- All washroom fixtures require replacement including lavatories, waterclosets, showers and urinals.
- The back flow preventer from the water service into the building is not present.

- The main source of heat in the arenas is the unit heaters and radiant heaters the existing units. They are very old a maintenance issue and inefficient heat source. If the municipality is going to continue to heat this space for winter use this heaters should be replaced with a more efficient heat source.
- The fire extinguishers require replacement.
- The exhaust fans located on the side of the building are damaged and require replacement.
- The original ice plant has been abandoned and is remaining in place at exterior of the building contributing to drainage issues and is an danger to the public as it remains(Refer to Photos M1 and M2)

.5 Fire Protection:

The fire protection currently installed in the building are wall mounted portable fire extinguishers.

3.6 Electrical:

.1 General:

The building evaluation specifically related to the electrical installation and systems involved a visual inspection and discussions with the Facility Operators. Only basic electrical elements were reviewed by Architecture ATB and further investigation should be provided regarding items noted as a concern.

.2 Building Concerns:

- Electrical panels are located in a room used for storage as well where there are extensive water leaks.
- Residential wiring is used through the building and in many cases there are exposed unprotected wiring inside the building.
- Electrical outlet boxes and switches are without face plates.
- Lighting fixtures are damaged and required replacement
- Emergency lighting requires repair and replacement. Exit lighting was not operating properly and requires repair
- Exterior lighting fixtures require repair or replacement.

4.0 APPENDIX A

Costing Report

PROJECT NAME: Crowsnest Pass Albert Stella Arena

CHART RATING DEFINITIONS:

Existing Facility Evaluation

- (1) Critical: Unsafe, high risk of injury or critical system failure.
- (2) Poor: Does not meet requirements, has significant deficiencies. May have high operating / maintenance costs.
- (3) Marginal: Meets minimum requirements, has significant deficiencies. May have above average operating maintenance costs.
- (4) Acceptable: Meets present requirements, minor deficiencies. Average operating / maintenance costs.
- (5) Good: Meets all present requirements. No deficiencies noted.
- (6) Excellent: As new / state-of-the-art, meets present and foreseeable requirements.
- (FI) Requires further investigation
- (N/A) Not applicable
- (CU) Currently being upgraded

Life Expectancy: Less than 5 years for replacement (<5); 5 to 10 years (5-10); greater than 10 years (>10)

Priority: High (H); Medium (M); Low (L)

Future Expansion: Can be expanded (Yes); No capacity for expansion (No)

Life / Safety Code Infringement: Meets code (No); Does not meet code or endangers life (Yes)

Building Planning Strategies

- (a) Location Strategy: Is the building located strategically to capture market.
- (b) Reinvestment Strategy: Minor upgrades to the building required to maintain facility.
- (c) Revitalize Strategy: Renovations and additions that are required to meet current standards for facilities.
- (d) Build New Strategy: Due to the current facility conditions, recommendation is to rebuild facility.

BUILDING:	Alberta Stella Memorial Arena
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ARCHITECTURAL / STRUCTURAL

Component Reference	Rating (1-6)	FI FI	Life Expectancy (<5, 5-10, >10)	Priority (H, M, L)	Life Safety Code Infringe- No / Yes	Cost to Upgrade (+/- \$5,000)
1 SITE						
Site regrading for drainage	2	No	<5	H	No	\$ 15,000.00
Repair paving and improve slopes	2	No	<5	H	No	\$ 175,000.00
Provide swale and gravel fire lane	2	No	<5	H	No	\$ 35,000.00
SUBTOTAL						\$ 225,000.00
2 BUILDING ENVELOPE						
2.1 Roofing						
Fascia and re-roofing, snow guard	2	Yes	<5	H	No	\$ 625,000.00
Insulate roof soccer arena	2	No	<5	M	No	\$ 55,000.00
Demolish ice plant room (mould)	1	No	<5	H	Yes	\$ 25,000.00
SUBTOTAL						\$ 705,000.00
2.2 Walls						
Remove & provide new cladding	2	No	<5	H	No	\$ 315,000.00
Masonry locker room walls	1	Yes	<5	H	No	\$ 260,000.00
SUBTOTAL						\$ 575,000.00
2.3 Exterior Windows						
Storefront aluminum frames	3	No	<5	M	No	\$ 20,000.00
SUBTOTAL						\$ 20,000.00
2.4 Exterior Doors						
Insulated metal doors	2	No	<5	M	No	\$ 50,000.00
SUBTOTAL						\$ 50,000.00

BUILDING:

Alberta Stella Memorial Arena

ARCHITECTURAL / STRUCTURAL

Component Reference	Rating (1-6)	FI FI	Life Expectancy (<5, 5-10, >10)	Priority (H, M, L)	Life Safety Code Infringe- No / Yes	Cost to Upgrade (+/- \$5,000)
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3 INTERIOR FINISHES**3.1 Flooring**

Soccer turf and sports floor

3	No	<5	M	No	\$	150,000.00
SUBTOTAL						\$ 150,000.00

3.2 Interior Modernization

Lobby & lounge areas

Locker rooms

3	No	<5	M	No	\$	125,000.00
3	No	<5	M	No	\$	80,000.00
SUBTOTAL						\$ 205,000.00

3.4 Interior Windows

Sports viewing panels

4	No	5 - 10	L	No	\$	30,000.00
SUBTOTAL						\$ 30,000.00

3.5 Interior Doors

Hollow metal rated doors

1	No	<5	H	Yes	\$	45,000.00
SUBTOTAL						\$ 45,000.00

3.7 General

Fire ratings and firestopping

Skate board park equipment

Test hazmat materials

1	No	<5	H	Yes	\$	40,000.00
1	Yes	<5	H	Yes	\$	250,000.00
1	Yes	<5	H	Yes	\$	10,000.00
SUBTOTAL						\$ 300,000.00

4 MECHANICAL**4.1 Mechanical**

Complete Modernization

1	Yes	<5	H	Yes	\$	1,260,000.00
SUBTOTAL						\$ 1,260,000.00

5 ELECTRICAL**5.1 Electrical**

Complete Modernization

1	Yes	<5	H	Yes	\$	900,000.00
SUBTOTAL						\$ 900,000.00

TOTAL \$ 4,465,000.00

5.0 APPENDIX B

Photographs



C1- Regrading is required around the building to provide proper drainage



C2- Remove debris and materials from around the building to improve drainage.



C3 - Paving requires to be replaced and regrading



C4 - Fire lane access requires regrading and a swale to keep spring runoff from Mountain away from the building foundation



A1 exterior wall and roof envelope requires replacement



A2 exterior wall requires replacement



A3/S1 structural buttress supports are damaged



A4- Envelope deficiencies



A5- soffit deficiencies



A6- Improper roof and wall flashing are allowing water infiltration



A7 - Roof taking on moisture



A8 - Roof requires removal and repair



A9 - snow fence and eavestroughing required control water and snow



A10- Eavestroughing required control water and snow



A11- Load bearing block wall damage



A12- Indoor soccer pitch turf



A13and 14 - Indoor skate tile is worn and requires replacement



A15 - Change room shower floor tile and concrete block walls are showing damage from moisture infiltration to loadbearing block



A16 - Fire rating for storage room and electrical room walls are not provided



S2 - Shoring of failed roof due to moisture intake and subsequent presences of mould.



S3 - Deterioration of concrete block exposed to freeze thaw cycles and excessive moisture from locker room showers.



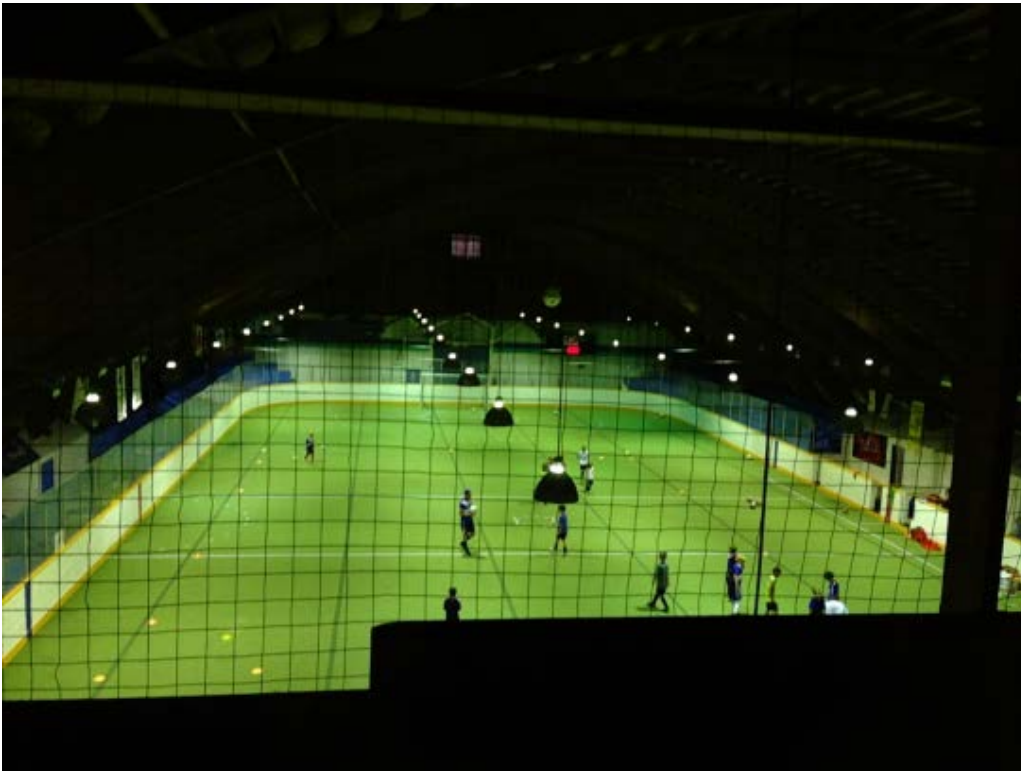
M1 - Ice plant system require to be removed



M2 - Original Ice plant system require to be removed.



E1 - Live wires are accessible to the roof access



E2- existing lighting levels are very low and fixtures require replacement.