Property Condition Assessment & Capital Planning

Old Forest Arena
6276 Townsend Line,
Forest, Ontario

Prepared for:

Municipality of Lambton Shores
7883 Amtelecom Parkway
Forest, Ontario
N0N 1J0

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1 Introduction

1.1 Terms of Reference

IRC Building Sciences Group (IRC) was authorized by Municipality of Lambton Shores to perform a Property Condition Assessment & Capital Planning for Old Forest Arena property located at 6276 Townsend Line in Forest, Ontario. The property was constructed circa 1950, with a building footprint of approximately 34,500 sq.ft. Townsend Line is in front of the main entrance on the south elevation of the building. The original portion of the building which consists of the arena, electrical room and field house was constructed in 1950s while the front (community centre) was added in 1961. The west portion appears to have been added later (i.e., circa 1980).

The purpose of the assessment was to evaluate the condition of the primary building components, complete with recommendations for repair and/or replacements within the next 10-year period.

1.2 Scope of Work

The work was performed in general accordance with IRC proposal LO11611P dated May 17, 2021 and Municipality of Lambton Shores request for proposal. This work included:

- Review of all drawings and documentation made available to IRC for review.
- Performance of a site review of the buildings' primary components to evaluate the physical condition and standard of components.
- Preparation of Property Condition Assessment report noting general observations and component conditions, together with recommendations for future repair options and associated budgetary costing.
- Develop a 10-year cash flow projection, listing each of the identified components that will require repair, retrofit or replacement.

1.3 Description

General Description	
Foundation & Exterior Wall Components	The building has been constructed with concrete slab-on-grade (i.e., no basement level). The superstructure of the arena consists of concrete block masonry columns supporting a clear span wood frame (i.e., wood trusses and decking) roof structure. The superstructure of the community hall consists of loadbearing concrete block walls and columns supporting open web steel joists and a wood roof decking. The superstructure of the northwest section consists of loadbearing concrete block walls and columns supporting open web steel joists and a metal roof decking. The exterior wall assembly consists predominantly of painted concrete block masonry, with areas of brick masonry and split faced precast concrete panels concrete on the south as well as areas of vertical prefinished metal siding on the upper arena walls.
Roof Components	The building has a multi-level roof system. The roof assembly on the main arena consists of a sloped metal roof system installed atop a sloped wood roof decking. The roof on the lower south, and east portions are near flat. The near flat roof systems consist of Built-Up asphalt Roof (BUR) system installed atop wood decking. A smaller near-flat roof on the northwest portion of the building is protected by single-ply Thermoplastic Polyolefin (TPO) membrane installed atop steel decking. Drainage of the sloped roof systems is provided by perimeter eavestroughs and downspouts that drain on to the flat roofs. Flat roofs are drained via internal roof drains onto the grade level.
Windows & Doors	The windows are fixed and operable (i.e., horizontally sliding) Single Glazed (SG) units set within wood frames in punched window openings. The main entrance doors are paint metal doors with Georgian Wire Glass (GWG) inserts with similar doors at the vestibule. The main entrance doors are located on the south elevation. Emergency exit and secondary doors consist of hollow metal doors and are located on the north, southeast and northwest elevations. There is a large metal overhead door on the northwest elevation.
Electrical Systems	600 Amp, 115/230V 3 Phase, 4-wire main distribution with Taylor Electric main disconnect switch.
Mechanical Systems	A natural gas-fired, hot water heater located in the boiler room. The heating boiler was manufactured by Robert Bell Ind., circa 1983 with a nominal input heating capacity of 1,048,000 British Thermal Units per Hour (BTUH).

General Description			
	5 Rooftop packaged natural gas fired Heating and electrically cooled Heating, Ventilation and Air Conditioning (HVAC) units. Based on the review of data plates the HVAC units were manufactured by 'Carrier' in 1997 (i.e., ~ 24 years old), with input heating capacity of 115,000 BTUH each. Domestic Hot Water (DHW) is provided by a natural gas fired heater tank. The DHW heater was manufactured in 1995 (~ 26 years old) by A.O. Smith with an input heating capacity of 120,000 BTUH and storage capacity of 75 U.S. Gallons.		
Fire & Life Safety	Fire Alarm Panel consists of a single stage "Mircom" Panel, located within the electrical room. Fire alarm panel is annually inspected by HSE (an independent contractor) and was last inspected in September 2020.		
Passenger Elevator	No	**Sprinklered**	No
Site Components	Asphalt paving and parking lots, concrete walkways, perimeter fences, a baseball diamond, and landscaped areas.		

Photographs

South Elevation

West Elevation

East Elevation

Northeast Elevation

2 Methodology

2.1 General

A survey of the building was conducted on June 16, 2021 by IRC staff. Observations of the exterior wall assemblies and roofs were made from the ground and roof levels.

This report was prepared based on the findings of the visual assessment and includes:

- evaluations of the building components reviewed
- recommendations for repairs and replacement
- budget estimates, for all rehabilitation work, and
- photographs of typical deficiencies.

2.2 Review Process

The site assessment included for a general visual review of the exterior and interior components, all mechanical and electrical installations and the site components. The review process included:

- Review of the entire building envelope
- A walk around review of roofs where rooftop access is available
- All mechanical and electrical equipment and components
- Review of all site exterior common elements.

2.3 Limitations of Study

Only the specific information or locations noted in the report have been reviewed. Although every reasonable effort was taken to identify defects, latent and hidden defects may affect the accuracy of this report. No physical or destructive testing and no design calculations have been performed unless indicated elsewhere in this report.

2.4 Code Compliance

During the visual reviews of the buildings and properties, it has been generally determined, “in a global sense”, that compliance with the current laws and regulations governing its operations are correct unless specifically noted. Comments provided are detailed as to the nature of the non-conformance. A full code compliance review was not required as part of the Scope of Work.

2.5 Documentation Provided to IRC

Construction Drawings

- Architectural, Structural, Mechanical and Electrical drawings were available to IRC for review. Drawings were stamped by William E. Andrews Architect of record and dated 1961. The drawings were prepared for construction of the Community Hall on south portion of the building.

2.6 Condition Ratings

The following definitions have been used in the text to describe the condition of each component reviewed:

Good Condition:	No deficiencies or concerns noted. No capital expenditure is anticipated within next 10-years.
Good / Fair Condition:	Reasonable condition as whole; minor deficiencies noted. No capital expenditure is anticipated within next 10-years.
Fair Condition:	Reasonable condition as whole; deterioration and/or damage noted. Capital expenditure is anticipated within 5 – 10 years.
Fair / Poor Condition:	Deterioration and/or damage noted; component is nearing end of service life. Capital expenditure is recommended in 2 – 5 years.
Poor Condition:	Deterioration and/or damage noted; component at end of service life. Capital expenditure is recommended in 0 – 2 years.
Very Poor	Immediate action is recommended to repair or improve the condition and further investigation is recommended.
n/a	Component does not currently exist and installation is recommended for building functionality or as a cost-effective upgrade.

2.7 Priority Rating

To assess the priorities of the **short-term** repairs/replacements required **within the next 5 years** for the various components at each property, the following ratings from "A" to "E" have been used:

Priority A – Health & Safety

Hazardous conditions which cannot be deferred, and which could lead to loss of life or critical or extremely severe injury.

Guideline:

This priority is for those conditions which are extremely hazardous and which, if not corrected, could lead to critical injury or loss of life. The required scope of work will generally be localized and normally include only a portion of a particular building element or building system.

Priority B – Structural Integrity

Conditions that lead to the deterioration of structural elements of a property must be investigated and corrected if necessary. Failure to do so may lead to unsafe, life threatening conditions and will eventually render the building structurally unsound and physically obsolete; incapable of performing the task it was designed to do.

Guideline:

This priority is to be assigned to the rehabilitation of structural building elements which have deteriorated to such an extent that they are no longer structurally sound and are not capable of performing their intended task. Examples such as cracked columns, severe spalling or cracked shear walls, failing shelf angles, corroded structural steel supporting members and decaying wood support members are characteristic of the priority.

Priority C – Code Requirement

All buildings and building systems must be upgraded so that they comply with revision to existing legislation or to the requirements of newly adopted legislation.

Guideline:

This priority is to be assigned to work that is required to ensure that buildings comply with new requirements brought about by changes to applicable existing legislation, such as the Fire Code, or newly adopted legislation. Building elements that have deteriorated to an extent that they no longer comply with existing codes are not assigned this priority.

Priority D – Building Functionality

Replacement required for building components which have a direct and significant impact on the building or operation of the building as a whole – generally limited to the building structure and envelope as well as the primary mechanical and electrical systems. These building components and systems must be maintained in order to protect the value and operational viability of the asset. This work is necessary in order to prevent the building from becoming physically or functionally obsolete.

Guideline:

Certain building systems must be maintained in order to protect the "value" and operational viability of the asset. Accordingly, work that directly and significantly affects the overall performance of a primary building system, or a major part thereof, is assigned this priority.

Priority E – General Upgrades

Upgrades of components that have surpassed their useful service life, that do not have a direct bearing on the safe operation or functionality of the building, i.e. not building envelope components or primary mechanical and electrical systems. Also includes upgrades with either cost-effective or other initiatives that improve the operational efficiency or marketability of the property and which are considered to have a reasonable payback or add non-tangible value.

Guideline:

General replacement of components that have surpassed their useful life, however, replacement may be deferred without affecting the safe operation and functionality of the property as a whole. Examples include carpets, appliances, asphalt paving and concrete components. This rating is also assigned to components where operating efficiencies and initiatives, and upgrades with a perceived payback may be achieved. Typically, energy management, water conservation programs; and/or upgrades to improve non-tangibles such as 'curb appeal', aesthetic appearance and marketability of the commercial units and buildings as a whole.

Priority – None

This priority is assigned to components where no significant repairs or replacement is expected within the next 5-year period, or where the component has no significant bearing on the operation or function of the property as a whole.

Guideline:

A projected priority rating of a component beyond a 5-year period cannot be accurately assessed due to the many variables that may affect the condition beyond this period. Variables such as regular maintenance, weather deterioration, general wear and tear, new technologies, changing code requirements etc. Priority ratings should be re-assessed every 5-year period when updates to the Property Condition Assessment are recommended.

Components that are considered to have no significant bearing on the operation or function of the property as a whole, such as furnishings, office equipment, maintenance/storage sheds, benches, general site signage etc. may be assigned this rating.

2.8 Expenditure Type

Recommended

Costs accounted for in the Table of Expenditures account for the quantifiable cost of replacement recommended within the foreseeable future, i.e., next 5-years, based on the condition assessment and the industry norm for typical service life between replacement/upgrades/restoration.

Projected

Costs accounted for in the Table of Expenditures account for the quantifiable cost of replacement or an estimated allowance for components where the replacement date cannot be accurately assessed, i.e., 5-years and beyond, based on the condition assessment and the industry norm for typical service life between replacement/upgrades/restoration.

Allowance

A cash allowance is accounted for in the Table of Expenditures as the costs cannot be accurately measured either due to the work being non-cyclical in repair or replacement, or that the 'quantity' to account for cannot be calculated as a single entity. Examples include partial restoration of concrete components and foundation leak repairs.

Discretionary

Costs are accounted for in the Table of Expenditures for upgrades/replacement of components that are considered to be cost effective or worthwhile; however, are not necessary for the continued operation of the building as it currently is. Costs may be omitted or discounted from budgets if deemed not necessary. Examples include application of concrete balcony waterproofing and installation of roof anchors, upgrade of attic insulation and replacement of older 'standard' flush toilets.

Operating

Costs are not accounted for in the Table of Expenditures. Expenditures that are considered to be a small capital value under $3,000 and that may be performed by maintenance staff or by contractors by under general work order. Examples include repair of damaged insect screens and singular replacements such as exterior doors that are not part of the planned expenditures.

Maintenance

Costs are not accounted for in the Table of Expenditures. Minor costs for the day-to-day maintenance of the building that may be completed by maintenance staff. Examples include replacement of bathtub sealants and adjustment of doors.

2.9 Mechanical, Electrical & Fire System Review

The estimated service life and basic remaining life of mechanical and electrical systems may be highly variable due to the quality of equipment, local environment and installation as well as the level of maintenance performed during the life of the equipment.

The remaining life expectancy for each component or system is based upon the industry norms for the equipment; including an assessment of any maintenance information provided by the Client. By using this approach, monies required for replacement or upgrades are identified at the expected time of replacement. Predicting the exact replacement year is very difficult, and actual replacement may be based upon current technologies, energy efficiencies, and availability of replacement parts and frequency of repairs rather than failure of the component.

The review process for this Property Condition Assessment does not include for a design review for the adequacy and function of the system for the particular use at this property. It is assumed that the design was to the standards of the day of installation and that the system is considered to meet the needs of the Client unless identified as deficient during interviews. See specific system Observations for details.

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3 Executive Summary

3.1 Prioritization Summary

Priority A – Health & Safety

- Due to the age of the building some interior finishes may contain some hazardous materials (for instance, lead, mercury, asbestos, PCBs etc.). IRC recommends that all the finishes be investigated prior to commencement of any remedial work.

Priority B – Structural Integrity

- Visual exterior review of the support columns at the arena exhibited signs of vertical cracks through the concrete block masonry. IRC recommends that these columns be reviewed by a structural engineer prior to repair work (see section 1010.00) of this report.

Priority C – Code Requirements

- There are no significant Code Violations, as most items are grandfathered from current code requirements. However, some stairs and guards may require updating to meet the current requirements of the Ontario Building Code standards, once the repair work is started.

Priority D – Building Functionality

- Evidence of active leaks was noted within the interior of the community hall and other areas of the building. Roof deck may require repairs prior to roof covering replacement.
- The brick masonry of the exterior walls on the south elevation was noted to be in poor condition. Allowance for repairs has been carried in 2 – 5 years.
- Cracked concrete block masonry and deteriorated mortar joints were noted on the exterior walls. Repair allowance has been carried within the 0 – 2 years.
- Allowance for repainting of exterior walls has been carried within 0 -2 years.
- Sealants (window/door perimeter) caulking were noted in poor condition or completely missing at the joints. Sealants are expected to be replaced with new windows, as such, no costs have been included.
- Allowance to replace windows and emergency exit doors have been carried in 0 – 2 years.
- Main entrance doors were old but functional, replacement is anticipated within 5 – 10 years.
- The Built-Up asphalt Roof (BUR) system on the south roof has surpassed it useful life. Replacement is anticipated within 0 – 2 years.
- Eavestroughs were noted to be missing sections and were leaking. Replacement is anticipated in 0 – 2 years.
- The drop ceiling features with ACT panels were noted to be in poor condition. Several areas of water damage and missing panels were noted within the community hall. IRC recommends that the panels be replaced in conjunction with the roof replacement.
- The DHW heater in the mechanical room was noted in poor condition. Replacement is anticipated within 0 – 2 years. Replacement of associated piping is also recommended.
- The rooftop packaged HVAC units have reached the end of their useful life. Phased replacement is recommended to being in 0 – 2 years.
- The heating boiler along with its distribution system (radiators) were noted to have surpassed their useful life and in poor condition. Replacement allowances have been carried in 0- 2 yeas.
- Asphalt paving and concrete curbs were noted to be in poor condition during the site assessment. Replacement and repairs are anticipated within the 0 – 2 years.
- The light standards and fixtures serving the site were noted to be approaching the end of their useful life. Repairs are anticipated within the term of analysis.

Priority E – General Upgrades

- Interior wall finishes were noted to be in poor condition. Repainting allowance has been carried in 0 – 2 years
- Areas of severely deteriorated flooring were noted within the hallways, locker rooms and washrooms of the central portion. Replacement is anticipated within 0 – 2 years.

Priority E – General Upgrades
- The wood flooring of the community hall was noted in fair condition, replacement is anticipated within 5 – 10 years. - The hockey arena has been decommissioned and was noted to be used as storage. IRC has carried a preliminary allowance for a concrete repairs, clean-up and proper decommissioning of the arena in 0 – 2 years. - Lighting within the common areas and the community hall will need general upgrades in 5 – 10 years. - The kitchen/bathroom fixtures, finishes and appliances were noted to be in good/fair condition. Refurbishment may be required in 10 – 20 years.

3.2 5-Year Summary Table of Projected Expenditures

Below is a summary table of expenditures expected within the next 5-year period. The costs indicated are future value and account for inflation as outlined in *Section 5*.

Assessment and priority rating for each component cannot be accurately rated beyond a period of approximately five (5) years as the level of deterioration and maintenance within a defined period may have significant impact on the assessed rating. It is recommended that the condition assessment be reviewed each year and updated every five (5) years to re-assess condition and deterioration of each component item and meets the planning needs.

		2021	2022	2023	2024	2025
A	Substructure	–	$40,341	–	–	–
B	Shell	$876,055	$76,494	$3,621	$21,501	$3,767
C	Interiors	$111,893	$112,701	–	–	–
D	Services	$79,100	$57,284	$24,336	$24,823	$25,319
E	Equipment & Furnishings	–	–	–	–	–
G	Building Site Work	–	–	–	$374,739	$318,019
Z	Planning, Design, Soft Cost & Other Allowances	$20,905	–	–	–	–
	TOTALS	**$1,196,308**	**$302,160**	**$31,607**	**$427,457**	**$350,903**

Old Forest Arena

6276 Townsend Line, Forest, Ontario

5-Year Projected Expenditures

Note: 2021 refers to the Corporations' Fiscal Year starting January 1, 2021 and ending December 31, 2021

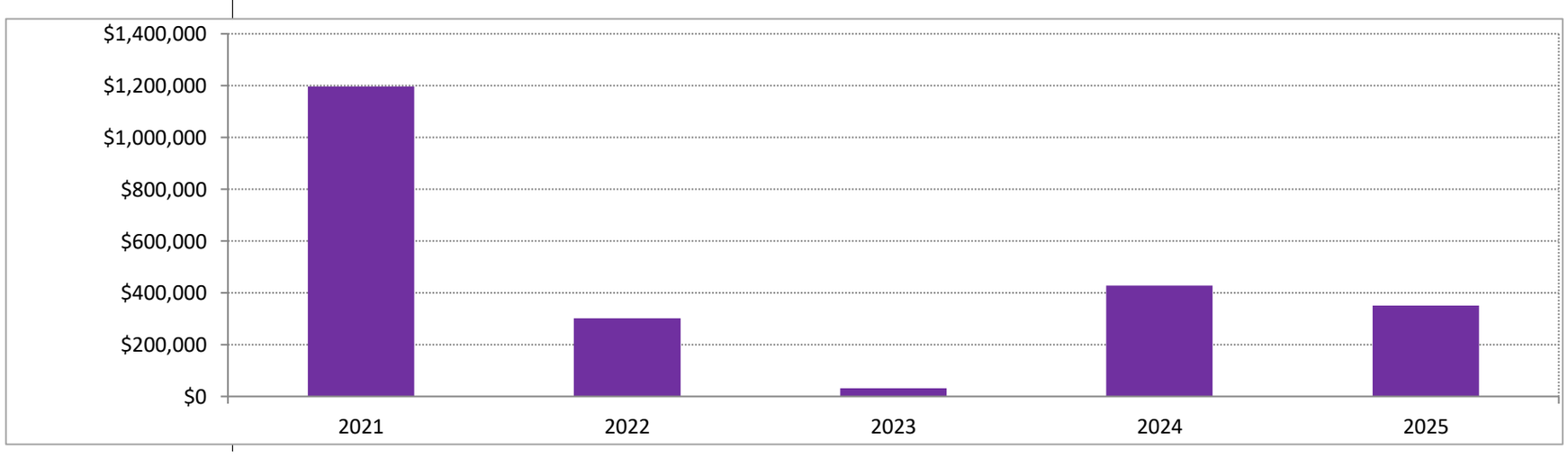
Code	Component	2021	2022	2023	2024	2025
			1	2	3	4
A	**Substructure**					
A1010.00	Foundations & Structure (Footings and slab-on-grade) (*) (*		$40,341			
B	**Shell**					
B1010.00	Superstructure - Support Columns (**)	$254,250				
B1020.00	Superstructure - Roof Construction (*) (**)	$10,000	$31,812			
B2010.01	Exterior Walls - Brick Masonry (*) (**)				$17,808	
B2010.03	Exterior Walls - Concrete Block Masonry (*) (**)	$185,636				
B2010.05	Exterior Walls - Metal Siding (*) (**)					
B2010.12	Exterior Walls - Painting		$30,302			
B2010.13	Exterior Walls - Sealants (*) (**)					
B2020.20	Exterior Windows (**)	$33,900				
B2030.10	Exterior Doors - Main Entrance					
B2030.20	Exterior Doors - Glazed Doors and Emergency Exits		$3,550	$3,621	$3,693	$3,767
B2030.30	Exterior Doors - Overhead Door (*) (**)					
B3010.10	Roof Coverings - Slope Metal Roofing (*) (**)					
B3010.11	Roof Coverings - Low Slope (BUR) (*) (**)	$392,268				
B3010.16	Roof Coverings - Low Slope (TPO) (**)					
B3010.90	Eavestroughs & Downspouts (**)		$8,587			
C	**Interiors**					
C2010.00	Stair Construction		$4,034			
C3010.00	Wall Finishes		$17,289			
C3020.30	Floor Finishes - Carpet, Tile, & VCT		$34,578			
C3020.40	Floor Finishes - Gym (Wood)					
C3020.50	Arena (Clean-up/Repair/Decommissioning)	$111,893				
C3030.00	Ceiling Finishes (ACT)		$56,800			
D	**Services**					
D2020.10	Domestic Water Distribution - Pipes & Fittings		$5,763			
D2020.31	Domestic Water Distribution - Hot Water Heater		$5,187			
D3020.10	HVAC - Packaged Heating and Cooling Systems (*) (**)		$23,859	$24,336	$24,823	$25,319
D3050.60	HVAC - Heating Boiler	$79,100				
D3060.00	HVAC - Hydronic Radiators		$22,476			
D5010.00	Electrical Service & Distribution (*)					
D5020.00	Lighting and Branch Wiring					
E	**Equipment & Furnishings**					
E1090.51	Kitchen - Stove & Range					
E1090.52	Kitchen - Refrigerators					
E2010.21	Fixed Furnishings - Kitchen Upgrade					
E2010.22	Fixed Furnishings - Bathroom Upgrade					
G	**Building Sitework**					
G2020.11	Asphalt Paving (*) (**)				$311,783	$318,019
G2020.21	Concrete Curbs				$8,994	
G2040.40	Site Signage & Monuments					
G3010.00	Water Supply				$23,983	
G3020.00	Sanitary Sewer				$17,987	
G3030.00	Storm Sewer				$11,992	
G4020.00	Common Exterior & Site Lighting					
Z	**Planning, Design, Soft Cost & Other Allowances**					
Z1020.10	Planning - Replacement Reserve Study					
Z1020.41	Hazardous Material Testing	$5,650				
Z1020.43	Structural Ananlysis	$7,910				
Z1020.44	Roof Access and Safety	$7,345				

Note: 2021 refers to the Corporations' Fiscal Year starting January 1, 2021 and ending December 31, 2021

		2021	2022	2023	2024	2025
LINE C	**COMPOUND INFLATION RATE**	1.000000%	1.020000%	1.040400%	1.061208%	1.082432%
LINE D	**EXPENDITURE - FUTURE COST VALUE**	**$1,087,952**	**$286,821**	**$27,957**	**$421,063**	**$347,105**
LINE E	**HST @ 13% (PST @ 8% + GST @ 5%)**	incl.	incl.	incl.	incl.	incl.
LINE L	**TOTAL EXPENDITURE - FUTURE COST VALUE**	**$1,196,308**	**$302,160**	**$31,607**	**$427,457**	**$350,903**

* Engineering Design Fees applied to this component @ 8%

** Project Management Fees applied to this component @ 7%



4 Property Condition Assessment

4.1 A - Substructure

Substructure Component Summary					
Code	**Component**	**Priority Rating**	**Condition Rating**	**Expenditure Recommended**	**Budgetary Cost (2021)**
A1010.00	Foundations & Structure (Footings and slab-on-grade)	D	Poor	0 - 2 Years	$35,000

Observations & Recommendations

A1010.00 **Foundations & Structure** (Footings and slab-on-grade)

- The concrete slab-on-grade in the arena was noted to be in poor condition with areas of cracking and evidence settlement noted throughout.
- It was reported that some exterior doors at the arena do not open and scrape the floor due to settlement.
- The concrete slab-on-grade was only visible at the arena. All other areas were concealed under floor finishes.
- Due to concealed nature of the footings their condition could not be determined.
- A preliminary repair allowance of $35,000 has been carried within the early portion of the term of analysis for the repair of the slab-on-grade. Actual cost will be determined once the floor finishes are demolished.
- Continued review and assessment of the structural components should be completed as part of an annual review and regular Property Condition Assessment.

Photographs

Interior view of the concrete slab-on-grade at the arena.

Deteriorated concrete slab-on-grade at the arena.

End of Substructure Section

4.2 B - Shell

Shell Component Summary					
Code	**Component**	**Priority Rating**	**Condition Rating**	**Expenditure Recommended**	**Budgetary Cost (2021)**
B1010.00	Superstructure - Support Columns	B	Poor	0 - 2 Years	$225,000
B1020.00	Superstructure - Roof Construction	D	Poor	0 - 2 Years	$27,600
B2010.01	Exterior Walls - Brick Masonry	D	Poor / Fair	2 - 5 Years	$14,850
B2010.03	Exterior Walls - Concrete Block Masonry	D	Poor	0 - 2 Years	$164,280
B2010.05	Exterior Walls - Metal Siding	None	Good / Fair	20 + Years	$58,880
B2010.12	Exterior Walls - Painting	D	Poor	0 - 2 Years	$26,290
B2010.13	Exterior Walls - Sealants	D	Poor	10 - 20 Years	$2,800
B2020.20	Exterior Windows	D	Poor	0 - 2 Years	$30,000
B2030.10	Exterior Doors - Main Entrance	D	Fair	5 - 10 Years	$9,000
B2030.20	Exterior Doors - Glazed Doors and Emergency Exits	D	Poor	0 - 2 Years	$15,400
B2030.30	Exterior Doors - Overhead Door	None	Good	20 + Years	$5,000
B3010.10	Roof Coverings - Slope Metal Roofing	D	Good / Fair	20+ Years	$218,170
B3010.11	Roof Coverings - Low Slope (BUR)	D	Poor	0 - 2 Years	$347,140
B3010.16	Roof Coverings - Low Slope (TPO)	None	Good	10 - 20 Years	$36,330
B3010.90	Eavestroughs & Downspouts	D	Poor	0 - 2 Years	$7,450

Observations & Recommendations

B1010.00 Superstructure - Support Columns

- Areas of vertical cracking were noted on the concrete block masonry columns.
- IRC recommends a detailed structural review of the loadbearing structural elements to be completed by a qualified structural engineer prior to any repair work.
- A preliminary repair allowance of $225,000 has been carried within the early portion of the term of analysis for the repair of the support columns. Actual cost will depend on the outcome of detailed investigation.
- Continued review and assessment of the structural components should be completed as part of an annual review and regular Property Condition Assessment.

B1020.00 Superstructure - Roof Construction

- This item accounts for roof structural frame, roof decks, slabs and sheathing.
- This allowance is a contingency to cover partial replacement of roof sheathing and decking members and to be used in conjunction with roof system repairs/replacement (see sections B3010.10-B3010.16).

B2010.01 Exterior Walls - Brick Masonry

- Brick masonry is located on the south, southeast and southwest elevations of the building.
- Cracked and spalled brick masonry units were noted during the review.
- Review of the construction drawings indicated that the brick masonry walls were added to the Building in 1961 (~ 60 years ago).
- Mortar joint deterioration was noted at the junction of the brick and concrete block masonry.
- An area of moisture staining was also noted on the south elevation.
- A repair allowance has been carried within the early portion of the term of analysis. It is noted that this allowance is for the exterior brick only and excludes the brick masonry noted within the interior walls of the room on the southwest portion of the building.

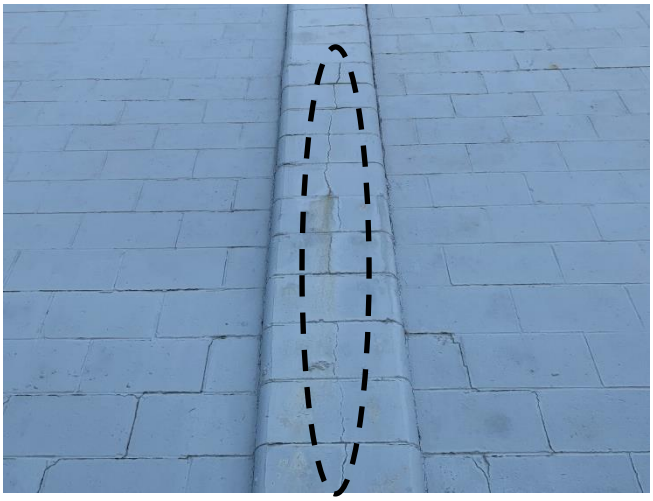
Observations & Recommendations
B2010.03 Exterior Walls - Concrete Block Masonry - This item accounts of the concrete block masonry on the exterior walls. - The concrete block masonry was noted to be in poor condition on the east elevation with cracked masonry units and cracked mortar noted throughout. - Areas of moisture damage were noted on the northwest elevation which appears that this may be related to leaking eavestroughs. It is recommended that all downspouts are reviewed during rainfall to ensure downspouts don't leak onto masonry and direct water away from block masonry. - A budgetary allowance has been allocated for general block masonry repairs.
B2010.05 Exterior Walls - Metal Siding - This item accounts for the vertical metal siding on the upper end walls of the arena. - The siding appeared to be in good condition during the review. - The siding may have been replaced in conjunction with the sloped metal roof. - Assuming that regular general maintenance is performed, no major repairs are anticipated within the term of analysis.
B2010.12 Exterior Walls - Painting - As mentioned, the exterior walls consist of painted concrete block walls. - Paint on the wall was in varying condition with east elevation being in worst condition. - The doors and lintels at the community centre were noted to have surface corrosion and require painting. - Painting renewal contributes to extending the service life of exterior building components, in addition to improving the aesthetics of the property. - Budgetary cost allowance has been allocated for painting of all exterior painted components
B2010.13 Exterior Walls - Sealants - This item accounts for sealants on exterior building components, such as around window and door frames, along metal flashings, around wall penetrations, and along interfaces between different building materials. - The following deficiencies were observed on the existing sealants, where reviewed: • Deteriorated and aged sealants with cracks and splits, • De-bonding of sealants from substrates, • Sealants of multiple ages along one continuous length, • Improper sealant profiles, • Discontinuous / missing sealant. - The doors, windows and flashings are all discussed in the upcoming sections as they have surpassed their useful lives and need replacement. - The sealants will be replaced in conjunction with replacement of the windows and doors. - This allowance is for future replacement of the sealants only and is anticipated to be required after a service life of 12 to 15 years. - Poor sealants may result in air leakage and poor weather seals.
B2020.20 Exterior Windows - This item accounts for the windows of the building. - The windows are wood, and metal framed with single glazed (SG) panels. The windows were noted to have surpassed the end of their useful life and were noted in poor condition. - IRC recommends that the windows be replaced within the early portion of the term of analysis. - Budgetary cost expenditure has been allocated for replacement of all windows.
B2030.10 Exterior Doors - Main Entrance - This item accounts for the replacement of the main entrance doors and vestibule doors on the south elevation of the building. - The doors are hollow metal doors with Georgian Wire Glass Inserts. - Based on the review of the drawings and information gathered on site the doors may have been installed in 1961. - The doors have surpassed their useful life and need replacement. - Budgetary cost expenditure has been allocated for replacement of the main entrance doors.
B2030.20 Exterior Doors - Glazed Doors and Emergency Exits - This item accounts for the replacement of common glazed and hollow metal emergency exit doors at north, east and west elevations.

Observations & Recommendations
- All doors were noted to have surpassed their useful lives and were noted to be in poor condition. - Budgetary cost expenditure has been allocated for replacement of all emergency exit doors within the early portion of the term of analysis.
B2030.30 Exterior Doors - Overhead Door - A painted wood overhead drive-in door is located on the northwest elevation of the building. - The door appeared to be old, however, functional. - Some deterioration was noted on the frames of the door. - The actual age of the door is unknown; however, it visually appeared to have surpassed its useful life. - IRC has carried an allowance to replace the overhead door within 5 – 8 years.
B3010.10 Roof Coverings - Slope Metal Roofing - Sloped metal roof atop the arena was noted to be in fair to good condition. - The roof appears to have been replaced within the last 5 to 8 years. - Assuming that the general regular maintenance is performed, the need for replacement is not anticipated within the early portion of the term of analysis.
B3010.11 Roof Coverings - Low Slope (BUR) - The low-slope (near-flat) Built-Up asphalt Roof (BUR) is located atop the lower south and southwest portions of the building. - Asphalt membrane bleed through and blisters were noted atop BUR system. - Review of the interior areas noted several evidences of leakage. - The BUR system has surpassed its projected useful life and is anticipated to be replaced within the early portion of the term of analysis. - Due to concealed nature of the insulation and substrate material, presence of phenolic insulation could not be confirmed. - There is no access hatch or fixed ladder to the roof. Consideration may be given to installing an access hatch that leads out onto the roof during the next re-roofing project. This will aid with easy access for review by qualified consultants and mechanical contractors. The roof should not be accessed by maintenance staff unless full safety measures are taken. - Review and replacement of the eavestroughs has been accounted for under Eavestroughs & Downspouts. - It is highly recommended that a professional consultant be retained for re-roofing projects to ensure correct detailing and quality assurance.
B3010.16 Roof Coverings - Low Slope (TPO) - The roof on the upper east portion of the building consists of a single-ply Thermoplastic Polyolefin (TPO) membrane. - The TPO membrane appears to have been installed in 2017. - Ponding water was noted near a roof drain. - The degree of tenting and seam problems and ponding is considered moderate. - The projected useful life of a typical TPO membrane is between 10 to 15 years. IRC anticipates and has carried a replacement allowance within 10 years.
B3010.90 Eavestroughs & Downspouts - Drainage of the sloped roofs is provided by perimeter steel eavestroughs and downpipes that drain onto lower roofs on the west and connected to the municipal sewer system. - Drainage of the low-slope roofs is provided internal roof drains. - The eavestroughs and downspouts appear to be original to the construction of the building. - The eavestroughs were noted to be leaking and exhibiting corrosion. - Areas of eavestroughs with missing sections were noted throughout. - Budgetary costs account for full replacement within the early portion of the term of analysis.

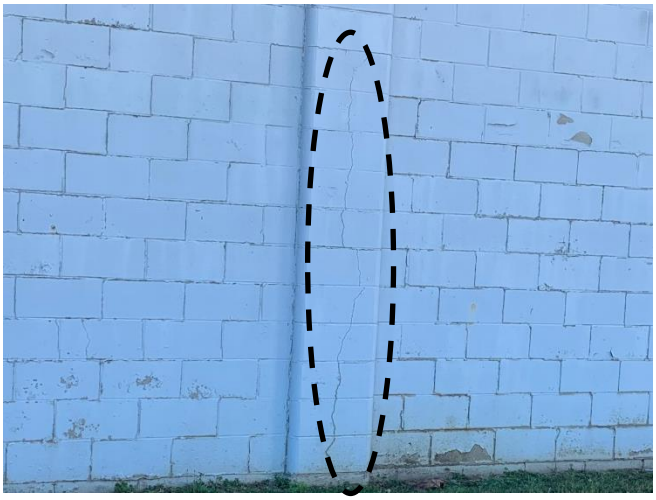
Photographs

Interior view of the structural elements at the arena.

The roof support trusses were in fair to good condition.



Vertical cracks on the exterior face of a support column.



Vertical cracks on the exterior face of a support column.

Deteriorated brick masonry units noted on the south elevation.

Deteriorated concrete blocks and mortar joints noted.

Photographs

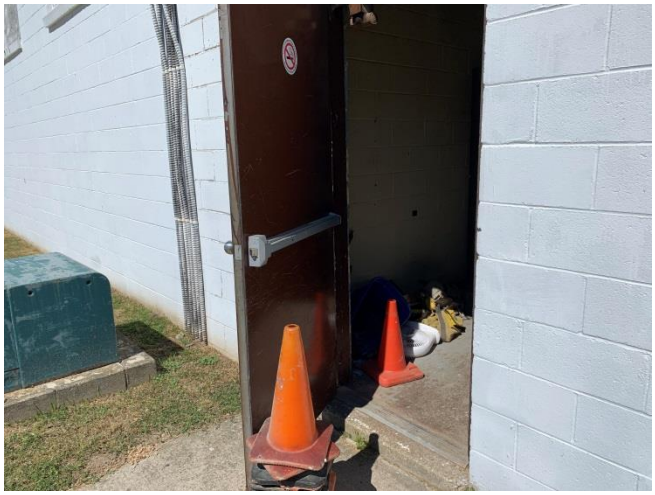
Mortar joint deterioration at the junction brick concrete blcok masonry.

General view of the metal siding on the upper portion of the south elevation.

Interior view of a deteriorated window of the building.

Exterior view of the windows on the west elevation of the building.

View of the main entrance doors on the south elevation.



Emergency exit doors were noted to be old.

Photographs

Wood overhead drive-in door on the northwest elevation was noted to be in poor condition.

The sloped metal roof was noted to be in fair to good condition.

Note: Missing section of eavestrough was noted.

General view of the BUR system on the south roof.

A repair patch on the BUR system.

Leak staining noted on the ceiling beneath the BUR system.

General view of the TPO membrane on the east roof.

End of Shell Section

4.3 C - Interiors

Interiors Component Summary

Code	Component	Priority Rating	Condition Rating	Expenditure Recommended	Budgetary Cost (2021)
C2010.00	Stair Construction	C	Poor	0 - 2 Years	$3,500
C3010.00	Wall Finishes	E	Poor	0 - 2 Years	$15,000
C3020.30	Floor Finishes - Carpet, Tile, & VCT	E	Poor	0 - 2 Years	$30,000
C3020.40	Floor Finishes - Gym (Wood)	E	Fair	5 - 10 Years	$35,330
C3020.50	Arena (Clean-up/Repair/Decommissioning)	E	Poor	0 - 2 Years	$99,020
C3030.00	Ceiling Finishes (ACT)	D	Poor	0 - 2 Years	$49,280

Observations & Recommendations

C2010.00 Stair Construction

- This item accounts for replacement of interior stair construction, including stair treads, risers, and landings, handrails and balustrades which provide access to the mezzanine level pool room and other stairs in the community hall of the building.
- The stairs were noted to be functional with age related wear and tears.
- Once interior repairs/renovations are undertaken, some components of the stairs (surfaces, handrails and landings) will be required to be updated as per current requirements of the Ontario Building Code.
- Budgetary cost expenditure has been allocated for repairs of all stairs and to bring them to OBC compliance.

C3010.00 Wall Finishes

- This item accounts for replacement of interior wall finishes.
- The walls are predominantly painted and were noted to be in poor condition.
- IRC recommends that painting of the walls be completed after the repair of the exterior walls as majority of the deteriorations are attributed to leaks from the exterior building envelope components.
- Budgetary cost expenditure has been allocated for repainting of all walls.
- IRC also notes that this allowance is preliminary as the actual finish depends of the level of finish which is determined by the future use of the space. Cost of upgrades has not been included.

C3020.30 Floor Finishes - Carpet, Tile, & VCT

- This item accounts for replacement of common flooring such as:
  - Carpet within the south rooms and pool room,
  - VCT in the corridors and washrooms
  - Ceramic tiling in washrooms of the community hall.
- The floor finishes were noted to be in poor condition.
- All above-mentioned finishes were noted to have surpassed their useful life.
- Due to the age of the finishes, presence of some hazardous materials is suspected. IRC recommends that a designated substance survey be conducted prior to any replacement work.
- The allowance carried here is based on like-with-like replacement method. Actual cost will depend on the level of finish chosen which will depend on the future use of the building.

C3020.40 Floor Finishes - Gym (Wood)

- Flooring within the community hall was noted to be in functional condition despite a dated look.
- Replacement of the gym flooring is anticipated to be required within 5 to 10 years.

C3020.50 Arena (Clean-up/Repair/Decommissioning)

- The arena is currently used a storage area.
- As per information provided, the municipality has no plans to re-open the hockey arena, and the space will be used for storage/warehousing purposes only.

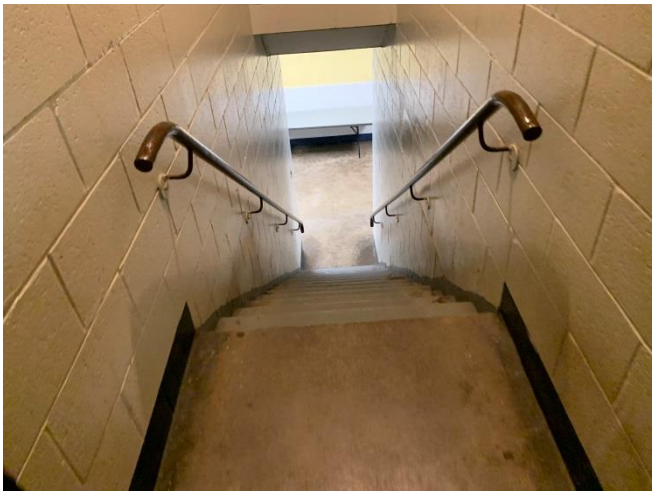
Observations & Recommendations

- As per municiaplity's request, the allowance carried here is for the repair of the concrete surface, polishing, and clean-up (i.e., proper conversion of the arena into a warehous) rather than refurbishment of the hockey arena.
- Alternatively, the arena space can be refurbished and re-opened as a new hockey arena with refurbishement work consisting of the following items:
    - Insulation of walls and celling
    - Installation of an efficient refrigeration plant
    - Mechanical ventilation
    - Air de-humidification
    - Proper lighting
    - Seating areas, and
    - Locker rooms and washrooms
- The estimated cost of the renovation and refurbishment of the arena will be approximately $1.9M to $2 M in 2021 dollars.

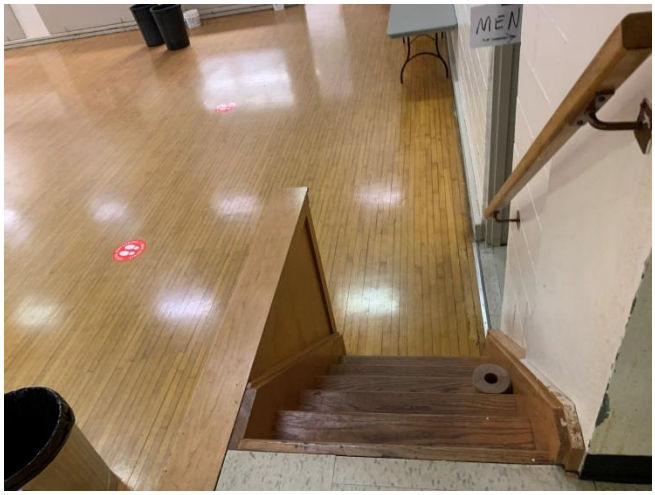
C3030.00 Ceiling Finishes (ACT)

- Acoustic Ceiling Tiles (ACT) were noted at the community hall, corridors and rooms of the south portion.
- The ACT was noted to be in poor condition with areas of moisture damage and missing tile noted throughout.
- This item accounts for replacement of acoustic ceiling tiles and panel. The replacement anticipated to follow roof replacement, as the damages are attributed to roof leaks.

Photographs

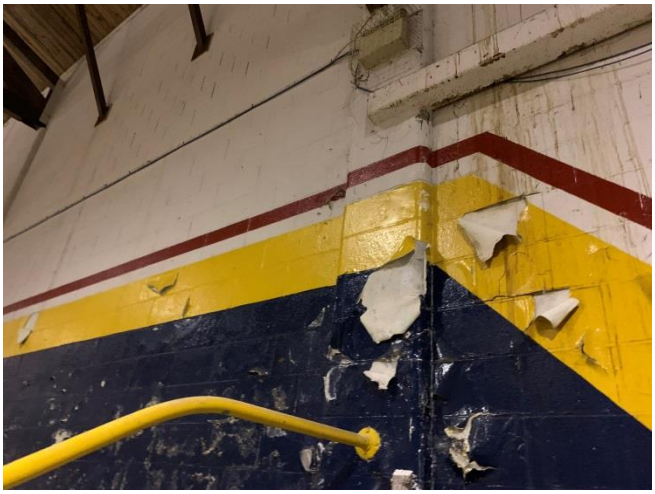


Stairs to the mezzanine level were noted in poor condition.



Stage stairs at the community hall were noted in functional condition.

Photographs



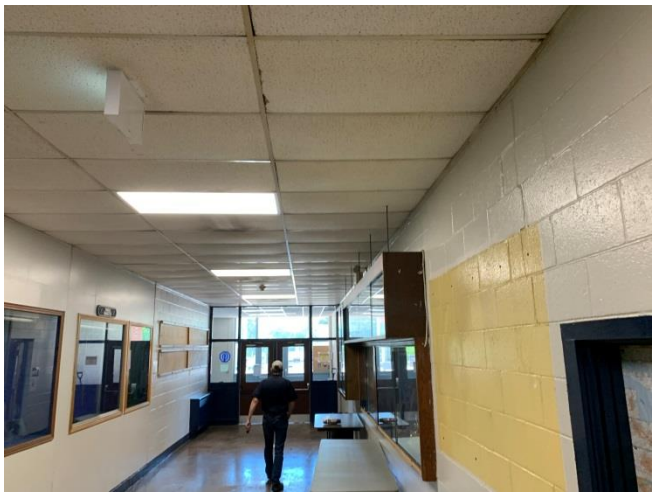
Interior walls were noted to be in need of painting.

Deteriorated paint on the inteiror walls of a locker room.

Damaged flooring within a storage room on the south portion of the building.

Community hall flooring was noted in fair condition.

Interior of the arena currently used as a storage area.



Ceilign tiles at the main entrance corrdor were noted in poor condition.

End of Interiors Section

4.4 D - Services

Services Component Summary					
Code	**Component**	**Priority Rating**	**Condition Rating**	**Expenditure Recommended**	**Budgetary Cost (2021)**
D2020.10	Domestic Water Distribution - Pipes & Fittings	D	Poor	0 - 2 Years	$5,000
D2020.31	Domestic Water Distribution - Hot Water Heater	D	Poor	0 - 2 Years	$4,500
D3020.10	HVAC - Packaged Heating and Cooling Systems	D	Poor	0 - 2 Years	$103,500
D3050.60	HVAC - Heating Boiler	D	Poor	0 - 2 Years	$70,000
D3060.00	HVAC - Hydronic Radiators	D	Poor	0 - 2 Years	$19,500
D5010.00	Electrical Service & Distribution	None	Good / Fair	10 - 20 Years	$11,250
D5020.00	Lighting and Branch Wiring	E	Fair	5 - 10 Years	$65,000

Observations & Recommendations

D2020.10 Domestic Water Distribution - Pipes & Fittings

- The copper piping was uninsulated as visible in the boiler room.
- IRC was not informed of any leaks and/or corroded valves.
- A contingency allowance is accounted for in the Table of Expenditures to account for potential upgrades and major repairs to the plumbing piping and related components.
- It is not expected that all piping will need to be replaced at the same time, therefore costs allocated in the tables account for 50% replacement.

D2020.31 Domestic Water Distribution - Hot Water Heater

- This item accounts for the hot water heater / hot water storage tanks located in the boiler room.
- A second DHW heater was noted within the kitchen of the community hall, which reportedly is a rental unit form ‘Reliance Gas Company’ and is therefore excluded within this assessment.
- The heater tank in the boiler room was noted to have surpassed it useful life.
- Budgetary cost expenditure has been allocated for replacement of the hot water heater in the boiler room.

D3020.10 HVAC - Packaged Heating and Cooling Systems

- This item accounts for the five rooftop packaged HVAC units.
- Based on the review of the data plates, the units were replaced in 1997 (i.e., 24 years old) and have therefore, reached the end of their useful life.
- IRC has carried a phased allowance for replacement of the rooftop units beginning in 2022.

D3050.60 HVAC - Heating Boiler

- This item accounts for the heating boiler located in the boiler room of the building
- The heating boiler was installed in 1983 and provides heat to the arena and rooms on the east, mezzanine and central portions of the building via hydronic baseboard heaters.
- The boiler has surpassed it useful life and was noted to be in poor condition.
- Budgetary cost expenditure has been allocated for replacement of the heating boiler within the early portion of the term of analysis.

D3060.00 HVAC - Hydronic Radiators

- This item accounts for controls and instrumentation for heating distribution systems within the central area of the building.
- Budgetary cost expenditure has been allocated for replacement of all hydronic radiators within the corridors, lockers and hallways.

D5010.00 Electrical Service & Distribution

Observations & Recommendations
- This item accounts for electrical power and distribution servicing the building, including the main distribution, panel and breakers. - The main distribution includes a 600A, 115/230V 3 Phase, 4-wire Taylor Electric switchgear. - Budgetary cost expenditure has been allocated for replacement of components of the distribution system as needed.
D5020.00 Lighting and Branch Wiring - This item accounts for lighting renovation the within the community hall and hallways of the building. - Lighting within the arena has been included in the arena renovations. - All storage and utility rooms are controlled by manual light switches. Consider installing occupancy motion sensor switches in all storage and utility rooms, or rooms that are infrequently used such as public washrooms. - Replace existing T12 fluorescent lamps with higher efficiency T8 lamps and electronic ballasts for energy savings. It is expected that the manufacture of florescent tubes for T12 fixtures will be phased out in the future hence new replacements will be more difficult to obtain. - Budgetary cost expenditure has been allocated for replacement of all lights within the next 5 to 8 years.

Photographs

Rental DHW heater tank within the kitchen of the community hall.

Old DHW heater tank within the boiler room.

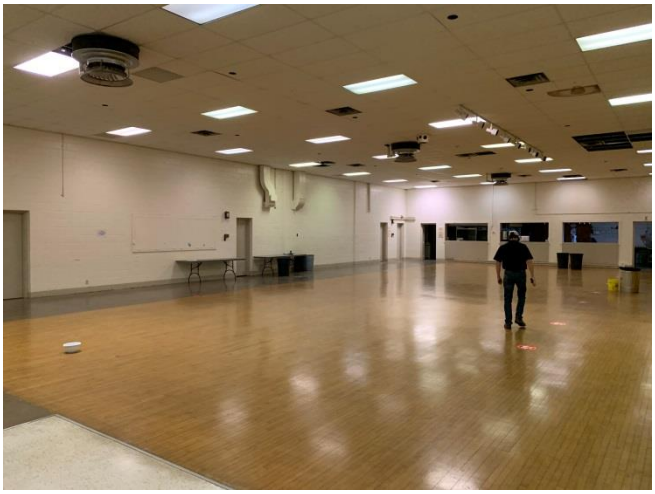
Old heating boiler in the mechanical room.

Typical rooftop HVAC unit atop the east roof.

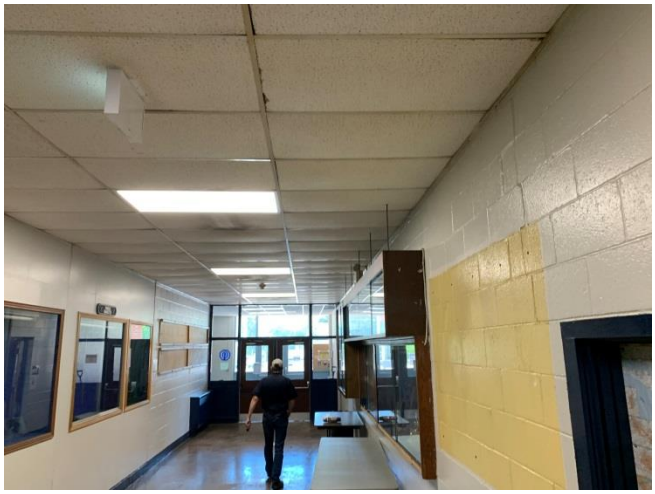
Photographs

Typical hydronic radiator within a corridor within a room of the central portion of the building.

View of typical lighting within a storage room of community hall.



T12 lights were noted within the community hall.



Tube lights within the hallway of the building.

End of Services Section

4.5 E - Equipment & Furnishings

Equipment & Furnishings Component Summary					
Code	**Component**	**Priority Rating**	**Condition Rating**	**Expenditure Recommended**	**Budgetary Cost (2021)**
E1090.51	Kitchen - Stove & Range	E	Good / Fair	10 - 20 Years	$20,000
E1090.52	Kitchen - Refrigerators	E	Good / Fair	10 - 20 Years	$14,000
E2010.21	Fixed Furnishings - Kitchen Upgrade	E	Good / Fair	10 - 20 Years	$10,500
E2010.22	Fixed Furnishings - Bathroom Upgrade	E	Good / Fair	10 - 20 Years	$42,500

Observations & Recommendations

E1090.51 Kitchen - Stove & Range

- This item accounts for replacement of the range and stove within the community hall.
- Budgetary cost expenditure has been allocated for replacement of the range and stove within the end of their useful life.

E1090.52 Kitchen - Refrigerators

- This item accounts for the replacement of the refrigerators within the community hall.

E2010.21 Fixed Furnishings - Kitchen Upgrade

- This item accounts for kitchen cabinetry and countertop upgrades at the community hall.
- The kitchen cabinetries have generally been well cared for and were noted to be in good condition.
- Operation of doors and drawers were found to be good in all instances, with no sagging or binding elements.
- Budgetary cost allowance has been allocated for kitchen upgrades.

E2010.22 Fixed Furnishings - Bathroom Upgrade

- This item accounts for bathroom cabinetry and countertop upgrades.
- The bathrooms within the community hall were noted to be in good condition with new fixtures. Other Bathrooms have been included in the arena renovation budget.
- Flooring and celling finishes are included in the interior finishes budget.
- Bathrooms typically require renovations on a 10-to-15-year cycle.

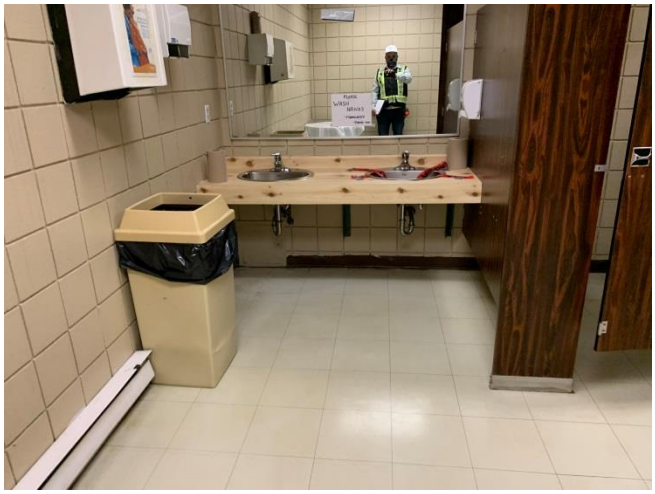
Photographs

View of the kitchen within the community hall.

Fixtures within the community hall kitchen appeared to be in good condition.

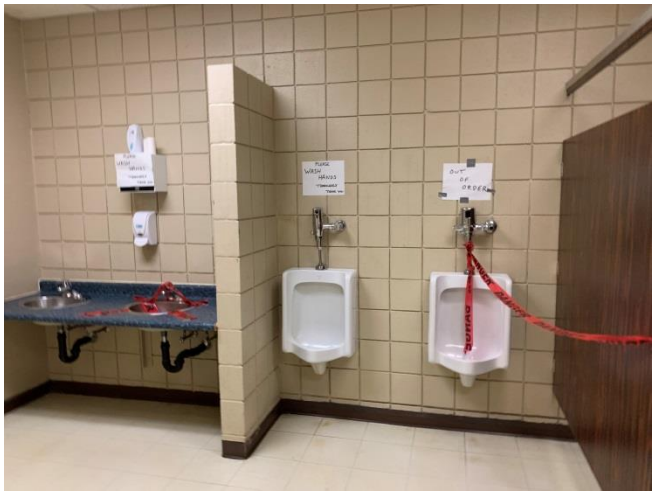
Photographs

Typical appliances within the kitchen.



Washrooms in the community hall appeared in good condition.

Stalls within the ladies' washroom of the community hall.



Fixtures within the men's washroom.

End of Equipment & Furnishings Section

4.6 G - Building Site Work

Building Site Work **Component Summary**					
Code	**Component**	**Priority Rating**	**Condition Rating**	**Expenditure Recommended**	**Budgetary Cost (2021)**
G2020.11	Asphalt Paving	D	Poor / Fair	2 - 5 Years	$520,000
G2020.21	Concrete Curbs	D	Poor / Fair	2 - 5 Years	$7,500
G2040.40	Site Signage & Monuments	None	Good	10 - 20 Years	$35,000
G3010.00	Water Supply	None	Poor / Fair	2 - 5 Years	$20,000
G3020.00	Sanitary Sewer	None	Poor / Fair	2 - 5 Years	$15,000
G3030.00	Storm Sewer	None	Poor / Fair	2 - 5 Years	$10,000
G4020.00	Common Exterior & Site Lighting	D	Fair	5 - 10 Years	$10,500

Observations & Recommendations

G2020.11 Asphalt Paving

- This item accounts for the asphalt paving on the parking lots.
- Asphalt paving includes approximately 60 parking bays of the visitors on the property.
- The degree of settlement, cracking and rutting is considered severe.
- The line painting marking the stalls was observed faded.
- Settlement and cracking was noted generally around the entire asphalt paving; however more prominent around the building entrance area. Consideration may be given to increasing the depth of the paving near the entrance of the building if large trucks frequently park/drive in this area.
- Transverse cracks noted at generally locations, especially near the speed humps. Pre-replacement repairs are recommended to achieve the expected design life of the paving. This would include sealing of all cracks, patch repairs around catch basins and other settled areas, and repair of potholes.
- Budgetary cost expenditure has been allocated for the replacement of parking lot asphalt paving.

G2020.21 Concrete Curbs

- This item accounts for the concrete curbs on the south and east portions of the site.
- The concrete curbs were noted to have some chips and cracking.
- Budgetary cost expenditure has been allocated for the sectional replacement and repair of the curbs

G2040.40 Site Signage & Monuments

- This item accounts for site signage, flagpoles, war monument and sitting areas on the south.
- These items are all in good condition.
- Budgetary cost expenditure has been allocated for replacement of the signage and repair of the monuments.

G3010.00 Water Supply

- This item accounts for existing domestic water main towards the buildings.
- A contingency allowance is accounted for in the Table of Expenditures to account for potential upgrades and major repairs to the plumbing piping and related components. It is not expected that all piping will need to be replaced at the same time.
- The costs in the Table of Expenditures account for the full replacement of the fire and domestic water mains system, including plumbing, connectors, valves, fire hydrants, etc.
- An allowance is also considered for possible repairs before the full installation of the water mains.
- Budgetary cost allowance has been allocated for repairs /re-installation of Water mains.

G3020.00 Sanitary Sewer

- IRC did not receive any report of sanitary sewers and drainage problems on this property. The budgetary cost allowances were estimated based on the overall size and age of the property.

Observations & Recommendations
- The cost in the Table of Expenditures accounts for installation of storm and sanitary sewer piping and connections and their related and manholes. - The assessment for this item is based only on visual observation and study of the background documents provided by the Client to IRC. - No exploratory or destructive method was applied in the assessment, as this was not part of the scope of the report. - An allowance has been allocated for replacement of the sanitary sewers drainage systems.
G3030.00 Storm Sewer - This item accounts for replacement of underground storm sewer system running from the municipal line starting from the property line to the building. - IRC did not receive any report of storm sewers and drainage problems on this property. The budgetary cost allowances were estimated based on the overall size and age of the property. - The cost in the Table of Expenditures accounts for installation of storm sewer piping and connections and their related catch basins, lawn basins, parkade drains, and manholes. - Overall, the catch basins were noted to be clear of debris and sediment. - The assessment for this item is based only on visual observation and study of the background documents provided by the Client to IRC. - No exploratory or destructive method was applied in the assessment, as this was not part of the scope of the report. - An allowance has been allocated for replacement of the storm sewers drainage systems.
G4020.00 Common Exterior & Site Lighting - This item accounts for site pole lighting, site wall or soffit mounted lighting, security flood lights, and including required fixtures and transformers, wiring conduits and duct banks, controls and grounding. - Budgetary cost expenditure has been allocated for replacement of lighting standards and fixtures on the wall.

Photographs

Deteriorated asphalt pavement on the south portion of the site.

Deteriorated asphalt pavement on the east portion of the site.

Photographs

Site lighting standards on the east portion of the site.

Deteriorated concrete curbs and monuments on the south portion of the site.

End of Building Site Work **Section**

4.7 Z - Planning, Design, Soft Cost & Other Allowances

Planning, Design, Soft Cost & Other Allowances Component Summary					
Code	**Component**	**Priority Rating**	**Condition Rating**	**Expenditure Recommended**	**Budgetary Cost (2021)**
Z1020.10	Planning - Replacement Reserve Study	None	Good	5 - 10 Years	$5,000
4.9.4	Hazardous Material Testing	A	Poor	0 - 2 Years	$5,000
4.9.6	Structural Ananlysis	B	Poor	0 - 2 Years	$7,000
4.9.7	Roof Access and Safety	A	Poor	0 - 2 Years	$6,500

Observations & Recommendations

Z1020.10 Planning - Replacement Reserve Study

- No existing Property Condition Assessment & Replacement Reserve Study report was provided to IRC.
- This Property Condition Assessment & Replacement Reserve Study was completed by:

IRC Building Sciences Group
4026 Meadowbrook Drive, Suite 131
London, Ontario, N6L 1C7
Tel: (519) 652-5985
Fax: (519) 652-9926
Email: azeez@ircgroup.com Contact: Aimal Azeez, B.Tech

- The were completed in accordance with the Request for Proposal as issued by the Municipality of Lambton Shores.
- The Building Condition Assessment & Capital Reserve Fund was completed in accordance with IRC Proposal LO11611P dated May 17, 2021.
- A brief scope of work for the project included
  - Review of all drawings and documentation made available to IRC for review.
  - Performance of a site review of the buildings' primary components to evaluate the physical condition and standard of components.
  - Preparation of Property Condition Assessment report noting general observations and component conditions, together with recommendations for future repair options and associated budgetary costing.
  - Develop a 30-year cash flow projection, listing each of the identified components that will require repair, retrofit or replacement.
  - Identify all financial factors and assumptions used in the cash flow projections.

Z1020.41 Hazardous Material Testing

- A Hazardous Material Testing report was not provided to IRC for review.
- Due to the age of the building a number of hazardous materials are suspected to be present which are as follows:
  - Asbestos Containing Materials (ACM) in the wall and roof insulations
  - ACM Vinyl Tiles
  - ACM Ceiling Tiles
  - ACM Pipes, and fittings
  - Lead based paint
  - Poly Carbonated Biphenyls (PCB) containing caulking and mortar joints
- The costs accounted for in the table are for the Designated Substances Survey (DSS) **only**. These costs do not account for any asbestos abatement work that may be required as part of the survey recommendations.
- The scope of work for this project did not include for any further evaluation or assessment of any ACM, as identified in Asbestos Assessment, other than to identify the affected component(s) in the report.

Z1020.43 Structural Ananlysis

Observations & Recommendations
- This item accounts for allowance to investigate the loadbearing concrete block columns as mentioned in section B 1010.00 of this report. - IRC recommends that the structural elements of the Building be investigated by a qualified structural engineer prior to commencement of any repair work.
Z1020.44 Roof Access and Safety
- There are a number of rooftop mechanical units on the lower south roof. - There is no built-in roof access to facilitate maintenance of these units. - Budgetary allowance has been allocated for installation of a fixed ship ladder.

End of Planning, Design, Soft Cost & Other Allowances Section

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5 Capital Expenditures

5.1 Expenditures Calculations

Based on the site review, various repairs are required at the building. Building elements and site components were classified according to ASTM E1557 – 09 Standard Classification for Building Elements and Related Site work – UNIFORMAT II. Budget costs have been prepared to a Class 3 Estimate as outlined by Association for the Advancement of Cost Engineering and ASTM E2516-11 Standard Classification for Cost Estimate Classification System. Class 3 estimates are generally prepared to form the basis for budget authorization, appropriation, and/or funding. As such, they typically form the initial control estimate against which all actual costs and resources will be monitored.

Typically, the preparation methodology includes:

(i) Prepared from measured and priced quantities, all obtained from the project information that is available.

(ii) A significant portion of the estimate may be in the form of allowances

For an inclusive budget estimate a +30/-15% variance should be allocated to costs provided in the Table of Expenditures for the recommended replacements and upgrades. It must be noted that in preparing the budgets for individual items, it has been assumed that a group of repairs will be completed at the same time. If individual repairs are completed increases should be expected.

The cost of repairs is based upon the deterioration present at the time of the investigation and average unit prices obtained from our experience on similar projects and from estimates using RS Means CostWorks data. It is important to realize that the prices are not based on tendered specifications, but instead on general approaches and assumed quantities. The actual repair costs will depend on the prices received at the time of tendering and/or the actual quantities removed during the repair contract.

The following assumptions have been made with regard to expenditures calculations:

Tax Rate:

Applicable Tax Rate has been included on capital expenditures. All Tax Rates are subject to provincial tax regulations.

Inflation Rate: 2.00% for the study period.

The inflation rate used for the 30-year study period is 2.00%. This number has been assumed from Bank of Canada – Consumer Price Index. The future level of inflation is unpredictable and may be highly variable. Further assessment of the level of inflation can be completed when updates to the Property Condition Assessment are completed every 5-year period as recommended.

5.1.1 Future Cost Value Method

The future cost value method was also used to illustrate the significance of inflation on the *expenditures*. In this method, the future cost of each element is estimated using the future value formula and estimated inflation rates. It has been assumed that an average construction cost rate of inflation will be in effect over the remaining life of the property.

5.1.2 Professional Fees

Professional fees for the recommended capital replacement and repairs have been accounted for in the Table on the components where engineering and/or third-party review is recommended. The degree of engineering and project management that may be involved make it difficult to determine a standard rate for each component. Engineering fees typically range between 3% - 20% depending upon the project and complexity of engineering and also the professional discipline.

Professional fees for components noted with (*) (**) in the Table have been included in the total expenditures at 8% for design and specification, and 7% for review and contract administration – a total addition of 15% on the budget costs.

Professional fees for components noted **only** with (**) in the Table have been included in the total expenditures at 7% for review and contract administration only. It is considered that these components are of a less technical nature where design and specification is not essential; however, third party review to ensure an adequate standard of installation/replacement is recommended.

Review and contract administration for general projects for licensed trades such as electricians and plumbers has not been included as this type of work is generally subject to review by other parties such as local authorities.

5.1.3 Predicted Future Costs

The replacement cost for each component identified has been estimated with respect to current day replacement prices, and inflation rates. Variances may be expected in periods of high workload by contractors.

The costs allowed in the Table can be highly variable depending upon factors such as:

- Market costs at the time of replacement

- Materials shortages
- Standard of replacement components
- 'Volume' discounts offered by contractors
- Seasonal prices on projects
- Warranties offered, and
- Contractors' workloads

5.1.4 Capital v Operating/Maintenance Costs

The following items are NOT considered to be capital expenditure items. Costs associated with these items are considered to be an operating expenditure.

- Minor expenditures under a specified reasonable dollar limit established from similar project undertakings (e.g., $3,000).
- Cost of replacing building components or mechanical services that are still operating and performing satisfactorily and meet all regulatory requirements, even if they are now obsolete and would not meet building regulations and codes for new construction.
- Normal cyclical repairs and maintenance such as rectifying deficiencies from annual reviews or move-outs, replacements of drapes and blinds, replacement of plumbing fittings and controls during regular routine maintenance, repairing fences and re-sod parts of the grounds and other general grounds maintenance.
- Regular preventative maintenance (for example, replacement of equipment parts, furnace filters, torqing of electrical panel connections, replacement of faucet cartridges etc.) to restore the component to an efficient operating condition.
- Costs of replacing capital items that have been damaged or destroyed as a result of deliberate abuse of vandalism. In these cases, the cost of replacement from the occupant(s) or from other persons who caused the damage, or through the applicable insurance policy. Where recovery is not possible, these types of replacement expenditures may be charged to the reserve.
- Typical items not included as capital expenditure include office equipment repairs and replacements, door hardware, unit mailboxes, galvanized window wells, unit doorbells, replacement floor registers, weather-stripping, screen repairs, handrail securement, blocked drains, termite control, furnace thermocouples, interior painting, carpet cleaning etc.

5.2 Expenditure Table Summary

The estimates in the table, based on an engineered approach, provide a conservative plan for accumulating a reserve for future repairs and replacement. It relies on costs based on the work performed to date, the current state of knowledge of performance of building systems, present technology and on commonly used economic factors.

The 30-year Projected Expenditure Table indicates the projected and recommended expenditures for the 30-year study period. The expenditure totals show Future Cost Value.

Old Forest Arena

6276 Townsend Line, Forest, Ontario

TABLE 1: Component List

Code	Component	Date of Installation / Last major upgrade	Current Replacement Costs	Percent of Total Cost	Corrected Cost	Yearly Contribution	Required Reserve Fund to Date	Present Age	IRC Estimated Basic Remaining Life
		(A)	(B)	(C)	(D)	(F)	(G)	(H)	(J)
A	**Substructure**								
A1010.00	Foundations & Structure (Footings and slab-on-grade) (*) (*	1950	$350,000	10%	$35,000	$700	$35,000	71	1
B	**Shell**								
B1010.00	Superstructure - Support Columns (**)	1950	$1,500,000	15%	$225,000	$4,500	$225,000	71	0
B1020.00	Superstructure - Roof Construction (*) (**)	Varies	$276,000	10%	$27,600	$620	$27,280	varies	1
B2010.01	Exterior Walls - Brick Masonry (*) (**)	1961	$148,480	10%	$14,850	$750	$14,850	60	3
B2010.03	Exterior Walls - Concrete Block Masonry (*) (**)	1950	$1,642,750	10%	$164,280	$8,220	$164,280	71	0
B2010.05	Exterior Walls - Metal Siding (*) (**)	2015	$58,880	100%	$58,880	$1,690	$10,140	6	29
B2010.12	Exterior Walls - Painting	Varies	$26,290	100%	$26,290	$3,290	$23,030	varies	1
B2010.13	Exterior Walls - Sealants (*) (**)	Unknown	$5,600	50%	$2,800	$240	-$720	unknown	15
B2020.20	Exterior Windows (**)	1950	$30,000	100%	$30,000	$860	$30,000	71	0
B2030.10	Exterior Doors - Main Entrance	Unknown	$9,000	100%	$9,000	$260	$7,800	unknown	5
B2030.20	Exterior Doors - Glazed Doors and Emergency Exits	Unknown	$15,400	100%	$15,400	$620	$14,880	unknown	1
B2030.30	Exterior Doors - Overhead Door (*) (**)	1950	$5,000	100%	$5,000	$200	$5,000	71	23
B3010.10	Roof Coverings - Slope Metal Roofing (*) (**)	2015	$641,670	34%	$218,170	$7,280	$43,680	6	24
B3010.11	Roof Coverings - Low Slope (BUR) (*) (**)	1961	$347,140	100%	$347,140	$8,680	$347,140	60	0
B3010.16	Roof Coverings - Low Slope (TPO) (**)	2017	$36,330	100%	$36,330	$1,820	$7,280	4	16
B3010.90	Eavestroughs & Downspouts (**)	1950	$22,560	33%	$7,450	$220	$7,450	71	1
C	**Interiors**								
C2010.00	Stair Construction	1950	$3,500	100%	$3,500	$150	$3,500	71	1
C3010.00	Wall Finishes	1950	$15,000	100%	$15,000	$1,250	$15,000	71	1
C3020.30	Floor Finishes - Carpet, Tile, & VCT	1950	$30,000	100%	$30,000	$2,500	$30,000	71	1
C3020.40	Floor Finishes - Gym (Wood)	Unknown	$35,330	100%	$35,330	$3,540	$17,700	unknown	5
C3020.50	Arena (Clean-up/Repair/Decommissioning)	1950	$99,020	100%	$99,020	$8,260	$99,020	71	0
C3030.00	Ceiling Finishes (ACT)	1950	$98,550	50%	$49,280	$4,110	$49,280	71	1
D	**Services**								
D2020.10	Domestic Water Distribution - Pipes & Fittings	1950	$10,000	50%	$5,000	$500	$5,000	71	1
D2020.31	Domestic Water Distribution - Hot Water Heater	1995	$4,500	100%	$4,500	$350	$4,500	26	1
D3020.10	HVAC - Packaged Heating and Cooling Systems (*) (**)	1997	$103,500	100%	$103,500	$4,140	$99,360	24	1
D3050.60	HVAC - Heating Boiler	1983	$70,000	100%	$70,000	$2,800	$70,000	38	0
D3060.00	HVAC - Hydronic Radiators	1983	$19,500	100%	$19,500	$980	$19,500	38	1
D5010.00	Electrical Service & Distribution (*)	1987	$45,000	25%	$11,250	$250	$8,500	34	11
D5020.00	Lighting and Branch Wiring	1950	$65,000	100%	$65,000	$3,250	$65,000	71	5
E	**Equipment & Furnishings**								
E1090.51	Kitchen - Stove & Range	Varies	$20,000	100%	$20,000	$1,120	$8,960	varies	10
E1090.52	Kitchen - Refrigerators	Varies	$14,000	100%	$14,000	$940	$4,700	varies	10
E2010.21	Fixed Furnishings - Kitchen Upgrade	Varies	$10,500	100%	$10,500	$460	$5,980	varies	10
E2010.22	Fixed Furnishings - Bathroom Upgrade	1950	$42,500	100%	$42,500	$1,640	$42,500	71	10
G	**Building Sitework**								
G2020.11	Asphalt Paving (*) (**)	1950	$520,000	100%	$520,000	$20,800	$520,000	71	3
G2020.21	Concrete Curbs	1950	$7,500	100%	$7,500	$500	$7,500	71	3
G2040.40	Site Signage & Monuments	1950	$35,000	100%	$35,000	$1,950	$35,000	71	15
G3010.00	Water Supply	1950	$20,000	100%	$20,000	$400	$20,000	71	3
G3020.00	Sanitary Sewer	1950	$15,000	100%	$15,000	$300	$15,000	71	3
G3030.00	Storm Sewer	1950	$10,000	100%	$10,000	$200	$10,000	71	3
G4020.00	Common Exterior & Site Lighting	1950	$10,500	100%	$10,500	$420	$10,500	71	5
Z	**Planning, Design, Soft Cost & Other Allowances**								
Z1020.10	Planning - Replacement Reserve Study	2020	$5,000	100%	$5,000	$1,000	$1,000	1	5
Z1020.41	Hazardous Material Testing	1950	$5,000	100%	$5,000	$1,000	$5,000	71	0
Z1020.43	Structural Ananlysis	1950	$7,000	100%	$7,000	$1,400	$7,000	71	0
Z1020.44	Roof Access and Safety	1950	$6,500	100%	$6,500	$1,300	$6,500	71	0
	TOTALS		**$6,475,000**		**$2,495,070**	**$107,030**	**$2,180,590**		

Old Forest Arena

6276 Townsend Line, Forest, Ontario

Table 2: 30-Year Cash Flow and Projected Expenditures with Annual Contribution Increased by Inflation

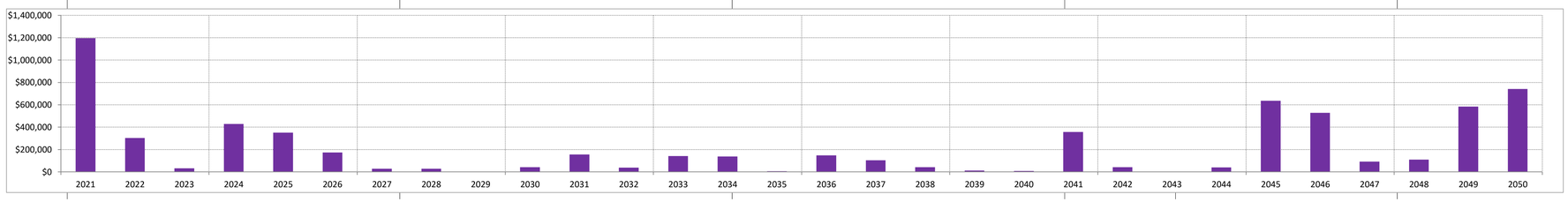
Note: 2021 refers to the Corporations' Fiscal Year starting January 1, 2021 and ending December 31, 2021

Code	Component	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
A	**Substructure**																
A1010.00	Foundations & Structure (Footings and slab-on-grade) (*)		$40,341														
B	**Shell**																
B1010.00	Superstructure - Support Columns (**)	$254,250															
B1020.00	Superstructure - Roof Construction (*) (**)	$10,000	$31,812														
B2010.01	Exterior Walls - Brick Masonry (*) (**)				$17,808												
B2010.03	Exterior Walls - Concrete Block Masonry (*) (**)	$185,636															
B2010.05	Exterior Walls - Metal Siding (*) (**)																
B2010.12	Exterior Walls - Painting		$30,302								$35,503						
B2010.13	Exterior Walls - Sealants (*) (**)																$4,258
B2020.20	Exterior Windows (**)	$33,900															
B2030.10	Exterior Doors - Main Entrance						$11,229										
B2030.20	Exterior Doors - Glazed Doors and Emergency Exits		$3,550	$3,621	$3,693	$3,767	$3,843										
B2030.30	Exterior Doors - Overhead Door (*) (**)																
B3010.10	Roof Coverings - Slope Metal Roofing (*) (**)																
B3010.11	Roof Coverings - Low Slope (BUR) (*) (**)	$392,268															
B3010.16	Roof Coverings - Low Slope (TPO) (**)																
B3010.90	Eavestroughs & Downspouts (**)		$8,587				$13,948					$15,400					
C	**Interiors**																
C2010.00	Stair Construction		$4,034														
C3010.00	Wall Finishes		$17,289												$21,927		
C3020.30	Floor Finishes - Carpet, Tile, & VCT		$34,578												$43,853		
C3020.40	Floor Finishes - Gym (Wood)						$44,078										$53,731
C3020.50	Arena (Clean-up/Repair/Decommissioning)	$111,893												$141,907			
C3030.00	Ceiling Finishes (ACT)		$56,800												$72,036		
D	**Services**																
D2020.10	Domestic Water Distribution - Pipes & Fittings		$5,763										$7,025				
D2020.31	Domestic Water Distribution - Hot Water Heater		$5,187													$6,710	
D3020.10	HVAC - Packaged Heating and Cooling Systems (*) (**)		$23,859	$24,336	$24,823	$25,319	$25,826										
D3050.60	HVAC - Heating Boiler	$79,100															
D3060.00	HVAC - Hydronic Radiators		$22,476														
D5010.00	Electrical Service & Distribution (*)												$15,806				
D5020.00	Lighting and Branch Wiring						$27,036	$27,576	$28,128								
E	**Equipment & Furnishings**																
E1090.51	Kitchen - Stove & Range											$13,775	$14,050				
E1090.52	Kitchen - Refrigerators											$19,284					
E2010.21	Fixed Furnishings - Kitchen Upgrade											$14,463					
E2010.22	Fixed Furnishings - Bathroom Upgrade											$58,542					
G	**Building Sitework**																
G2020.11	Asphalt Paving (*) (**)				$311,783	$318,019											
G2020.21	Concrete Curbs				$8,994												
G2040.40	Site Signage & Monuments																$53,229
G3010.00	Water Supply				$23,983												
G3020.00	Sanitary Sewer				$17,987												
G3030.00	Storm Sewer				$11,992												
G4020.00	Common Exterior & Site Lighting						$13,100										
Z	**Planning, Design, Soft Cost & Other Allowances**																
Z1020.10	Planning - Replacement Reserve Study						$6,238					$6,887					$7,604
Z1020.41	Hazardous Material Testing	$5,650					$6,238					$6,887					$7,604
Z1020.43	Structural Ananlysis	$7,910					$8,733					$9,642					$10,646
Z1020.44	Roof Access and Safety	$7,345					$8,109					$8,954					$9,885

		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
LINE C	**COMPOUND INFLATION RATE**	1.000%	1.020%	1.040%	1.061%	1.082%	1.104%	1.126%	1.149%	1.172%	1.195%	1.219%	1.243%	1.268%	1.294%	1.319%	1.346%
LINE D	**EXPENDITURE - FUTURE COST VALUE**	**$1,087,952**	**$286,821**	**$27,957**	**$421,063**	**$347,105**	**$168,377**	**$27,576**	**$28,128**		**$41,580**	**$153,835**	**$36,882**	**$141,907**	**$137,816**	**$6,710**	**$146,958**
LINE E	**HST @ 13% (PST @ 8% + GST @ 5%)**	incl.	incl.	incl.	incl.	incl.	incl.	incl.	incl.	incl.	incl.	incl.	incl.	incl.	incl.	incl.	incl.
LINE L	**TOTAL EXPENDITURE - FUTURE COST VALUE**	**$1,196,308**	**$302,160**	**$31,607**	**$427,457**	**$350,903**	**$173,228**	**$27,576**	**$28,128**		**$41,580**	**$154,913**	**$38,146**	**$141,907**	**$137,816**	**$6,710**	**$147,597**

Chart 1
Table of Annual Expenditures

* Engineering Design Fees applied to this component @ 8%



Old Forest Arena

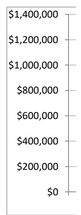
6276 Townsend Line, Forest, Ontario

Table 2: 30-Year Cash Flow and Projected Expenditures with Annual Contribution Increased by Inflation

Code	Component	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050
		16	17	18	19	20	21	22	23	24	25	26	27	28	29
A	**Substructure**														
A1010.00	Foundations & Structure (Footings and slab-on-grade) (*)														
B	**Shell**														
B1010.00	Superstructure - Support Columns (**)														
B1020.00	Superstructure - Roof Construction (*) (**)														
B2010.01	Exterior Walls - Brick Masonry (*) (**)								$26,461						
B2010.03	Exterior Walls - Concrete Block Masonry (*) (**)					$275,846									
B2010.05	Exterior Walls - Metal Siding (*) (**)														$118,155
B2010.12	Exterior Walls - Painting		$41,598								$48,739				
B2010.13	Exterior Walls - Sealants (*) (**)												$5,401		
B2020.20	Exterior Windows (**)														
B2030.10	Exterior Doors - Main Entrance														
B2030.20	Exterior Doors - Glazed Doors and Emergency Exits											$5,824	$5,941	$6,059	$6,181
B2030.30	Exterior Doors - Overhead Door (*) (**)								$8,909						
B3010.10	Roof Coverings - Slope Metal Roofing (*) (**)									$396,531					
B3010.11	Roof Coverings - Low Slope (BUR) (*) (**)														
B3010.16	Roof Coverings - Low Slope (TPO) (**)	$56,357													
B3010.90	Eavestroughs & Downspouts (**)														
C	**Interiors**														
C2010.00	Stair Construction														
C3010.00	Wall Finishes										$27,808				
C3020.30	Floor Finishes - Carpet, Tile, & VCT										$55,617				
C3020.40	Floor Finishes - Gym (Wood)										$65,498				
C3020.50	Arena (Clean-up/Repair/Decommissioning)									$179,972					
C3030.00	Ceiling Finishes (ACT)										$91,359				
D	**Services**														
D2020.10	Domestic Water Distribution - Pipes & Fittings						$8,564								
D2020.31	Domestic Water Distribution - Hot Water Heater												$8,680		
D3020.10	HVAC - Packaged Heating and Cooling Systems (*) (**)											$39,143	$39,926	$40,724	$41,539
D3050.60	HVAC - Heating Boiler										$129,772				
D3060.00	HVAC - Hydronic Radiators						$33,398								
D5010.00	Electrical Service & Distribution (*)														
D5020.00	Lighting and Branch Wiring										$40,174	$40,977	$41,797		
E	**Equipment & Furnishings**														
E1090.51	Kitchen - Stove & Range													$19,674	$20,067
E1090.52	Kitchen - Refrigerators										$25,954				
E2010.21	Fixed Furnishings - Kitchen Upgrade														
E2010.22	Fixed Furnishings - Bathroom Upgrade														
G	**Building Sitework**														
G2020.11	Asphalt Paving (*) (**)													$511,513	$521,743
G2020.21	Concrete Curbs			$12,104											
G2040.40	Site Signage & Monuments														
G3010.00	Water Supply														
G3020.00	Sanitary Sewer														
G3030.00	Storm Sewer														
G4020.00	Common Exterior & Site Lighting														
Z	**Planning, Design, Soft Cost & Other Allowances**														
Z1020.10	Planning - Replacement Reserve Study					$8,396					$9,269				
Z1020.41	Hazardous Material Testing					$8,396					$9,269				
Z1020.43	Structural Ananlysis					$11,754					$12,977				
Z1020.44	Roof Access and Safety					$10,914					$12,050				

		2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050
LINE C	**COMPOUND INFLATION RATE**	1.373%	1.400%	1.428%	1.457%	1.486%	1.516%	1.546%	1.577%	1.608%	1.641%	1.673%	1.707%	1.741%	1.776%
LINE D	**EXPENDITURE - FUTURE COST VALUE**	**$99,792**	**$41,598**	**$12,104**	**$7,408**	**$315,305**	**$41,961**		**$35,371**	**$576,504**	**$528,487**	**$85,944**	**$101,743**	**$577,970**	**$716,715**
LINE E	**HST @ 13% (PST @ 8% + GST @ 5%)**	incl.	incl.	incl.	incl.	incl.	incl.	incl.	incl.	incl.	incl.	incl.	incl.	incl.	incl.
LINE L	**TOTAL EXPENDITURE - FUTURE COST VALUE**	**$103,737**	**$41,598**	**$12,104**	**$7,408**	**$356,682**	**$41,961**		**$40,676**	**$635,983**	**$528,487**	**$91,816**	**$108,542**	**$584,079**	**$740,669**

Chart 1
Table of Annual Expenditures



* Engineering Design Fees applied to this component @ 8%

6 Limitations

IRC prepared this report solely for the client named. The responsibilities of IRC are as described in the Terms of Reference and The Scope of Work. The material in this report reflects the opinion of IRC at the time of preparation and within the terms of reference as agreed. Any use, which a Third Party makes of this report, or any reliance on decisions based on it, are the responsibility of such Third Parties.

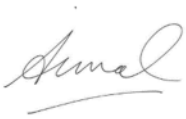
IRC does warrant the accuracy of the identified information provided to IRC at the time of the report preparation. Unless provided in writing, but not limited to, mistakes, contacts, insufficient information or certification of such information is not the responsibility of IRC.

Only the specific information or locations noted in the report have been reviewed. Although every reasonable effort was taken to identify defects, latent and hidden defects may affect the accuracy of this report. No physical or destructive testing and no design calculations have been performed unless indicated elsewhere in this report.

The assessment provided is based on visually observed defects at a limited number of locations and our experience with similar types of buildings. Deficiencies may exist at other areas not referenced in this report or that are not visually apparent given the level of evaluation. No responsibility is therefore assumed concerning these matters, or for failure to carry out technical or engineering techniques which would be required to discover any inherent or hidden conditions of the property since such an investigation was not included in the scope of work.

We trust that the above is satisfactory for your purposes. If you have any questions or comments concerning the above please do not hesitate to contact our office.

Yours very truly,
IRC Building Sciences Group



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