

CITY OF EDMONTON

STRATHCONA POOL (STR104) BUILDING CONDITION ASSESSMENT REPORT

SEPTEMBER 22, 2022

FINAL





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BUILDING CONDITION ASSESSMENT REPORT

CITY OF EDMONTON

FINAL

PROJECT NO.: 221-08057-00

DATE: SEPTEMBER 22, 2022

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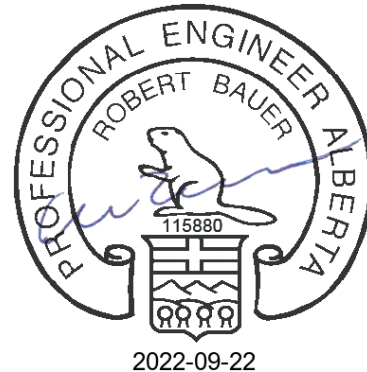


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1 SCOPE OF WORK

1.1 AUTHORIZATION

This report was prepared at the request of City of Edmonton, in accordance with the open Order Agreement No. 4000129390.

1.2 SURVEY METHOD

WSP visited the site on July 20, 2022

Our field observers and report authors were Rob Bauer, Christopher Woo, Doug Cargill, and Tyler Grant of WSP. The report was also reviewed by Rob Bauer.

The survey consisted of a visual review of samples of the following:

- The exterior walls and windows;
 - The roofs;
 - Interior common areas: offices, men's change room, pool area, washrooms, and staff areas;
 - Service areas: mechanical and electrical rooms and storage areas;
 - Surrounding site features: sundeck and perimeter sidewalk.
-

1.3 INFORMATION PROVIDED

Rob Campbell, Scona Pool Supervisor, answered our questions about the history of performance of various systems and accompanied us during our assessment.

The following reports were provided:

- Strathcona Pool Maintenance History, dated July 12, 2022;
- City of Edmonton SAP Spreadsheets, dated 2004-2022;
- Strathcona Pool Study Update, prepared by Burgess Bredo Architect Ltd., dated May 10, 2013;
- Strathcona Pool Assessment, prepared by Burgess Bredo Architect Ltd., dated October 7, 2009;
- ARCA Roof Installation Record Report, prepared by Christensen & Mclean Roofing Co., dated February 24, 1998.

The following relevant drawings were provided:

- Main Floor Plan;
- Strathcona Pool Piping System Upgrade Drawings, prepared by Wardrop Alberta Ltd., dated May 1986;
- Structural Drawings S1-S4, prepared by Rule, Wynn & Rule Architects, dated June 24, 1956;
- Architectural Drawings, prepared by Rule, Wynn & Rule Architects, dated August 24, 1956;
- Mechanical Drawings, prepared by Rule, Wynn & Rule Architects, dated August 1956;
- Electrical Drawing E-1, prepared by Rule, Wynn & Rule Architects, dated August 1956;

2 GENERAL SUMMARY

Property Name and Address	Strathcona Pool (STR104) 10450 72 Avenue NW, Edmonton, AB		
Year of Construction and Additions/Renovations (if any)	1953 (Original Basement Construction) 1957 (NW Pool Addition)	No. of Floors	1
Facility Use	Leisure Centre/Swimming Pool	Total Gross Floor Area (ft ²)	30,582

The property at 10450 72 Avenue NW in Edmonton, Alberta includes a single-storey building known as Strathcona Pool connected as an addition to Strathcona High School. Strathcona Pool consists of a basement constructed with the original school building in 1953 and main level addition constructed in 1957. The gross floor area of Strathcona Pool is approximately 30,582 ft².

The main level includes the pool and pool deck office. The basement includes the change rooms, staff rooms, storage rooms, and service rooms.

Based on received information, major renovations, and upgrades of building components within the last 10 years include the following:

- 2015: Interior renovations in the basement;
- 2013: Replaced domestic water distribution piping;
- 2013: Replaced and installed two new domestic water tank heaters.

The following process-specific systems and areas are excluded from this report:

- Pool deck furniture (fountain fixtures, slides, diving boards).

Following our review, we understand that the pool will only remain open for public use until sometime later this year, after which the City of Edmonton has elected cease operation of the facility. As indicated in the body of the report, most of the spalling bricks on the exterior have been fenced off from public access with the exception of the staff entrance on the north side. This area is currently a safety concern. In order to maintain public safety, we recommend that the entrance either be closed, or have overhead protection provided unless investigations and repairs are completed.

Following closure, we expect City Facility Maintenance Services will perform periodic reviews to monitor the overall condition of the facility to ensure it does not worsen. We further understand that Maintenance Services will perform minimal maintenance until demolition.

3 STRUCTURAL SUMMARY

The basement is concrete-framed and the pool addition is steel-framed. The pool roof structure consists of precast concrete channels supported by open web steel joists, trusses, and steel columns. The basement has concrete beams and columns supporting above floors and roof areas belonging to the school and out of the scope of this report. The floor is a cast-in-place concrete slab-on-grade with areas of suspended concrete slab around the pool. The basement is concrete-framed with concrete walls. The building is supported by shallow concrete spread footings and grade beams below exterior walls.

The exterior slab on the west side appears to be settling and moving, this is likely due to a combination of water ingress along the side of the building affecting the subgrade beneath these slabs along with the vegetation in the area. It is recommended to ensure water drains away from these slabs and not between the building and slab and ensure all vegetation between the building and slab is removed.

Beyond the spalling brickwork described in the Building Envelope section, no urgent structural concerns were observed. Based on the building's age and observation of interior structural components, the structure is in acceptable condition.

4 BUILDING ENVELOPE SUMMARY

The exterior walls are clad with brick units face-sealed to a hollow clay tile backup wall. There is precast terrazzo framing surrounding the pool windows. There are spalling bricks along the upper walls largely located along the west wall and northwest corner, as well as above the staff entrance door at the northeast corner by the main pool entrance. Most of the spalling bricks have been fenced off from public access aside from the staff entrance on the north side. The area around the staff entrance is deemed to be potentially critical due to it being a safety concern. The entrance should either be closed, or have overhead protection provided until investigations and repairs are completed.

Areas where brick is damaged or missing will allow further water penetration into the cladding assembly. We expect that the overall brick cladding will continue to deteriorate at an accelerated rate particularly during freeze-thaw cycles if left unaddressed. This may lead to further migration of deteriorated locations, thus limiting access to the building. For this reason, we assess the overall cladding condition to be marginal, with the potential to become critical over the next couple of years.

Exterior windows in the pool area consist of double-glazed insulated glass units in aluminum frames. There is a glazed curtain wall at the south elevation sun deck entrance. We noted failed glazing seals with moisture in the IGU air spaces. There are failed and deteriorated glazing seals, surface corrosion staining at some exterior window frame headers, and the windows do not appear to be thermally broken.

The doors are metal in steel frames on the north, west, and east elevations.

The pool has a three flat roof areas and one sloped roof area protected by a 2-ply modified bituminous membrane. Roof drainage is provided via internal drains. We noted areas of ridging, blisters, and tenting at parapet upturns on the northwest corner and south side of the pool roof. There is evidence of pooling water from observed debris build-up and multiple repair patches throughout the roof and evidence of water leakage northwest and southeast corners of the upper main pool roof.

The overall condition of the building envelope is marginal.

5 FIRE SAFETY SUMMARY

The fire alarm system for the school and pool area are shared. The main fire alarm panel is located in the school and monitors fire detectors, alarm bells, strobes, and pull stations throughout. The pool also has a chlorine gas detection monitoring system.

Suppression systems include individual portable fire extinguishers throughout. There are also emergency light battery packs, and illuminated exit signs throughout.

The overall condition of the fire safety systems is acceptable.

6 INTERIORS SUMMARY

Interior walls in the basement and pool area are largely covered with ceramic tile finishes or painted plaster and gypsum board.

Plaster ceilings in the basement change rooms and corridors have paint finishes. The pool area, deck office, and basement staff rooms area have T-bar grid system ceiling finishes with acoustic tiles.

The basement mechanical and electrical room have an exposed concrete floor finish. The washroom and shower floors and pool deck have ceramic tile finishes. The deck office and basement staff room have vinyl sheet flooring. The basement corridor connecting the pool to the school has vinyl tile floor finishes. The basement corridor connecting the pool to the school and change rooms has a paint finish.

The overall condition of the building interior finishes is acceptable.

7 MECHANICAL SUMMARY

A heating plant in the basement mechanical room serves the domestic heating systems and swimming pool. It was not functional at the time of the visit as the heat exchanger was not operational and experiencing major issues.

Heat to the building is provided by two air handling units in the basement mechanical room and mechanical room above the deck office. Additional heating and cooling are provided by suspended unit heaters, force flow units, and terminal air conditioning units.

Domestic hot water is supplied by two hot water storage tanks. The storage tanks were also providing hot water to the swimming pool at the time of the visit.

The overall condition of the building mechanical systems is marginal; however, the condition of the pool process equipment is critical as the boiler and heat exchanger were not operational.

8 ELECTRICAL SUMMARY

Electricity to the pool area is supplied underground from an exterior pad-mounted transformer on the east side of the school. The main incoming electrical disconnect and central distribution panel are in the basement mechanical room and rated at 400A, 120/208V, 3-phase, 4-wire. Power is distributed to various secondary circuit breaker panelboards and motor starters throughout the building.

Interior lighting in the pool is provided by ceiling-hung fixtures with metal halide lamps. Other areas have ceiling-mounted strip fluorescent fixtures.

The overall condition of the building electrical systems is acceptable.

9 FUNCTIONAL ASSESSMENT SUMMARY

There are also four barrier-free stalls provided near the staff entrance. There is no barrier-free entrance at the north entrance. There is a barrier-free entrance with doors having button-operated door openers at the west school entrance. We understand the west entrance and parking lot is the school's responsibility. There is an interior ramp with handrails which connects the pool to the change rooms. The ramp is steep, which is an obstacle for the barrier free interior circulation. The entrance from the pool to change room and washrooms do not provide barrier-free access.

Overall, the building does not provide acceptable barrier-free accessibility throughout.

10 CONDITION & PRIORITY RATINGS

Table 10.1 Condition Ratings

CONDITION RATING	PERFORMANCE
A - EXCELLENT	Component is new/state of the art and meets present and foreseeable requirements.
B - GOOD	Component is performing well and meets all present requirements. Minor deterioration or negligible deficiencies.
C - ACCEPTABLE	Component currently meets present requirements, but there are some deterioration and minor deficiencies. Average operating/maintenance costs.
D - MARGINAL	Component currently meets minimum requirements, has extensive deficiencies that may contribute to above average operating maintenance costs.
F - CRITICAL	Component represents an unacceptable, unhealthy, or unsafe condition (high risk of injury) regarding immediate attention in order to ensure continued access, use and safety of staff and public.

Table 10.2 Deficiency Priority Ratings

PRIORITY RATING	CONDITION
PRIORITY 1 - CURRENTLY CRITICAL	Conditions in this category require immediate action.
PRIORITY 2 - POTENTIALLY CRITICAL	Conditions in this category, if not corrected expeditiously, could deteriorate to priority 1 critical within a year.
PRIORITY 3 - NECESSARY, BUT NOT YET CRITICAL	Conditions in this category require appropriate attention to preclude deterioration or potential downtime and the associated damage or higher costs if deferred further.
PRIORITY 4 - RECOMMENDED	Conditions in this category include items that represent a sensible improvement to existing conditions. These are not required for the most basic function of the facility.
PRIORITY 5 - APPEARANCE	Conditions in this category include finishes that have deteriorated and are required to maintain the required aesthetic standards.
PRIORITY 6 - DOES NOT MEET CURRENT CODES/STANDARDS	Conditions in this category include items that do not conform to existing codes, no action is required at this time, but should substantial work be undertaken in contiguous areas, certain existing conditions may require correction to comply with current code standard.

11 SUMMARY OF COSTS

The following table summarizes associated repair and lifecycle replacement project costs of systems for short, medium, and long term periods.

Cost estimates will be Class 5 order of magnitude which is -50% to +100%. Cost mark-ups include consultant fees, project management, construction escalation, general requirements (including site setup, administration, power, profits, etc.), construction contingencies, and energy escalation dealing with work related to the project scope. The costs exclude hazmat abatement, construction manager fees, commissioning agency fees, and functional accessibility upgrades.

Table 11.1 Recommended Lifecycle Plan

Systems	Short Term (1-3 Years)	Medium Term (4-7 Years)	Long Term (7 + Years)
S1 Structural	\$60,000	\$0	\$0
S2 Envelope	\$1,233,000	\$0	\$8,000
S3 Interiors	\$95,000	\$152,000	\$474,000
S4 Mechanical	\$1,040,000	\$35,000	\$101,000
S5 Electrical	\$30,000	\$47,000	\$63,000
S6 Equipment, Furnishings & Special Construction	\$5,000	\$12,000	\$289,000
S7 Site	\$175,000	\$0	\$8,000
Sub-totals	\$2,638,000	\$246,000	\$943,000
Mark-ups	\$1,582,800	\$147,600	\$565,800
Sub-totals	\$4,220,800	\$393,600	\$1,508,800
Total			\$6,123,200

The following table summarizes items that need to be repaired or replaced and their associated costs. The asterisk identifier beside each technical, has been interpreted in the following manner:

- Single Asterisk (*) – Technicals given a rating of C may be assigned an event/recommended action depending on the nature of the concern (if any). Items given a rating of D or worse will be assigned an event and associated cost.
- Double Asterisk (**) – All double asterisk technicals are assigned an event and associated cost. If there are no imminent concerns, the event/recommended action is designated as 'Lifecycle Replacement'.

Table 11.2 System Assembly Cost Summary

System - Assembly		Event Year	Event Cost
S1 STRUCTURAL			
A1010.02.01	Spread Footing*	2022	\$20,000
B1020.01.03.02	Structural Steel*	2022	\$40,000
S2 ENVELOPE			
B2010.01.09	Expansion Control* (Sealants)	2022	\$4,000
B2010.01.11	Joint Sealers**	2022	\$8,000
B2010.02.03.01	Clay Masonry Units* (Brick)	2022	\$515,000
B2010.02.03.01	Clay Masonry Units* (Tile)	2022	\$250,000
B2010.06	Exterior Louvers, Grilles and Screens*	2022	\$5,000
B2020.01.01.01	Steel Windows**	2023	\$1,000
B2020.01.01.02	Aluminum Windows**	2022	\$60,700
B2020.01.01.06	Plastic Windows**	2035	\$1,000
B2020.03	Glazed Curtain Wall**	2022	\$48,200
B2030.01.01	Aluminum-Framed Storefronts**	2022	\$33,000
B2030.02.01	Metal Doors and Frames**	2032	\$7,000
B3010.04.04	Modified Bituminous Membrane Roofing (SBS)** (Repairs)	2022	\$14,000
B3010.04.04	Modified Bituminous Membrane Roofing (SBS)** (Lifecycle Replacement)	2023	\$293,700
S3 INTERIORS			
C1010.05	Interior Windows*	2027	\$1,200
C1020.04	Interior Sliding and Folding Doors*	2025	\$2,000

C1030.02.01	Metal Toilet Compartments**	2045	\$7,200
C1030.02.06	Shower and Dressing Compartments**	2045	\$9,600
C1030.10.01	Metal Lockers**	2025	\$31,700
C2020.08	Stair Railings and Balustrades*	2032	\$3,300
C2020.11	Other Stair Finishes* (Paint)	2030	\$2,000
C2030.01	Ramp Finishes* (Ceramic Tile)	2027	\$9,000
C2030.01	Ramp Finishes* (Anti-Slip Coating)	2032	\$5,300
C2030.01	Ramp Railings*	2030	\$8,200
C3010.06.01	Ceramic Tile** (2019)	2059	\$1,300
C3010.06.01	Ceramic Tile** (1985 - Repair)	2022	\$2,000
C3010.06.01	Ceramic Tile** (1985 - Lifecycle Replacement)	2030	\$183,000
C3010.11	Interior Wall Painting* (Repair)	2022	\$5,000
C3010.11	Interior Wall Painting* (Lifecycle Replacement)	2030	\$29,700
C3020.02.01	Ceramic Tile** (Washrooms - 1985)	2025	\$23,000
C3020.02.01	Ceramic Tile** (Pool Deck Repairs - 1985)	2025	\$84,000
C3020.02.01	Ceramic Tile** (Pool Deck Lifecycle Replacement - 1985)	2035	\$184,800
C3020.07	Resilient Flooring** (Sheet Flooring)	2035	\$7,200
C3020.07	Resilient Flooring** (Tile Flooring)	2022	\$5,800
C3020.11.01	Floor Painting - Interior Paints**	2030	\$5,900
C3030.03	Plaster Ceiling Finishes*	2022	<\$1,000
C3030.06	Acoustical Ceiling Treatment** (T-Bar System - 2015)	2045	\$12,200

C3030.06	Acoustical Ceiling Treatment** (T-Bar System - 1957)	2022	\$81,500
C3030.07	Interior Ceiling Painting*	2030	\$10,500
S4 MECHANICAL			
D2010.01	Water Closets**	2045	\$12,000
D2010.02	Urinals**	2049	\$3,700
D2010.03	Lavatories** (Enamel)	2022	\$9,000
D2010.03	Lavatories** (Porcelain)	2045	\$1,500
D2010.04	Sinks** (Kitchen)	2045	\$1,500
D2015.05	Showers**	2043	\$3,000
D2015.08	Drinking Fountains/Coolers**	2039	\$2,000
D2015.09	Other Plumbing Fixtures* (Emergency Shower Station)	2043	\$6,600
D2020.01.02	Valves**	2029	\$5,000
D2020.01.03	Piping Specialties (Backflow Preventers)**	2033	\$13,700
D2020.02.06	Domestic Water Heaters** (Storage Tank 1)	2028	\$15,000
D2020.02.06	Domestic Water Heaters** (Storage Tank 2)	2028	\$15,000
D2030.03	Waste Piping Equipment*	2036	\$5,000
D2040.01	Rain Water Drainage Piping Systems*	2022	\$1,000
D3020.01.01	Heating Boilers and Accessories** (Steam Boilers)	2022	\$203,000
D3020.01.01	Heating Boilers and Accessories** (Heat Exchanger)	2022	\$86,300
D3020.01.01	Heating Boilers and Accessories** (Expansion Tank)	2043	\$5,500
D3020.01.03	Breechings, Chimneys, and Stacks** (Steam Boilers)	2022	\$25,000

D3020.01.04	Water Treatment Equipment* (Steam Boilers)	2022	\$9,400
D3040.01.01	Air Handling Units** (Mechanical Room AHU)	2023	\$115,000
D3040.01.01	Air Handling Units** (Pool AHU)	2023	\$79,000
D3040.01.02	Fans** (Exhaust)	2025	<\$1,000
D3040.01.04	Ducts*	2022	\$193,500
D3040.02	Steam Distribution Systems (Piping/Pumps)**	2022	\$190,000
D3050.01.03	Packaged Terminal Air Conditioning Units**	2025	\$5,000
D3050.01.04	Unit Air Conditioners**	2039	\$1,500
D3050.05.02	Fan Coil Units**	2050	\$5,000
D3050.05.06	Unit Heaters**	2023	\$30,000
D3060.02.02	Pneumatic Controls** (Lifecycle Replacement)	2047	\$33,000
D3060.02.02	Pneumatic Controls** (Upgrade)	2023	\$98,000
S5 ELECTRICAL			
D5010.02	Low Voltage Transformers** (Secondary) (T1)	2025	\$13,000
D5010.03	Main Electrical Switchboards** (Main Disconnect)	2055	\$4,000
D5010.05	Electrical Branch Circuit Panelboards** (CDP)	2025	\$16,500
D5010.05	Electrical Branch Circuit Panelboards** (Secondary)	2025	\$16,600
D5010.07	Motor Control Centers** (2015)	2045	\$10,000
D5010.07	Motor Control Centers** (1985)	2022	\$30,000
D5020.02.02.02	Interior Fluorescent Fixtures**	2032	\$16,600
D5020.02.02.03	Interior Metal Halide Fixtures*	2032	\$11,000

D5020.02.03.02	Emergency Lighting Battery Packs**	2040	\$10,000
D5020.03.01.05	Other Exterior Fixtures*	2040	\$4,000
D5030.01.01	Gas Detection*	2029	\$6,600
D5030.02.01	Door Answering*	2023	<\$1,000
S6 EQUIPMENT, FURNISHINGS & SPECIAL CONSTRUCTION			
E2010.02.07	Kitchen Casework**	2045	\$6,400
E2010.02.99	Other Casework** (Washrooms)	2045	\$8,000
E2010.05.06	Fixed Pews and Benches**	2050	\$3,000
F1040.01	Aquatic Facilities* (Pool Structure)	2022	\$5,000
F1040.01	Aquatic Facilities* (Pool Basin Finishes Repair)	2027	\$12,000
F1040.01	Aquatic Facilities* (Pool Basin Finishes Lifecycle Replacement)	2037	\$250,100
F1040.01	Aquatic Facilities* (Pool Pumps)	2048	\$20,000
S7 SITE			
G2030.04	Rigid Pedestrian Pavement (Concrete Sun Deck - Repairs)**	2022	\$13,000
G2030.04	Rigid Pedestrian Pavement (Concrete Sun Deck - Lifecycle Replacement)**	2023	\$130,000
G2030.04	Rigid Pedestrian Pavement (Concrete Sidewalk)**	2023	\$18,000
G2030.06.05	Metal Handrails and Railings*	2022	<\$1,000
G2040.02.01	Chain Link Fences and Gates*	2044	\$8,000
G2040.02.05	Wood Fences and Gates**	2022	\$13,200
G2040.06.01	Dimensional Letter Signs*	2022	<\$1,000

APPENDIX

A ASSESSMENT REPORT

APPENDIX A: CAPITAL RENEWAL ASSESSMENT REPORT

Uniformat ID	System - Assembly	Design Life	Install Year	Rating	Deficiency Priority	Component Description	Concern/Condition	Event/Recommended Action	Event Year	Event Cost
S1 STRUCTURAL										
A10 - Foundations										
A1010 - Standard Foundations										
A1010.02.01	Spread Footing*	100	1957	C (Acceptable)		According to structural drawings, there are shallow concrete spread footings below the grade beam.	In our opinion, the observations noted do not warrant underpinning of foundations at this time.	It is recommended to complete a survey of the building where previous out-of-plumb issues were observed in the 2009 and 2013 assessment report by Burgess Bredo Architect Ltd. (NW column and north wall). An allowance budget for this is included. A monitoring program can then be developed to observe if any movement is observed annually. If no further movement is observed the previous issues observed could have been a construction issue. However, if further movement is observed then underpinning of foundations could be explored.	2022	\$5,000
A1020 - Special Foundations										
A1020.07	Grade Beams*	100	1957	C (Acceptable)		According to structural drawings, there are cast-in-place reinforced concrete grade beams below perimeter exterior walls which span between column footings.				
A1030 - Slab-on-Grade										
A1030.01	Standard Slab-on-Grade*	75	1957	C (Acceptable)		The floors are a reinforced cast-in-place concrete slab-on-grade. According to the drawings, the slab thickness is five-inches throughout.				
A1030.05	Pits and Bases*	75	1957	C (Acceptable)		There is a sump pit in the mechanical room on the southeast corner.				
A1030.06	Subdrainage Systems*	75	1957	C (Acceptable)		According to the architectural drawings, there is a four-inch weep tile around the pool.				
A20 - Basement Construction										
A2020 - Basement Walls										
A2020.01.01	Cast-in-place Concrete* (Basement Wall Construction)	100	1957	C (Acceptable)		The exterior basement walls for the change room areas, staff rooms and mechanical room are cast-in-place concrete.				
B10 - SuperStructure										
B1010 - Floor Construction										
B1010.01.01 - Columns Supporting Floors										
B1010.01.01.01	Cast-in-Place Concrete*	75	1957	C (Acceptable)		Cast-in-place concrete columns in the change room areas, staff rooms and mechanical room support the floor above.				

A - Excellent: Component is new/state of the art and meets present and foreseeable requirements.

B - Good: Component is performing well and meets all present requirements. Minor deterioration or negligible deficiencies.

C - Acceptable: Component currently meets present requirements, but there are some deterioration and minor deficiencies. Average operating/maintenance costs.

D - Marginal: Component currently meets minimum requirements, has extensive deficiencies that may contribute to above average operating maintenance costs.

F - Critical: Component represents unacceptable, unhealthy, or unsafe condition (high risk of injury) requiring immediate attention in order to ensure continued access, use and safety of staff and public.

APPENDIX A: CAPITAL RENEWAL ASSESSMENT REPORT

Uniformat ID	System - Assembly	Design Life	Install Year	Rating	Deficiency Priority	Component Description	Concern/Condition	Event/Recommended Action	Event Year	Event Cost
B1010.01.02 - Floor Girders and Beams										
B1010.01.02.01	Cast-in-Place Concrete*	75	1957	C (Acceptable)		Concrete beams in the change room areas, staff rooms and mechanical room support the floor above.				
B1010.02 - Structural Interior Walls Supporting Floors										
B1010.02.01	Cast-in-Place Concrete*	75	1957	C (Acceptable)		Concrete walls throughout the change room areas, staff rooms and mechanical room support the floor above.				
B1010.03 - Floor Decks, Slabs, and Toppings										
B1010.03.04	Concrete Topping*	75	1957	C (Acceptable)		There is a concrete topping over hollow clay tiles suspended above the change room areas, staff rooms and mechanical room.				
B1010.06.01 - Ramps										
B1010.06.01	Cast-in-Place Concrete*	75	1957	C (Acceptable)		There is a concrete ramp leading down to the change rooms from the pool area.				
B1020 - Roof Construction										
B1020.01 - Roof Structural Frame										
B1020.01.01 - Columns Supporting Roofs										
B1020.01.01.05	Structural Steel*	75	1957	C (Acceptable)		Wide flange steel columns in the pool area support the roof structure.	Paint flaking and peeling, minor surface corrosion.	Clean and paint. Budget cost included with Item B1020.01.03.02 below.		
B1020.01.03 - Roof Trusses										
B1020.01.03.02	Structural Steel*	75	1957	C (Acceptable)		Steel trusses in the pool area support the roof structure.	Trusses above the curtain wall on the south side of the pool area have some surface corrosion and flaking paint.	We recommend cleaning and removing surface corrosion,, and repainting the pool roof joists. We have added an allowance budget, which should be confirmed with a quote.	2022	\$40,000
B1020.01.04 - Roof Joists										
B1020.01.04.02	Steel Joists*	75	1957	C (Acceptable)		Open web steel joists (OWSJ) support the pool roof.				
B1020.03 - Roof Decks, Slabs, and Sheathing										
B1020.03.02	Precast Concrete*	75	1957	C (Acceptable)		The pool roof deck consists of precast concrete channels.				

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APPENDIX A: CAPITAL RENEWAL ASSESSMENT REPORT

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S2 ENVELOPE										
B20 - Exterior Enclosure										
B2010 - Exterior Walls										
B2010.01 - Exterior Wall Exterior Skin										
B2010.01.01	Precast Concrete*	75	1957	C (Acceptable)		There is precast terrazzo frames surrounding the pool windows.				
B2010.01.02.01	Clay Masonry Units* (Brick Cladding)	75	1957	D (Marginal)	2 (Potentially Critical)	The walls have four-inch brick cladding face-sealed to the hollow clay tile backup wall.	There are spalling bricks along the upper walls largely located along the west wall and northwest corner, as well as above the staff entrance door at the northeast corner by the main pool entrance. The majority of brick deterioration roughly corresponds to the roofline, implying that water penetration behind the cladding is related to either roof membrane failure, or vapour barrier failure at the interior ceiling or possibly both. Based on photos from the previous 2009 assessment report, brick spalling has increased by 25-50% depending on location over the last 13 years. There are also various patch repairs completed in 2010, according to building staff.	We recommend completing a water penetration test on the roofing membrane along the parapet, as well as completing an air leakage test from the interior at the ceiling to wall transition. Both tests would likely require some destructive investigation. We estimate fees for these tests including access of about \$15K. A subsequent repair strategy will be dependent on the results of the investigations which may include new details for an A/V barrier, and roof membrane repairs along the parapet, but at minimum, spalled bricks and nearby deteriorated/saturated brick will require replacement. We have allowed for a \$500K allowance for this work. The staff entrance should either be closed, or overhead protection provided until investigations and repairs are completed.	2022	\$515,000
B2010.01.09	Expansion Control* (Sealants)	20	1957	D (Marginal)		Expansion joints with sealant are provided where the pool addition connects to the school.	Sealant is generally deteriorated, split, and crazed.	Lifecycle Replacement	2022	\$2,000
B2010.01.11	Joint Sealers**	20	1957	D (Marginal)		Sealant is installed at exterior window perimeters and at some door perimeters. Sealant is also installed at the building perimeter between the base of the exterior walls and pavement.	Sealant is generally deteriorated, split, and crazed.	Lifecycle Replacement	2022	\$8,000
B2010.02 - Exterior Wall Construction										
B2010.02.03	Masonry Units*	75	1957	C (Acceptable)		The walls have eight-inch hollow clay tiles behind the brick cladding.				
B2010.03	Exterior Wall Vapour Retarders, Air Barriers, and Insulation*	75	1957	C (Acceptable)		According to the test openings in walls revealed two-inches of glass fibre insulation and 3/4-inch plaster on an expanded metal lath.				
B2010.05	Parapets*	75	1957	D (Marginal)	1 (Currenty Critical)	According to the architectural drawings, the parapets are constructed of eight-inch masonry clay bricks capped with a cut stone coping. The coping is currently covered by prefinished metal cap flashings.	Exterior spalling bricks. Areas of potential falling bricks are fenced off.	Repair parapet cladding. Budget cost included in item B2010.01.02.01: Clay Masonry Units.	2022	

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B2010.06	Exterior Louvers, Grilles and Screens*	40	1957	D (Marginal)		There are metal louvers on the north and east elevations for the mechanical room and chlorine room. Mechanical drawings indicate they are copper.	Louvers are generally damaged with bent blades.	Replace louvers.	2022	\$5,000
B20 - Exterior Enclosure										
B2020 Exterior Windows										
B2020.01.01.01	Steel Windows**	40	1957	D (Marginal)		There is a window in a steel frame on the east elevation of the mechanical room. Steel security bars cover the window on the exterior side.	The window appears original to the building based on material type and condition.	Lifecycle Replacement	2022	\$1,000
B2020.01.01.02	Aluminum Windows**	40	1981	D (Marginal)		There are fixed double-glazed insulating glass units (IGUs) in aluminum frames on the north and west elevations of the pool area.	There are corrosion stains at the tops of some of the exterior window frames and condensation staining on the interior framing. Glazing seals appear deteriorated.	Lifecycle Replacement	2022	\$60,700
B2020.01.01.06	Plastic Windows**	35	2000 (est.)	C (Acceptable)		There is a fixed double-glazed IGU in a vinyl frame on the east elevation of the pool deck office.	No major issues were noted or reported.	Lifecycle Replacement	2035	\$1,000
B2020.03	Glazed Curtain Wall**	40	1981	D (Marginal)		There is an aluminum-framed curtain wall with an incorporated sliding glass door on the south elevation of the pool area. The curtain wall has double-glazed IGUs and is retained by pressure plates concealed by snap covers. The windows were manufactured in 1981 based on spacer date stamps where checked.	We noted failed glazing seals with moisture in the IGU air space. The exterior aluminum frame finish is worn and faded. Based on age and condition, we expect lifecycle replacement will soon be required.	Lifecycle Replacement	2022	\$48,200
B20 - Exterior Enclosure										
B2030 - Exterior Doors										
B2030.01.01	Aluminum-Framed Storefronts**	40	1981	D (Marginal)		There are three sets of aluminum-framed sliding glass doors incorporated into the curtain wall on the south elevation of the pool area.	We noted failed glazing seals with moisture in the IGU air space. The exterior aluminum frame finish is worn and faded and there is surface corrosion at the base of the sliding door. Based on age and condition, we expect lifecycle replacement will soon be required.	Lifecycle Replacement	2022	\$33,000
B2030.02.01	Metal Doors and Frames**	40	1981	C (Acceptable)		There are two double swing and four single swing metal doors in metal frames on the north, west, and east elevations.	The doors have some flaking and peeling paint and surface corrosion on the frame and hardware.	Lifecycle Replacement	2022	\$7,000
B30 - Roofing										
B3010 - Roof Coverings										
B3010.01	Deck Vapour Retarder and Insulation*	25	1998	D (Marginal)		The 1998 ARCA installation record indicates the pool roof has a 2-ply #15 felt vapour retarder, sloped EPS Type 1 and wood fibreboard insulation, and an Elastophene PS/Sopralene Flam 180 waterproofing base sheet membrane.	No test cuts were performed at the time of the visit to reveal the condition of these layers. Based on observed condition of the roof described in item B3010.04.04: Modified Bituminous Membrane Roofing (SBS) and the design life, the roof is near the end of its service life.	We expect these will be replaced with the roof renewal project in item B3010.04.04: Modified Bituminous Membrane Roofing (SBS); therefore, no budget is included.		

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B3010.04.04	Modified Bituminous Membrane Roofing (SBS)** (Repairs)	25	1998	D (Marginal)	2 (Potentially Critical)	The pool has a three flat roof areas and one sloped roof area protected by a 2-ply modified bituminous membrane.	We noted areas of ridging, blisters, and tenting at parapet upturns on the northwest corner and south side of the pool roof. There is evidence of pooling water from observed debris build-up and multiple repair patches throughout the roof and evidence of water leakage into the pool area on the northwest corner and south side.	Repair areas of active leakage at the northwest corner and south side.	2022	\$12,000
B3010.04.04	Modified Bituminous Membrane Roofing (SBS)** (Lifecycle Replacement)	25	1998	D (Marginal)		The pool has three flat roof areas and one sloped roof area protected by a 2-ply modified bituminous membrane.	We noted areas of ridging, blisters, and tenting at parapet upturns on the northwest corner and south side of the pool roof. There is evidence of pooling water from observed debris build-up and multiple repair patches throughout the roof and evidence of water leakage into the pool area on the northwest corner and south side.	Lifecycle Replacement Based on service life and observed roof deficiencies, we expect the roof will require replacement within the next two years.	2023	\$200,000
S3 INTERIORS										
C10 - Interior Construction										
C1010 - Partitions										
C1010.01.03	Unit Masonry Assemblies* (Interior Fixed Partitions)	75	1957	C (Acceptable)		Interior basement partition walls are primarily constructed of hollow clay tiles.				
C1010.01.07	Framed Partitions* (Interior Fixed Partitions)	75	1981	C (Acceptable)		There are metal stud framed partition walls in the basement staff rooms.				
C1010.05	Interior Windows*	70	1957	C (Acceptable)		There are two windows between the pool and deck office.	No major issues were noted or reported. The frame is painted and the windows appear well-maintained.	Lifecycle Replacement Based on absence of reported issues, we have extended the design life by 20 years.	2027	\$1,000
C1020 - Interior Doors										
C1020.01	Interior Swinging Doors*	30	2017	B (Good)		Interior doors are metal in pressed steel frames.	No major issues were noted or reported. Maintenance records indicate doors were replaced in 2017.			
C1020.03	Interior Fire Doors*	50	2017	B (Good)		There are typically fire doors serving service rooms.	No major issues were noted or reported. Maintenance records indicate doors were replaced in 2017.			
C1020.04	Interior Sliding and Folding Doors*	30	1995	C (Acceptable)		There is a sliding aluminum grille at the top of the ramp of the east side to close off the pool area. According to the 2013 report, it was installed in 1995.	No major issues were noted or reported.	Lifecycle Replacement	2025	\$2,000
C1030 - Fittings										
C1030.02.01	Metal Toilet Compartments**	30	2015 (est.)	B (Good)		There are six metal toilet partitions in the change rooms.	No major issues were noted or reported. These appear to have been replaced during the 2015 change room renovations, where checked in the men's change room.	Lifecycle Replacement	2045	\$7,200

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C1030.02.06	Shower and Dressing Compartments**	30	2015	C (Acceptable)		There are eight metal dressing partition compartments in the change rooms.	No major issues were noted or reported, where checked in the men's change room. Maintenance history records indicate these compartments were replaced in 2015.	Lifecycle Replacement	2045	\$9,600
C1030.10.01	Metal Lockers**	30	1995	C (Acceptable)		There are about 500 combination single and double-tier metal lockers in the change rooms. There is an additional 12 single small wall-mounted lockers on the east side of the pool area.	No major issues were noted or reported and lockers appear well-maintained. Based on observed condition and the 2013 report, these lockers were installed in about 1995.	Lifecycle Replacement	2025	\$31,700
C1030.12	Storage Shelving*	40	1995 (est.)	C (Acceptable)		There are wood and metal storage shelving units throughout the pool area, storage, and service rooms.				
C1030.14	Toilet, Bath, and Laundry Accessories*	30	1995 (est.)	C (Acceptable)		Washroom accessories include the following of various ages: - manual soap dispensers - rotating hand towel dispensers - toilet paper dispensers - wall-mounted mirrors				
C20 - Stairs and Ramps										
C2010 - Stair Construction										
C2010.01	Cast-in-Place Concrete Stair Construction*	75	1957	C (Acceptable)		The basement stair is constructed of cast-in-place concrete.				
C2010.03	Metal Stair Construction*	75	1957	C (Acceptable)		There is a metal stair with grated treads in the basement mechanical room which provides access to the north entrance door.				
C2020 - Stair Finishes (Including Ramps)										
C2020.08	Stair Railings and Balustrades*	75	1957	C (Acceptable)		There are painted wall and floor-mounted metal handrails at the sides and middle of the stairs in the basement corridor connecting the pool to the school.	No major issues were noted or reported. This appears well-maintained and repainted within the last five to ten years. There are some localized minor paint chips.	Repaint Based on absence of reported issues, we have extended the design life by 35 years, assuming periodic maintenance.	2032	\$3,300
C2020.11	Other Stair Finishes* (Paint)	15	2015 (est.)	B (Good)		The stairs with six risers in the basement corridor connecting the pool to the school has a paint finish with fastened anti-slip nosing strips.	No major issues were noted or reported. This appears well-maintained and repainted within the last five to ten years.	Lifecycle Replacement	2030	\$2,000
C2030 - Interior Ramps										
C2030.01	Ramp Construction*	75	1957	C (Acceptable)		There is a suspended concrete ramp connecting the pool area to the basement change rooms.				
C2030.01	Ramp Finishes* (Ceramic Tile)	70	1957	C (Acceptable)		The ramp connecting the pool area to the basement change rooms is finished with ceramic tiles.	No major issues were noted or reported. The anti-slip coating has been protecting and extending the service life the ramp ceramic tiles.	Lifecycle Replacement Based on absence of reported issues, we have extended the design life by 40 years, assuming periodic maintenance.	2027	\$9,000

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C2030.01	Ramp Finishes* (Anti-Slip Coating)	15	2017	B (Good)		The ramp connecting the pool area to the basement change rooms has an anti-slip coating.	No major issues were noted or reported. According to the maintenance history report, the coating was replaced in 2017.	Lifecycle Replacement	2032	\$5,300
C2030.01	Ramp Railings*	45	1985	B (Good)		The ramp between the pool and change rooms has floor and wall-mounted stainless steel railings.	No major issues were noted or reported. Based on observed condition, this appears replaced since original construction.	Lifecycle Replacement	2030	\$8,200
C30 - Interior Finishes										
C3010 - Wall Finishes										
C3010.03	Plaster Wall Finishes*	75	1957	C (Acceptable)		The top half of the change rooms and pool area walls have Keenes cement plaster finishes on metal laths.				
C3010.04	Gypsum Board Wall Finishes*	75	1985	C (Acceptable)		Partition walls in the staff room has gypsum board finishes.				
C3010.06.01	Ceramic Tile** (2019)	40	2019 (est.)	B (Good)		There are ceramic wall tiles behind the urinals in the men's change room.	The ceramic tiles appear new with no issues noted or reported. Based on condition, we assume this was replaced within the last five years.	Lifecycle Replacement	2059	\$1,300
C3010.06.01	Ceramic Tile** (1985 - Repair)	45	1985	C (Acceptable)	3 (Necessary, Not Yet Critical)	The pool area, corridor, change rooms, and offices have areas of ceramic tile wall finishes.	Based on observed condition, this appears replaced since original construction. Maintenance records also indicate a portion of the pool deck wall tiles have been replaced in 2014. There are localized areas of cracked wall tiles observed in the pool area and deck office washroom.	Repair We assume individual cracked tiles will continue to be replaced and regouted as required as part of a maintenance expense.	2022	\$2,000
C3010.06.01	Ceramic Tile** (1985 - Lifecycle Replacement)	45	1985	C (Acceptable)		The pool area, corridor, change rooms, and offices have areas of ceramic tile wall finishes.	Based on observed condition, this appears replaced since original construction. Maintenance records also indicate a portion of the pool deck wall tiles have been replaced in 2014. There are localized areas of cracked wall tiles observed in the pool area and deck office washroom.	Lifecycle Replacement Based on condition, we have extended the design life by five years, assuming periodic maintenance.	2030	\$183,000
C3010.11	Interior Wall Painting* (Repair)	20	2015	B (Good)	3 (Necessary, Not Yet Critical)	All interior gypsum and plaster walls have a paint finish.	There are localized areas of peeling and flaking paint on the walls in the pool area. We expect this is due to a combination of high humidity and condensation.	Repaint	2022	\$5,000
C3010.11	Interior Wall Painting* (Lifecycle Replacement)	20	2015	B (Good)		All interior gypsum and plaster walls have a paint finish.	There are localized areas of peeling and flaking paint on the walls in the pool area. We expect this is due to a combination of high humidity and condensation.	Lifecycle Replacement	2030	\$25,000

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C3020 - Floor Finishes										
C3020.02.01	Ceramic Tile** (2015)	30	2015	B (Good)		There are ceramic tiles around floor drains in the men's change room.	No major issues were noted or reported. These were replaced when the drain covers were replaced in 2015.	We expect this will be replaced with the overall flooring in the change rooms so no budget is added.		
C3020.02.01	Ceramic Tile** (1985)	40	1985	C (Acceptable)		The washroom and shower floors and pool deck have ceramic tile finishes.	No major issues were noted or reported. The tiles appear well-maintained. The tiles are replaced and regouted as required as part of a maintenance expense.	Lifecycle Replacement Based on condition, we have extended the design life by 10 years, assuming periodic maintenance.	2025	\$23,000
C3020.07	Resilient Flooring** (Sheet Flooring)	20	2015 (est.)	B (Good)		The deck office and basement staff room have vinyl sheet flooring.	No major issues were noted or reported.	Lifecycle Replacement	2035	\$7,200
C3020.07	Resilient Flooring** (Tile Flooring)	20	1985	D (Marginal)		The basement corridor connecting the pool to the school has vinyl tile floor finishes.	The flooring is discoloured and has scuffs, marks, and scratches.	Lifecycle Replacement	2022	\$5,800
C3020.11.01	Floor Painting - Interior Paints**	15	2015 (est.)	B (Good)		The basement corridor connecting the pool to the school and change rooms have a paint finish.	No major issues were noted or reported. This appears well-maintained and repainted within the last five to ten years.	Lifecycle Replacement	2030	\$5,900
C3030 - Ceiling Finishes										
C3030.03	Plaster Ceiling Finishes*	75	1957	C (Acceptable)		There are plaster ceilings in the basement change rooms and corridors.	A section of plaster ceiling at the entrance of the men's change rooms has been removed due to water damage from an above pipe leak.	Repair plaster ceiling once pipe leak has been repaired.	2022	<\$1,000
C3030.06	Acoustical Ceiling Treatment** (T-Bar System - 2015)	30	2015 (est.)	B (Good)		The deck office and basement staff rooms area have T-bar grid system ceiling finishes with acoustic tiles.	No major issues were noted or reported.	Lifecycle Replacement	2045	\$12,200
C3030.06	Acoustical Ceiling Treatment** (T-Bar System - 1957)	30	1957	D (Marginal)		The pool area has a T-bar grid system ceiling finishes with acoustic tiles.	Acoustic tiles in the pool area have water stains and damages throughout. Localized tiles are also missing.	Lifecycle Replacement	2022	\$81,500
C3030.07	Interior Ceiling Painting*	30	2015 (est.)	B (Good)		All interior plaster ceilings have a paint finish.	Plaster painted ceilings are in good condition and appear to be repainted within the last five to ten years.	Lifecycle Replacement	2030	\$10,500
S4 MECHANICAL										
D20 - Plumbing										
D2010 - Plumbing Fixtures										
D2010.01	Water Closets**	30	2015 (est.)	B (Good)		There are six tankless porcelain toilets in the change rooms and one tanked toilet in the deck office washroom.	No major issues were noted or reported. These appear to have been replaced since original construction.	Lifecycle Replacement	2045	\$12,000
D2010.02	Urinals**	30	2019	A (Excellent)		There are porcelain urinals in the male change room with automatic flush sensors.	No major issues were noted or reported. Maintenance records indicate these were replaced in 2019.	Lifecycle Replacement	2049	\$3,700
D2010.03	Lavatories** (Enamel)	30	1957	C (Acceptable)		There are six enamelled sinks on wall-mounted stainless steel counters in the change rooms	No major issues were noted or reported. Lavatories appear outdated and past their expected service life.	Lifecycle Replacement	2022	\$9,000
D2010.03	Lavatories** (Porcelain)	30	2015	C (Acceptable)		There is a wall-mounted porcelain sink in the deck office washroom.	No major issues were noted or reported.	Lifecycle Replacement	2045	\$1,500

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D2010.04	Sinks** (Kitchen)	30	2015	C (Acceptable)		There are a stainless steel sink surface-mounted on a wood countertop in basement staff room.	No major issues were noted or reported.	Lifecycle Replacement	2045	\$1,500
D2015.05	Showers**	30	2013	C (Acceptable)		There are showers with a single faucets and valves in the change rooms.	No major issues were noted or reported. Maintenance records indicate these were replaced in 2013.	Lifecycle Replacement	2043	\$3,000
D2015.08	Drinking Fountains/Coolers**	25	2014	C (Acceptable)		There is a wall-mounted drinking fountain in pool area.	No major issues were noted or reported. Maintenance records indicate this was replaced in about 2014.	Lifecycle Replacement	2039	\$2,000
D2015.09	Other Plumbing Fixtures* (Emergency Shower Station)	25	2018	B (Good)		There is an emergency shower in the mechanical room.	No major issues were noted or reported. Maintenance records indicate this was installed in about 2018.	Lifecycle Replacement	2043	\$6,600
D2020 - Domestic Water Distribution										
D2020.01.01	Pipes and Tubes*	50	2013	B (Good)		The incoming 3-inch domestic water service line arrives to the basement mechanical room from the school. Distribution piping is copper where visible. Maintenance records show the piping was replaced in 2013.				
D2020.01.02	Valves**	20	2013	C (Acceptable)		There are various valves throughout.	No issues were reported and none were noted.	Lifecycle Replacement We assume small valves are replaced as-needed as they fail.	2029	\$5,000
D2020.01.03	Piping Specialties (Backflow Preventers)**	20	2013	C (Acceptable)		The domestic cold water line in the basement mechanical room has a 3" and a 3/4" backflow preventer. According to the inspection tags, they were last inspected November 26, 2021 by the City of Edmonton.	No issues were reported and none were noted.	Lifecycle Replacement	2033	\$13,700
D2020.02.06	Domestic Water Heaters** (Storage Tank 1)	15	2013	C (Acceptable)		There is an AO Smith glass-lined hot water storage tank in the basement mechanical room with a 130 US gallon capacity (model no. BTH 500A 104, serial no. 1305M000976).	No issues were reported, and we noted no major deficiencies.	Lifecycle Replacement	2028	\$15,000
D2020.02.06	Domestic Water Heaters** (Storage Tank 2)	15	2013	C (Acceptable)		There is an AO Smith glass-lined hot water storage tank in the basement mechanical room with a 130 US gallon capacity (model no. BTH 500A 104, serial no. 1239M000921).	No issues were reported, and we noted no major deficiencies.	Lifecycle Replacement	2028	\$15,000
D2020.03.01	Piping Insulation*	30	2013	C (Acceptable)		Water supply pipes are largely covered with insulation sleeves.				

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D2030 - Sanitary Waste										
D2030.01	Waste and Vent Piping*	75	1957	C (Acceptable)		Sanitary piping is cast iron where viewed in the mechanical room. Metal piping was also observed below sinks.				
D2030.02.04	Floor Drains*	50	2015	B (Good)		There are floor drains with metal strainer covers in the change rooms, washrooms, and shower areas.				
D2030.03	Waste Piping Equipment*	30	2013 (est.)	C (Acceptable)		There is a sump pump for a sump pit located in the basement mechanical room on the south side.	No issues were reported, and we noted no major deficiencies. Maintenance records indicate the sump system was serviced in 2019.	Lifecycle Replacement	2036	\$5,000
D2040 - Rain Water Drainage										
D2040.01	Rain Water Drainage Piping Systems*	75	1957	C (Acceptable)		Rain water drainage on the roof areas are through internal area drains. Interior rain water drainage piping is cast iron where observed in the pool area.	The paint finish on the piping in the pool area is peeling off due to moisture.	Repaint piping with other interior painting projects.	2022	\$1,000
D2040.02.04	Roof Drains*	40	1998	C (Acceptable)		There are internal area drains with plastic strainer covers on the flat roofs.				
D30 - HVAC										
D3010 - Energy Supply										
D3010.02	Gas Supply Systems*	75	1957	C (Acceptable)		Gas supply to the building arrives from the school into the basement mechanical room.				
D3020 - Heat Generating Systems										
D3020.01.01	Heating Boilers and Accessories** (Steam Boilers)	30	1957	D (Marginal)		<p>There is a Powermaster steam boiler in the basement mechanical room with a heating capacity of 3,348 MBH which serves the domestic heating systems and swimming pool . (model no. 3010950, serial no. 5610303)</p> <p>There is a burner attached, manufactured by Weishaupt in 2014.</p>	The boiler was not functional at the time of the visit as the heat exchanger was not operational.	The budget includes replacing the steam boiler with a separate heating boiler for the domestic heating and a separate heating boiler for the swimming pool water. No redundant boilers for the systems are included.	2022	\$203,000

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D3020.01.01	Heating Boilers and Accessories** (Heat Exchanger)	20	2000	D (Marginal)	1 (Currenty Critical)	There is a shell and tube type heat exchanger in the basement mechanical room.	It was not functional at the time of the visit. The Supervisor reports major issues with the heat exchanger. WSP's mechanical personnel reviewed the failure of the steam to pool water heat exchanger. As per discussions with the city maintenance staff it appears that the tubes failed in the heat exchanger which led to the intrusion of low pressure steam into the pool water. As a result the pool water was heated to the boiling point and a failure of some of the surrounding PVC piping occurred. Due to the simplicity of the steam boiler blow down system it might be concluded that the water treatment eventually caused the failure of the heat exchanger or it may have failed as a result of its age.	Replace heat exchanger (\$50,000) In replacing the heat exchanger it would be recommended that a double walled nickel bronze heat exchanger be provided. The enhanced material of tubes would prevent corrosion and the double feature would provide a fail safe against future failure. In addition it would be recommended to provide and automated boiler blowdown system be added to aid in the water treatment process (\$25,000)	2022	\$75,000
D3020.01.01	Heating Boilers and Accessories** (Expansion Tank)	35	2008	C (Acceptable)		There is an Amtrol expansion tank in the basement mechanical room for the heating plant. (model no. ST-60N, serial no. 14430208)	No issues were reported, and we noted no major deficiencies.	Lifecycle Replacement	2043	\$5,500
D3020.01.03	Breechings, Chimneys, and Stacks** (Steam Boilers)	30	1957	D (Marginal)		There is a brick masonry chimney above the mechanical room room.	The brick masonry and concrete coping is crumbling and falling apart.	Repair chimney	2022	\$15,000
D3020.01.04	Water Treatment Equipment* (Steam Boilers)	20	2017	C (Acceptable)		There is a Shipco chemical feed system for the boiler system in the basement mechanical room (model no. 100 EMV, serial no. 78551).	The system was not functional as the boiler was not functional. Maintenance records indicate the water treatment and chemical feed system was added in 2017.	We assume this will be replaced with the steam boiler.	2022	\$8,100
D3040 - HVAC Distribution (Distribution Systems)										
D3040.01.01	Air Handling Units** (Mechanical Room AHU)	25	1957	D (Marginal)		There is an air handling unit (AHU) in the basement mechanical room on the north side. There is no dataplate visible on the unit. We understand it serves the change rooms and surrounding shared pool and school rooms.	The AHU was functional at the time of the visit and periodically maintained according to the maintenance stickers. Casing is worn and dated. The AHU is past its expected service life and we expect it will require replacement within the next couple years.	Lifecycle Replacement Cost is based on size and estimated air supply capacity. This should be confirmed at the time of replacement.	2023	\$100,000
D3040.01.01	Air Handling Units** (Pool AHU)	25	1957	D (Marginal)		There is an American Standard AHU in a room above the pool deck office with an air supply capacity of 16,200 CFM. The unit provides heated air and ventilation to the pool area. According to the drawings, the AHU has a preheat and reheating coil. (model no. 2V20, serial no. 667517-1)	The AHU was functional at the time of the visit and periodically maintained according to the maintenance stickers. Casing is worn and dated. The AHU is past its expected service life and we expect it will require replacement within the next couple years.	Lifecycle Replacement	2023	\$76,000
D3040.01.02	Fans** (Exhaust)	25	2000 (est.)	C (Acceptable)		The deck office washroom has a ceiling-mounted exhaust fan.	No issues were reported, and we noted no major deficiencies.	Lifecycle Replacement	2025	<\$1,000

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D3040.01.04	Ducts*	25	1957	C (Acceptable)		Air throughout the building is provided through ceiling-hung metal ducts connected to the mechanical AHU and MAU units.	No issues were reported, and we noted no major deficiencies.	Lifecycle replacement event at the same time as the AHU and MAU projects in D3040.01.01. Budget cost unit rate is based on the size of the building. Ducting quantities and quotes should be confirmed at the time of replacement.	2022	\$193,500
D3040.01.07	Air Outlets & Inlets*	25	1957	C (Acceptable)		There is a metal inlet and outlet grille on the west and east side of the pool area.	No issues were reported, and we noted no major deficiencies.	Lifecycle replacement events at the same time as the AHU and MAU projects. Cost included in D3040.01.01 projects.		
D3040.02	Steam Distribution Systems (Piping/Pumps)**	35	1957	D (Marginal)		Steam distribution system consists of steel or iron piping and two pumps rated at 7.5 HP in the basement mechanical room.	Steam piping was not functional at the time of the visit as the boiler was also not functional.	Replace with steam boiler. Budget cost unit rate is based on the size of the building.	2022	\$165,000
D3050 - Terminal & Packaged Units										
D3050.01.03	Packaged Terminal Air Conditioning Units**	25	2000 (est.)	C (Acceptable)		There is a split-system Sanyo air conditioning system with two wall-mounted units in the basement staff room and a condensing unit in the chemical storage area with a total cooling capacity of 1.5 tons - staff room units: model no. KMS0912, serial no. 0055922, 0065922. - condensing unit: model no. CM1812, serial no. 0002822	No issues were noted or reported.	Lifecycle Replacement	2025	\$5,000
D3050.01.04	Unit Air Conditioners**	25	2014	C (Acceptable)		There is a Friedrich window air conditioning unit serving the electrical room.	No issues were noted or reported.	Lifecycle Replacement	2039	\$1,500
D3050.05.02	Fan Coil Units**	35	2015	B (Good)		There is a force flow unit recessed in the east wall of the deck office.	No issues were noted or reported. Maintenance records indicate this was installed in 2015.	Lifecycle Replacement	2050	\$5,000
D3050.05.06	Unit Heaters**	35	1985 (est.)	C (Acceptable)		There are five ceiling-mounted hydronic vertical unit heaters spread throughout the pool area.	No issues were noted or reported. Maintenance records indicate one of the unit heaters has been replaced in 2014. We assume the others are original and past the expected service life.	Lifecycle Replacement Based on age, we expect these unit heaters will require replacement within the next two years and be individually replaced as they fail.	2023	\$30,000
D3060 - HVAC Instrumentation and Controls										
D3060.02.02	Pneumatic Controls** (Lifecycle Replacement)	35	2012	C (Acceptable)		There is a pneumatic control system consisting of an air compressor and air dryer in the basement mechanical room. - Curtis air dryer rated at 10 SCFM (model no. CR10, serial no. HG010A1150612014) - DVAir compressor with a 1 HP motor (model no. UDL503103MS, serial no. 60813)	No issues were noted or reported.	Lifecycle Replacement Cost is based on building size and should be confirmed by a quote at the time of replacement.	2047	\$33,000

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D3060.02.02	Pneumatic Controls** (Upgrade)	35	2012	C (Acceptable)	4 (Recommended)	Recommend upgrading control system to direct digital control (DDC) actuation.	More buildings have been upgrading to DDC automation systems and replacement parts for pneumatic systems may become increasingly difficult to obtain.	Discretionary budget to upgrade control system to DDC actuation. Cost is based on building size and should be confirmed by a quote at the time of replacement.	2023	\$85,000
D40 - Fire Protection										
D4030 - Fire Protection Specialties										
D4030.01	Fire Extinguisher, Cabinets and Accessories*	30	2021	B (Good)	4 (Recommended)	There are ABC type fire extinguishers throughout the building. According to inspection tags, fire extinguishers were last inspected by Johnson Controls in March 2021.	No issues were noted or reported.	Fire extinguishers should be inspected monthly as a maintenance cost below the capital threshold of the report.		
S5 ELECTRICAL										
D50 - Electrical										
D5010 - Electrical Service and Distribution										
D5010.01	Main Electrical Transformers**	40	1985	C (Acceptable)		Electricity to the pool area is supplied underground from an exterior pad-mounted transformer on the east side of the school. We understand the transformer is shared between the school and pool area. The transformer is not the responsibility of the property and is owned by the utility so no budget is included.				
D5010.02	Low Voltage Transformers** (Secondary) (T1)	40	1985	C (Acceptable)		There is a secondary FPE electrical transformer in the electrical room adjacent to the basement mechanical room stepping a portion of 600V service down to 120/208V. It is rated at 150 kVA. We expect power to the transformer is fed from the school's main electrical room. (Tag 6T-2D2)	No issues were reported and none were noted.	Lifecycle Replacement	2025	\$11,000
D5010.03	Main Electrical Switchboards** (Main Disconnect)	40	2015 (est.)	B (Good)		The main Square D disconnect is in the basement mechanical room on the south side and rated at 400A, 240V. We expect the pool area and school share the same electrical meter.	No issues were reported and none were noted. This disconnect appears to have been replaced within the last 10 years, based on the condition of the exterior case.	Lifecycle Replacement	2055	\$4,000
D5010.05	Electrical Branch Circuit Panelboards** (CDP)	40	1985	C (Acceptable)		The Federal Pioneer central distribution panel next to the main disconnect is rated at 400A, 120/208V, 3 phase, 4 wire and controls. Based on labels, it controls Panel C, Panel CC, pool equipment splitter, deck office panel, stage equipment, and a school panel.	No issues were reported and none were noted.	Lifecycle Replacement	2025	\$16,500

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D5010.05	Electrical Branch Circuit Panelboards** (Secondary)	40	1985	C (Acceptable)		There are four secondary electrical circuit breaker panels rated between 100A to 225A, at 120/208V, 3-phase, 4-wire. Tag. No: - No tag Cutler-Hammer (125A, 120/240V) in the basement mechanical room - Panel CC FPE (225A, 120/208V) in the basement mechanical room - Panel C FPE Slab-lok (100A, 240V) in the staff room - Panel One FPE (225A, 120/208V) in the deck office - Panel A Square D (100A, 120/208V) in the mechanical room above the deck office - Panel B Square D (100A, 120/208V) in the mechanical room above the deck office	No issues were reported and none were noted.	Lifecycle Replacement	2025	\$16,600
D5010.07	Motor Control Centers** (2015)	30	2015 (est.)	B (Good)		There are two Square D motor starters on the east side of the basement mechanical room controlling HVAC supply fans.	No issues were reported and none were noted.	Lifecycle Replacement	2045	\$10,000
D5010.07	Motor Control Centers** (1985)	30	1985	C (Acceptable)		There are various motor starters by Westinghouse and Allen Bradley on the east side of the basement mechanical room controlling pool equipment.	These starters have gone past their expected service life. The casings and switches are worn and outdated.	Lifecycle Replacement	2022	\$30,000
D5020 - Lighting and Branch Wiring										
D5020.01	Electrical Branch Wiring*	75	1957	C (Acceptable)		The electrical wiring for the original building is generally concealed by conduits, but we expect it is copper based on the age of the building.				
D5020.02.02.02	Interior Fluorescent Fixtures**	30	1957	C (Acceptable)		There are ceiling-mounted fixtures throughout the building.	No issues were reported and none were noted.	Lifecycle Replacement to occur with electrical branch wiring replacement project. We assume bulbs and lamps will continue to be replaced as-needed as they fail.	2032	\$16,600
D5020.02.02.03	Interior Metal Halide Fixtures*	30	1957	C (Acceptable)		The pool area has ceiling-hung fixtures with metal halide lamps.	We noted two fixtures in the pool area with burnt out lamps.	Lifecycle Replacement to occur with electrical branch wiring replacement project. We assume bulbs and lamps will continue to be replaced as-needed as they fail. We recommend these lights be replaced with LED lamp fixtures for improved lighting and energy efficiency.	2032	\$11,000

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D5020.02.03.02	Emergency Lighting Battery Packs**	25	2015 (est.)	C (Acceptable)		There is wall-mounted emergency lighting with battery packs throughout the building.	No issues were reported and none were noted.	Lifecycle Replacement	2040	\$10,000
D5020.02.03.03	Exit Signs*	40	2015 (est.)	B (Good)		There are illuminated running man exit signs at exits and corridors.				
D5020.03.01.05	Other Exterior Fixtures*	25	2015 (est.)	C (Acceptable)		There are wall-mounted light fixtures generally above doors and above windows on the north and west elevations.	No issues were reported and none were noted.	Lifecycle Replacement	2040	\$4,000
D5020.03.02	Lighting Accessories (Lighting Controls)*	25	2015 (est.)	C (Acceptable)		There are lighting control panels for the pool area in the mechanical room above to deck office.				
D5020.02.04	Special Purpose Lighting: Exterior*	25	2015 (est.)	C (Acceptable)		There is a caged chlorine alarm light outside and above the chlorine room on the north side.				
D5030 - Communications and Security										
D5030.01	Detection and Alarm Fire Alarm**	25				The fire alarm system for the school and pool area are shared. According to the 2013 report, the main fire alarm panel is located in the school and monitors fire detectors, alarm bells, strobes, and pull stations throughout.	No issues were reported and none were noted.	We assume the school maintains and manages the fire alarm system; therefore, no budget is included.		
D5030.01.01	Gas Detection*	25	2004	C (Acceptable)		There is a chlorine gas Honeywell monitoring and alarm system in the mechanical room. The system monitors detectors in the Chlorine injection and storage room.	No issues were reported and none were noted.	Lifecycle Replacement	2029	\$6,600
D5030.02.01	Door Answering*	25	1985 (est.)	C (Acceptable)		There is a door bell at the north staff entrance.	The door bell has gone past its expected service life and we expect it will require replacement within the next couple years.	Lifecycle Replacement	2023	<\$1,000
S6 EQUIPMENT, FURNISHINGS & SPECIAL CONSTRUCTION										
E20 - Furnishings										
E2010 - Fixed Furnishings										
E2010.02.07	Kitchen Casework**	30	2015 (est.)	B (Good)		There are wall and floor-mounted wood cabinets and countertops in the basement staff rooms.	No issues were reported and none were noted.	Lifecycle Replacement	2045	\$6,400
E2010.02.99	Other Casework** (Washrooms)	30	2015 (est.)	B (Good)		There are stainless steel wall-mounted countertops for lavatories in the change rooms.	No issues were reported and none were noted.	Lifecycle Replacement	2045	\$8,000
E2010.05.06	Fixed Pews and Benches**	35	2015 (est.)	B (Good)		There are floor-mounted benches in the change rooms.	No issues were reported and none were noted.	Lifecycle Replacement	2050	\$3,000
F10 - Special Construction										
F1020 - Integrated Construction										
F1020.02.10	Saunas*	40	1995	C (Acceptable)		There is a cedar constructed sauna room in the pool area.				

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F1040 - Special Facilities										
F1040.01	Aquatic Facilities* (Pool Structure)	75	1957	C (Acceptable)		There are two pools in the facility, which include the main pool and whirlpool.				
F1040.01	Aquatic Facilities* (Pool Basin Finishes)	70	1957	C (Acceptable)		The pool basin has ceramic mosaic tile finishes.	No major issues were noted or reported. The tiles appear well-maintained.	The tiles are replaced and regROUTED as required as part of a maintenance expense. We have included an allowance for future repairs.	2027	\$12,000
F1040.01	Aquatic Facilities* (Pool Deck Finishes)	70	1957	C (Acceptable)		The pool deck has ceramic tile finishes.	No major issues were noted or reported. The tiles appear well-maintained.	The tiles are replaced and regROUTED as required as part of a maintenance expense. We have included an allowance budget for future repairs and reapplying an anti-slip coating.	2027	\$84,000
F1040.01	Aquatic Facilities* (Pool Deck and Basin Finishes Lifecycle Replacement)	80	1957	C (Acceptable)		The pool basin and deck have ceramic tile finishes.	No major issues were noted or reported. The tiles appear well-maintained.	Lifecycle Replacement includes replacing pool deck and basin tiles and waterproofing.	2037	\$436,000
F1040.01	Aquatic Facilities* (Water Distribution Plumbing)	40	1986	C (Acceptable)		Pool water distribution piping is PVC.				
F1040.01	Aquatic Facilities* (Pool Pumps)	40	2008	C (Acceptable)		There are two pool filter pumps in the basement mechanical room rated at 15 HP each.	No issues were reported and none were noted.	Lifecycle Replacement	2048	\$20,000
F1040.01	Aquatic Facilities* (Pool Filter Tank)	75	1957	C (Acceptable)		There is a concrete filter tank in the basement mechanical room.				
S7 SITE										
G20 - Site Improvements										
G2030 - Pedestrian Paving										
G2030.04	Rigid Pedestrian Pavement (Concrete Sun Deck - Repairs)**	50	1957	D (Marginal)		There is a concrete-paved exterior sundeck on the southwest corner of the building.	The exterior sundeck slab appears to be settling and moving with multiple cracks throughout on the west side. This is likely due to a combination of water ingress along the side of the building affecting the subgrade beneath these slabs along with the vegetation in the area. It is recommended to ensure water drains away from these slabs and not between the building and slab and ensure all vegetation between the building and slab is removed.	It is recommended to ensure water drains away from these slabs and not between the building and slab and ensure all vegetation between the building and slab is removed. We recommend and have included an allowance for removing vegetation, mudjacking to remove tripping hazards and recaulking.	2022	\$13,000
G2030.04	Rigid Pedestrian Pavement (Concrete Sun Deck - Lifecycle Replacement)**	70	1957	D (Marginal)		There is a concrete-paved exterior sundeck on the southwest corner of the building.	The exterior sundeck slab appears to be settling and moving with multiple cracks throughout on the west side. This is likely due to a combination of water ingress along the side of the building affecting the subgrade beneath these slabs along with the vegetation in the area. It is recommended to ensure water drains away from these slabs and not between the building and slab and ensure all vegetation between the building and slab is removed.	Lifecycle Replacement	2027	\$130,000

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G2030.04	Rigid Pedestrian Pavement (Concrete Sidewalk)**	50	1957	C (Acceptable)		There is a concrete sidewalk along the north and east sides of the building in front of the staff entrance doors.	The concrete sidewalk surface worn with exposed aggregate and vegetation growing around the joints and perimeter.	Lifecycle Replacement The sidewalk has gone past its expected service life and we expect it will require replacement within the next couple years.	2023	\$18,000
G2030.06.05	Metal Handrails and Railings*	30	1957	D (Marginal)		There are metal handrails at the north staff entrance doors.	There are multiple paint chips on the handrails.	Clean and paint	2022	<\$1,000
G2040 - Site Development										
G2040.02.01	Chain Link Fences and Gates*	30	2014	B (Good)		There is a metal chain linked fence surround the sun deck on the southwest corner.	No issues were reported and none were noted.	Lifecycle Replacement	2044	\$8,000
G2040.02.05	Wood Fences and Gates**	30	1957	D (Marginal)		There is a wood-slat privacy fence on the interior side of the chain linked fence surrounding the sun deck.	There is peeling and flaking paint throughout. There are widespread areas of deteriorated wood and loose fasteners.	Replace wood fence	2022	\$13,200
G2040.06.01	Dimensional Letter Signs*	30	1985 (est.)	D (Marginal)		There is sticker dimensional letter signage on the interior side of the south curtain wall displaying "SCONA POOL: HOME OF THE LORDS".	Sticker signage is stained and cracked.	Replace sticker signage.	2022	<\$1,000
S8 FUNCTIONAL ASSESSMENT										
K40 - Barrier-Free Access and Building Code Issues										
K4010 - Barrier-Free Access										
K4010.01	Barrier Free Route: Parking to Entrance*	50				Pedestrian sidewalks and ramps on the north side provide barrier free routes between the parking lot and building. There are also four barrier-free stalls provided near the staff entrance. We understand the parking lot is the school's responsibility.				
K4010.02	Barrier Free Entrances*	40				The school entrance doors have button-operated door openers for barrier-free access.				
K4010.03	Barrier Free Interior Circulation*	75	1957	C (Acceptable)		There is an interior ramp with handrails providing access from the change rooms to the pool area.				
K4010.04	Barrier Free Washrooms*	30	2015	B (Good)		The change room washrooms have a barrier-free stall with metal grab bars.				
K4020 - Alberta Building Codes										
K4020.01	Safety Code (Fall Prevention)*					No building codes issues related to life safety were observed or reported during the site visit.				

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APPENDIX

B PHOTO LOG





A1030.01 Standard Slab-on-Grade*
Location: Basement
Component: Slab-on-Grade



A1030.05 Pits and Bases*
Location: Basement
Component: Slab-on-Grade



A2020.01.01 Cast-in-place Concrete*
Location: Basement
Component: Basement Walls



B1020.01.04.02 Steel Joists*
Location: Pool area
Component: Roof Structural Frame



B2010.01.01 Precast Concrete*

Location: North Elevation

Component: Exterior Walls



B2010.01.11 Joint Sealers**

Location: Deck Office Window

Component: Exterior Walls

Deficiency: Sealant is generally deteriorated, split, and crazed.

Recommendation: Lifecycle Replacement (2032)



B2010.02.03.01 Clay Masonry Units* (Brick)

Location: South Elevation

Component: Exterior Windows

Deficiency: There are spalling bricks along the upper walls largely located along the west wall and northwest corner, as well as above the staff entrance door at the northeast corner by the main pool entrance.

Recommendation: Testing and repairs (2022)

The staff entrance should either be closed, or overhead protection provided until investigations and repairs are completed.



B2010.02.03.01 Clay Masonry Units* (Tile)

Location: North Elevation

Component: Exterior Windows

Deficiency: Areas of wall with damaged brick cladding may potentially affect the clay tiles behind. Based on installation year, the mortar may contain asbestos.

Recommendation: Testing and repairs (2022)

We recommend reviewing the condition of the clay tiles during the repairs of the spalled and deteriorated brick cladding. We have included an allowance for about 50% of tile replacements in the areas with spalled bricks as the bricks and tiles bonded together with mortar and likely deteriorated.



B2020.01.01.02 Aluminum Windows**

Location: West Elevation

Component: Exterior Windows

Deficiency: There are corrosion stains at the tops of some of the exterior window frames and condensation staining on the interior framing. Glazing seals appear deteriorated.

Recommendation: Lifecycle Replacement (2022)



B2020.03 Glazed Curtain Wall**

Location: South Elevation

Component: Exterior Windows

Deficiency: We noted failed glazing seals with moisture in the IGU air space. The exterior aluminum frame finish is worn and faded.

Recommendation: Lifecycle Replacement (2022)



B2030.02.01 Metal Doors and Frames**

Location: North Elevation

Component: Exterior Doors

Deficiency: The doors have some flaking and peeling paint and surface corrosion on the frame and hardware.

Recommendation: Lifecycle Replacement (2022)



B3010.04.04 Modified Bituminous Membrane Roofing**

Location: Pool Roof

Component: Roof Coverings

Deficiency: We noted areas of ridging, blisters, and tenting at parapet upturns on the northwest corner and south side of the pool roof. There is evidence of pooling water from observed debris build-up and multiple repair patches throughout the roof and evidence of water leakage into the pool area on the northwest corner and south side.

Recommendation:

Repair (2022)

Lifecycle Replacement (2023)



C1030.02.01 Metal Toilet Compartments**

Location: Men's Change Room

Component: Fittings

Deficiency: No major issues noted or reported

Recommendation: Lifecycle Replacement (2045)



C1030.10.01 Metal Lockers**

Location: Men's Change Room

Component: Fittings

Deficiency: No major issues noted or reported

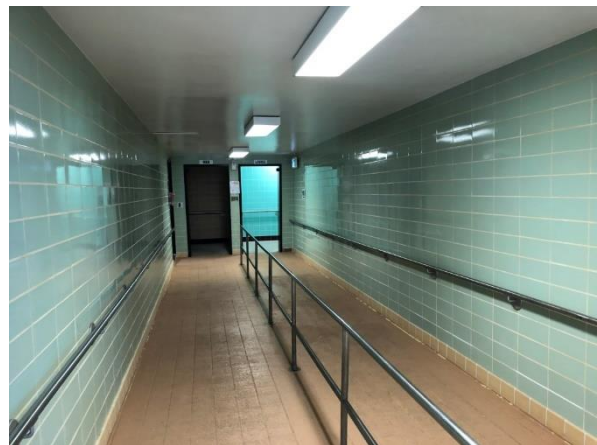
Recommendation: Lifecycle Replacement (2025)



C2010.01 Cast-in-Place Concrete Stair Construction*

Location: Basement School Corridor

Component: Stair Construction



C2030.01 Ramp Construction*

Location: Pool Ramp

Component: Interior Ramps



C3010.02.01 Tile Floor Finishes - Ceramic Tile**

Location: Pool Area

Component: Floor Finishes

Deficiency: No major issues were noted or reported. The tiles appear well-maintained.

Recommendation: Lifecycle Replacement (2025)



C3020.07 Resilient Flooring (Tile Flooring)**

Location: School Corridor

Component: Floor Finishes

Deficiency: The flooring is discoloured and has scuffs, marks, and scratches.

Recommendation: Lifecycle Replacement (2022)



C3030.06 Acoustical Ceiling Treatment (T-Bar System - 1957)**

Location: Pool Area

Component: Ceiling Finishes

Deficiency: Acoustic tiles in the pool area have water stains and damages throughout. Localized tiles are also missing.

Recommendation: Lifecycle Replacement (2022)



D2010.03 Lavatories (Enamel)**

Location: Men's Change Rooms

Component: Plumbing Fixtures

Deficiency: No major issues were noted or reported. Lavatories appear outdated and past their expected service life.

Recommendation: Lifecycle Replacement (2022)



D2010.05 Showers**

Location: Men's Change Rooms

Component: Plumbing Fixtures

Deficiency: No issues noted or reported

Recommendation: Lifecycle Replacement (2043)



D2010.08 Drinking Fountains/Coolers**

Location: Pool Area

Component: Plumbing Fixtures

Deficiency: No major issues noted or reported

Recommendation: Lifecycle Replacement (2039)



D2020.01.01 Pipes and Tubes

Location: Basement Mechanical Room

Component: Domestic Water Distribution



D2020.02.06 Domestic Water Heaters**

Location: Basement Mechanical Room

Component: Domestic Water Distribution

Deficiency: No major issues noted or reported

Recommendation: Lifecycle Replacement (2028)



D2040.01 Rain Water Drainage Piping Systems*

Location: Pool Area

Component: Rain Water Drainage



D2040.02.04 Roof Drains*

Location: Pool Roof

Component: Rain Water Drainage



D3020.01.01 Heating Boilers and Accessories (Steam Boilers)**

Location: Basement Mechanical Room

Component: Heat Generating Systems

Deficiency: The boiler was not functional at the time of the visit as the heat exchanger was not operational.

Recommendation: Replace the boiler with separate boiler heating systems (2022)



D3020.01.04 Water Treatment Equipment* (Steam Boilers)

Location: Mechanical Room

Component: Heat Generating Systems

Deficiency: System was not functional as the boiler was not functional.

Recommendation: We assume this will be replaced with the steam boiler (2022)



D3040.01.01 Air Handling Units (Mechanical Room AHU)**

Location: Basement Mechanical Room

Component: HVAC Distribution (Distribution Systems)

Deficiency: AHU was functional at the time of the visit and periodically maintained according to the maintenance stickers. Casing is worn and dated. The AHU is past its expected service life and we expect it will require replacement within the next couple years.

Recommendation: Lifecycle Replacement (2023)



D3040.01.01 Air Handling Units (Pool AHU)**

Location: Mechanical Room Above Deck Office

Component: HVAC Distribution (Distribution Systems)

Deficiency: AHU was functional at the time of the visit and periodically maintained according to the maintenance stickers. Casing is worn and dated. The AHU is past its expected service life and we expect it will require replacement within the next couple years.

Recommendation: Lifecycle Replacement (2023)



D3050.01.03 Packaged Terminal Air Conditioning Units**

Location: Staff Room

Component: Terminal & Packaged Units

Deficiency: No major issues noted or reported

Recommendation: Lifecycle Replacement (2025)



D3050.05.06 Unit Heaters**

Location: Pool Area

Component: Terminal & Packaged Units

Deficiency: No major issues noted or reported

Recommendation: Lifecycle Replacement.

Based on age, we expect these unit heaters will require replacement within the next two years and be individually replaced as they fail. (2023)



D3060.02.02 Pneumatic Controls**

Location: Basement Mechanical Room

Component: HVAC Instrumentation and Controls

Deficiency: No major issues noted or reported

Recommendation: Lifecycle Replacement (2047)



D5010.05 Electrical Branch Circuit Panelboards** (CDP)

Location: Basement Mechanical Room

Component: Electrical Service and Distribution

Deficiency: No major issues noted or reported

Recommendation: Lifecycle Replacement (2025)



D5010.07 Motor Control Centers**

Location: Basement Mechanical Room

Component: Electrical Service and Distribution

Deficiency: The 1985 starters have gone past their expected service life. The casings and switches are worn and outdated.

Recommendation:

1985 Lifecycle Replacement (2022)

2015 Lifecycle Replacement (2045)



D5030.01.01: Gas Detection*

Location: Basement Mechanical Room

Component: Communications and Security

Deficiency: No major deficiencies noted or reported.

Recommendation: Lifecycle Replacement (2029)



E2010.02.07: Kitchen Casework**

Location: Basement Staff Room

Component: Fixed Furnishings

Deficiency: No major deficiencies noted or reported.

Recommendation: Lifecycle Replacement (2045)



F1020.02.10 Sauna*

Location: Steam Room

Component: Integrated Construction



F1040.01: Aquatic Facilities* (Pool Interior Finishes)

Location: Pool Area

Component: Special Facilities



Aquatic Facilities* (Pool Filter Tank)

Location: Basement Mechanical Room

Component: Special Facilities



Aquatic Facilities* (Pool Pumps)

Location: Basement Mechanical Room

Component: Special Facilities

Deficiency: No issues were reported and none were noted.

Recommendation: Lifecycle Replacement (2048)



G2030.04 Rigid Pedestrian Pavement (Concrete Sun Deck)**

Location: Sundeck

Component: Pedestrian Paving

Deficiency: The sundeck has multiple cracks throughout and some panels have vertical differential settlement of two-inches, creating trip hazards.

Recommendation: Removing vegetation, mud-jacking, and recaulking (2022)
Lifecycle Replacement (2023)



G2030.04 Rigid Pedestrian Pavement (Concrete Sidewalk)**

Location: Sundeck

Component: Pedestrian Paving

Deficiency: The concrete sidewalk surface worn with exposed aggregate and vegetation growing around the joints and perimeter.

Recommendation: Lifecycle Replacement. The sidewalk has gone past its expected service life and we expect it will require replacement within the next couple years. (2022)

APPENDIX

C MANDATE AND LIMITATIONS



MANDATE

The purpose of this report is to provide a general indication of the present physical condition of the building with respect to easily visible portions of the structure; enclosure; site work; mechanical, electrical, and plumbing systems; interior finishes and fittings, and active fire safety systems. Passive fire safety systems (e.g., fire containment and egress), furnishings, and tenant equipment, are specifically excluded from our mandate. We were to record deficiencies/concerns or conditions noted during a single visual walk-through review that, in our opinion, will likely require a recommended action or event. Recommended actions are defined as expenditures that are expected to exceed an annual threshold of \$1,000 or, for systems identified by a double asterisk, a Lifecycle Replacement. Actions are not included for concerns associated with routine maintenance.

Our opinions of cost, assume a prudent level of ongoing maintenance. It is not within our mandate to check the adequacy of existing maintenance practices, or confirm that all mandatory system tests and inspections have been completed (e.g., annual fire alarm testing). In the course of our review, we may identify some maintenance-type issues, but this should not be seen to indicate that a maintenance audit has been completed.

Our mandate was to complete a visual walk-through survey of items, components, and systems that are conspicuous, patent, and that may be observed visually during the walk-through survey without intrusion, removal of material, exploratory probing, and the use of special equipment or design calculations. Therefore, concealed physical deficiencies and design inadequacies are specifically excluded from our mandate. Our interviews of building personnel attempt to uncover known concerns at the property, but we cannot attest to the integrity or knowledge of the interviewees, nor can this process, or the scope of work in its entirety, be considered technically exhaustive or be considered to eliminate all risks related to owning this property. Only conditions actually seen during examination of representative samples can be said to have been assessed, and comments on the balance of the conditions are assumptions based upon extrapolation.

Our mandate does not include an exhaustive review of visible conditions against all code, property standards by-law, or other legislative requirements that existed at the time of construction, or that may retroactively apply, including Human Rights Code violations. We do consider the following, where applicable: adequacy and acceptability of guards (at balconies, stairs, retaining walls, etc.), window opening restrictors, daytime light levels in corridors, stairs, and garages, elevator equipment guarding, and backflow preventers. In the course of our review, our site reviewers may also identify other potential compliance concerns, but the identification of these concerns should not be seen to indicate that an exhaustive review has been completed.

Our mandate is to provide opinions of probable costs that reflect the repair strategies that we foresee and should be considered preliminary budgets only. Accurate figures can only be obtained by establishing a scope of work and receiving quotes from suitable contractors. We cannot guarantee the actual age of equipment, apparent maintenance practices, or the service lives that we have predicted. Time frames given for undertaking work represent our opinion of when to budget for the work. Failure of the item, or the optimum repair/replacement process, may vary from our estimate. There can be no assurance that this forward-looking information will prove to be accurate, as actual results and future events could differ materially from those anticipated. Accordingly, readers should not place undue reliance on forward-looking information. Typically further investigation and design will be needed to firm up construction budgets and timing for any significant projects.

In selecting repair strategies, we try to select strategies to match the client's business strategy for the building, when this is communicated to us. In many circumstances, more or less conservative repair approaches could be selected. Our opinions of costs apply only to the strategies described in our report.

Our review was intended to identify conditions resulting from past and current uses. Additional evaluation may be required if a change of use, renovations or additions are anticipated.

Our General Terms and Conditions issued at the time of engagement apply to this report.



LIMITATIONS

WSP Canada Inc ("WSP") prepared this report solely for the use of the intended recipient, City of Edmonton, in accordance with the professional services agreement. In the event a contract has not been executed, the parties agree that the WSP General Terms for Consultant shall govern their business relationship which was provided to you prior to the preparation of this report.

The report is intended to be used in its entirety. No excerpts may be taken to be representative of the findings in the assessment.

The conclusions presented in this report are based on work performed by trained, professional and technical staff, in accordance with their reasonable interpretation of current and accepted engineering and scientific practices at the time the work was performed.

The intended recipient is solely responsible for the disclosure of any information contained in this report. If a third party makes use of, relies on, or makes decisions in accordance with this report, said third party is solely responsible for such use, reliance or decisions. WSP does not accept responsibility for damages, if any, suffered by any third party as a result of decisions made or actions taken by said third party based on this report.

The content and opinions contained in the present report are based on the observations and/or information available to WSP at the time of preparation, using investigation techniques and engineering analysis methods consistent with those ordinarily exercised by WSP and other engineering/scientific practitioners working under similar conditions, and subject to the same time, financial and physical constraints applicable to this project.

It is understood and agreed by WSP and the recipient of this report that WSP provides no warranty, express or implied, of any kind. Without limiting the generality of the foregoing, it is agreed and understood by WSP and the recipient of this report that WSP makes no representation or warranty whatsoever as to the sufficiency of its scope of work for the purpose sought by the recipient of this report.

Only the specific information identified has been reviewed. No physical or destructive testing and no design calculations have been performed unless specifically recorded. Conditions existing but not recorded were not apparent given the level of study undertaken. Only conditions actually seen during examination of representative samples can be said to have been appraised and comments on the balance of the conditions are assumptions based upon extrapolation. Therefore, this work does not eliminate uncertainty regarding the potential for existing or future costs, hazards, or losses in connection with a property. We can perform further investigation on items of concern if so required.

Applicable codes and design standards may have undergone revision since the subject property was designed and constructed. Unless specifically included in our scope, no calculations or evaluations have been completed to verify compliance with current building codes and design standards.

Unless otherwise agreed in writing by WSP, the Report shall not be used to express or imply warranty as to the suitability of the site for a particular purpose. WSP disclaims any responsibility for consequential financial effects on transactions or property values, or requirements for follow-up actions or costs.

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WSP makes no other representations whatsoever concerning the legal significance of its findings.

WSP is not investigating or providing advice about pollutants, contaminants or hazardous materials. The Client and other users of this report expressly deny any right to any claim against the Consultant, including claims arising from personal injury related to pollutants, contaminants or hazardous materials, including but not limited to asbestos, mould, mildew or other fungus.

Budget figures are our opinion of a probable current dollar value of the work and are provided for approximate budget purposes only. For many materials and components, the rate of inflation at the time of the writing of this report is 20% or more; however, this does not apply across all sectors and we cannot reasonably predict the evolution of the rate in the future. Similarly, construction pricing is presently undergoing an unprecedented increase due in part to global economic forces and pandemic-related escalation. The unit rates used in this report reflect our understanding of the current market, and our knowledge from tendered work, tempered by recent actual invoices and estimates provided where defensible. There is considerable uncertainty with these factors over the next few years or more, so the future accuracy of the pricing used in this report cannot be confirmed. Specific budgets may benefit from a more aggressive escalation factor. Accurate figures can only be obtained by establishing a scope of work and receiving quotes from suitable contractors.

Time frames given for undertaking work represent our opinion of when to budget for the work. Failure of the item, or the optimum repair/replacement process, may vary from our estimate.

WSP disclaims any obligation to update this report if, after the date of this report, any conditions appear to differ significantly from those presented in this report; however, WSP reserves the right to amend or supplement this report based on additional information, documentation or evidence.

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This limitations statement is considered an integral part of this report.