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*EMPOWERING OUR CLIENTS WITH
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**Capital Plan
Building Condition and Energy Assessment
Canada Games Aquatic Centre
50 Union Street
Saint John, New Brunswick**

Final Report

**April 2020
Project Number 1901028**

Prepared for: Asset & Energy Management Division
City of Saint John
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Executive Summary

General Description

Capital Management Engineering Limited (CMEL) was retained by the City of Saint John, to complete a Building Condition Assessment on the property known as the Canada Games Aquatic Centre located at 50 Union Street in Saint John, New Brunswick. Canada Games Aquatic Centre is one of a multi-building portfolio that is being assessed for the City.

The City has undertaken the assessments with the objective to:

- (a) Improve Asset Inventories Data for buildings
- (b) Support the Council as well as the staff in making informed investment decisions
- (c) Develop a Life Cycle Management Investment Profile for the selected buildings based on City's Condition and Risk Frameworks

The following Tables and Charts summarize the findings detailed in the body of this report.

Salient Information Table

Property Name	Canada Games Aquatic Centre
Street Address	50 Union Street
City, Province	Saint John, New Brunswick
Primary Use	Pool
Number of Buildings on Site	One
Foundation	Concrete
Superstructure	Concrete and steel framed
Cladding	Brick veneer
Roof Membrane	Mechanically fastened PVC and sloped prefinished metal
Reported Year Built	1993
Reported Building Area	62,874 ft ²
Evaluation Period	25 Years
Site Assessment Conducted By	Scott MacLeod October 23rd, 2019 and Mr. Gerard Wttewaal February 5th, 2020

Current Condition

Canada Games Aquatic Centre has a year one anticipated requirement and infrastructure deficit totalling \$1,120,632 and an anticipated five year capital investment requirement of \$1,340,702 to meet all anticipated renewal needs. The building condition is considered in the fair range with a current Facility Condition Index of 6.05%.

Of the Year 1 Infrastructure Deficit costs, in keeping with the City's risk rating criteria, all of the anticipated projects have a rating of 10 or above.

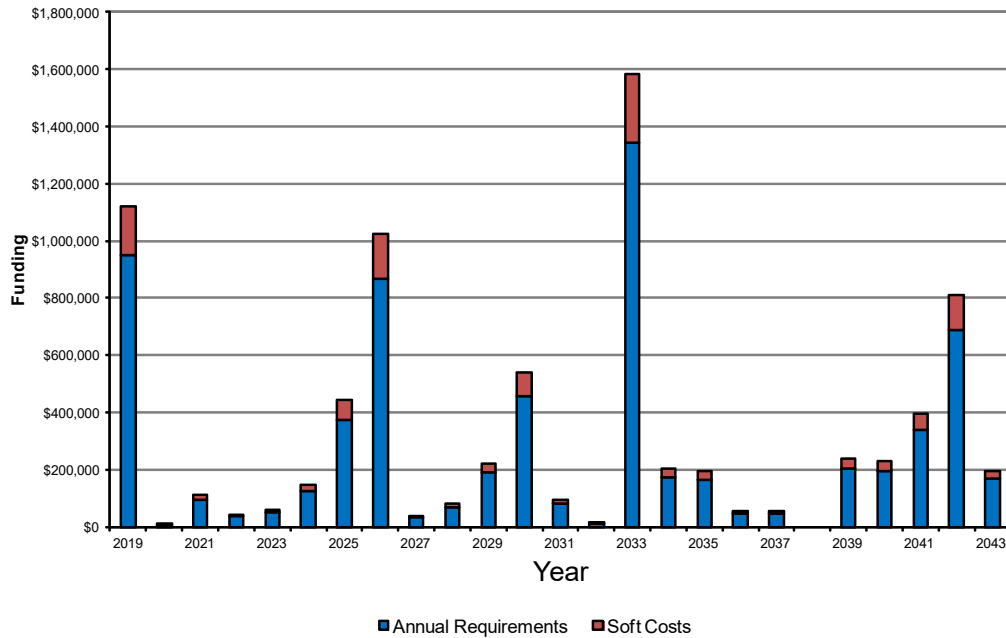
In CMEL opinion, Canada Games Aquatic Centre is in fair condition. The current infrastructure deficit is reasonable and the ongoing recapitalization requirements are considered normal. The building presents as a well operated and maintained facility.

The following graph identifies the anticipated annual renewal requirements. This total annual estimated cost takes into account both the hard costs and soft costs associated with the renewal. Soft cost has been valued at 18% of hard costs. The subsequent table identifies the breakdown of the anticipated requirements.

Renewal Requirements Next 25 Years

Recapitalization Costs by Year for Canada Games Aquatic Centre

May 27, 2020



Renewal Costs by System Group

Component Category	Renewal Requirements			
	Year 1	Years 2-5	Years 6-10	Years 11-25
Site Work	\$ 19,650	\$ -	\$ 20,400	\$ 52,050
Structure	\$ -	\$ -	\$ -	\$ -
Roofing	\$ 88,200	\$ -	\$ 213,400	\$ 1,384,950
Architectural Exterior	\$ 364,185	\$ -	\$ 64,575	\$ 169,150
Architectural Interior	\$ 379,154	\$ -	\$ 662,319	\$ 475,341
Mechanical Systems	\$ 69,500	\$ 56,500	\$ 40,000	\$ 827,750
Electrical Systems	\$ -	\$ -	\$ 59,000	\$ 394,063
Life Safety	\$ 1,000	\$ -	\$ -	\$ 25,000
Specialty Systems	\$ 28,000	\$ 130,000	\$ 404,850	\$ 771,600
Sub Total for Harbour Station	\$ 949,689	\$ 186,500	\$ 1,464,544	\$ 4,099,904
Soft Costs	\$ 170,944	\$ 33,570	\$ 263,618	\$ 737,983
TOTAL for Canada Games	\$ 1,120,632	\$ 220,070	\$ 1,728,162	\$ 4,837,886

Utilizing the City's Risk Rating scheme, the following table identifies the next five years projects sorted by implementation year and risk. According to the City's risk rating scheme, any project with a risk rating above 10 is considered High Risk and projects with a rating below 8 are considered Low Risk. The following is the Risk Rating scheme as defined by the City's Risk and Condition Rating Manual.

		Consequence				
		1 Insignificant	2 Minor	3 Severe	4 Major	5 Catastrophic
Probability	1 Improbable	1	2	3	4	5
	2 Unlikely	2	4	6	8	10
	3 Possible	3	6	9	12	15
	4 Likely	4	8	12	16	20
	5 Highly Probable	5	10	15	20	25

Canada Games Aquatic Centre Project Output Sheet Sorted by Risk

Component	Uniformat Code	Recapitalization Detail	Year of Next Replacement	Expected Useful Life (EUL)	Current Age	Risk Rating	Total Cost
Fire Extinguishers	D4090 - Other Fire Protection Systems	Priority repair inspection of extinguishers	2019	15	19	25	\$1,000
Glazing	B2020 - Exterior Windows	Allowance for replacement of glazing units	2019	35	34	20	\$118,750
Ceramic Pool Tile	C3020 - Floor Finishes	Replacement of pool tile at end of remaining useful life	2019	30	34	20	\$300,323
Prefinished Metal Roofing - Fitness/Weight Room	B3010 - Roof Coverings	Replacement of metal roofing at end of useful life	2019	35	34	15	\$88,200
Brick Veneer Exterior Walls	B2010 - Exterior Walls	Repointing allowance at seven year intervals	2019	7	34	15	\$64,575
Curtain Wall Cladding	B2020 - Exterior Windows	Allowance for replacement of curtain wall at end of remaining useful life	2019	35	34	15	\$90,000
Caulking	B2010 - Exterior Walls	Replacement of caulking	2019	18	19	15	\$40,000
Main Entrance Storefront Style Doors	B2030 - Exterior Doors	Replacement of doors at end of useful life	2019	35	34	15	\$40,920
Sheet Flooring	C3020 - Floor Finishes	Allowance for replacement of approximately 25% of sheet flooring at five year intervals	2019	5	34	15	\$78,831
AHU-5	D3040 - Distribution Systems	Replacement of AHU at end of useful life	2019	25	34	15	\$15,000
AHU-6	D3040 - Distribution Systems	Replacement of AHU at end of useful life	2019	20	34	15	\$15,000
AHU-7	D3040 - Distribution Systems	Replacement of AHU at end of useful life	2019	25	23	15	\$2,000
Competition Pool Diving Boards - Platform	E1090 - Other Equipment	Replacement of platform diving boards	2019	20	34	15	\$28,000
Asphalt Paving	G2020 - Parking Lots	Allowance for partial resurfacing at five year intervals	2019	5	19	10	\$14,400
Soffit Mounted Lighting	D5020 - Lighting and Branch Wiring	Replacement of soffit mounted lighting	2019	20	34	10	\$5,250
Prefinished Metal Siding	B2010 - Exterior Walls	Replacement of EIFS cladding	2019	35	34	10	\$3,500
Secondary, Exit and Service Doors	B2030 - Exterior Doors	Replacement of painted metal exit and service doors at end of remaining useful life	2019	25	34	10	\$6,440
Domestic Water and Sanitary Piping	D2030 - Sanitary Waste	Allowance for localized repairs and replacements at five year intervals	2019	5	34	10	\$10,000
Bottle Filling Stations/Fountains	D2010 - Plumbing Fixtures	Replacement at end of remaining useful life	2019	15	14	10	\$17,500
Baseboard Radiators, Supply and Return Piping	D3050 - Terminal & Package Units	Allowance for repairs at five year intervals beginning in the long term	2019	5	34	10	\$10,000
Domestic Water Circulation Pump	D2020 - Domestic Water Distribution	Cyclical pump replacement at end of remaining useful life	2020	20	19	15	\$7,000
Platform Stairs, Decking and Railings	C2010 - Stair Construction	Allowance for replacements in short and extended terms	2021	10	34	12	\$75,000

Component	Uniformat Code	Recapitalization Detail	Year of Next Replacement	Expected Useful Life (EUL)	Current Age	Risk Rating	Total Cost
Competition Pool Filtration	D2090 - Other Plumbing Systems	Allowance for replacement of filter media	2021	5	34	8	\$2,000
Leisure Pool Filtration	D2090 - Other Plumbing Systems	Allowance for replacement of filter media	2021	5	3	8	\$2,000
Tot's Pool Filtration	D2090 - Other Plumbing Systems	Allowance for replacement of filter media	2021	5	34	8	\$1,000
Adult Whirlpool Filtration	D2090 - Other Plumbing Systems	Replacement of sand filter at end of remaining useful life	2021	15	19	8	\$7,500
Teens Whirlpool Filtration	D2090 - Other Plumbing Systems	Replacement of sand filter at end of remaining useful life	2021	15	19	8	\$7,500
Leisure Pool Water Slide	E1090 - Other Equipment	Replacement of water slide in leisure pool	2022	25	34	12	\$35,000
AHU-3	D3040 - Distribution Systems	Replacement of rooftop mounted AHU at end of useful life	2023	20	16	9	\$49,500
Branch Wiring	D5020 - Lighting and Branch Wiring	Allowance for localized repairs as required	2024	5	34	9	\$12,000

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1 Introduction

Capital Management Engineering Limited (CMEL) was retained by the City of Saint John, to complete a Building Condition Assessment on the property known as the Canada Games Aquatic Centre located at 50 Union Street in Saint John, New Brunswick. Canada Games Aquatic Centre is one of a multi-building portfolio that is being assessed for the City.

The City has undertaken the assessments with the objective to:

- (a) Improve Asset Inventories Data for buildings
- (b) Support the Council as well as the staff in making informed investment decisions
- (c) Develop a Life Cycle Management Investment Profile for the selected buildings based on City's Condition and Risk Frameworks

2 Purpose

The City owns, operates and maintains the Canada Games Aquatic Centre. The City has initiated a comprehensive review of the condition and utilization of their facilities to identify areas of deferred maintenance. The resulting capital plan is in support of the development of a broad long term Capital Asset Management Plan (CAMP) to meet the requirements of the Province of New Brunswick as set out in the "*Guide to Asset Management Planning*". Such plans are becoming a requirement to allow municipalities to access the *Gas Tax Fund*. The CAMP is intended to eventually include the Town's entire building portfolio as well as other infrastructure.

3 Methodology

3.1 Project Approach

The project was broken down into the following phases:

➤ **Data Collection & Site Assessment**

Background information, including floor plan drawings, a list of recent capital expenditures and current facility design requirements, was collected.

A site assessment was carried out to determine the makeup of the building, including type of construction, identification of major systems including:

- architectural and structural;
- roof construction and covering;
- interior finishes;
- mechanical and electrical systems; and
- specialty systems.

The building systems and their respective components and controls were visually assessed. Their rate of wear and condition were observed to support

the determination of their remaining useful life. Additional information to further support the determination of the system and component conditions was gathered from the site contact and site personnel.

➤ **Capital Plan Calculations**

The building was modelled to provide an anticipated replacement schedule for the constituent major components over the next twenty-five years with the objective of maintaining the current level of operations over the evaluation period.

The remaining useful life of the major components was calculated by determining the year of installation, the expected useful life and providing adjustments where necessary based on the site observations.

In conjunction with the determination of the expected date for renewal of the major components, a corresponding cost estimate was developed based on the client's historical records, preferred client rates, local contractor pricing, and/or industry pricing guides such as RSMeans estimating guides.

➤ **Reporting and the CPT**

The last phase of the project consisted of developing building condition from the various calculations and modelling. In addition to the report, the findings were populated into CMEL's Capital Planning Tool (CPT) which provides an effective means of managing the basic capital planning data. The CPT also provides City with a tool to capture the recapitalization on a going forward basis to support future capital investment and asset management strategies for the facility.

In addition to populating the CPT, the City's inventory sheet was populated to support potential future data mining or data migration to an asset management software and or work order system. (Data mining and data export of data is also possible from the CPT).

A written report, of which this is one, also accompanied each of the assessments. The written report is meant to serve as a reference describing the condition as found on the day(s) of the assessment. It provides a description of the property and building systems along with an explanation of the recommendations with respect to recapitalization.

3.2 Expected Outcomes

The objective of the Building Condition Assessment portion of the project was to examine the condition of building components, to determine their expected useful lives and to prepare a replacement/repair schedule for each based on using "as like as kind" component replacement.

The object of the Capital Asset Management Plan component of the project was to produce a plan that, based on the current building condition, identifies the capital

investment requirement to sustain the facility over the next twenty-five years. The capital plan for the facility will continue to be a baseline for comparative analysis of potential component refurbishments or substitutions over that period. In addition the data from the capital plan is to be used by the City of Saint John to develop a high level asset registry.

3.3 General Methodology

The analysis for the facility was prepared following:

- Interviews with the City's Buildings Specialist, as well as with the on-site building managers and maintenance staff as made available;
- On-site assessments that included building walk-throughs, data collection, measurements, operating schedules and observation of building, equipment and component conditions;
- Identification of building component and equipment replacement requirements, estimated costs and schedule;
- Population of the CPT with building condition to produce a 25 year Capital Plan; and
- Responses to a review of a draft report by the City.

3.4 Building Condition Assessment

The Building Condition Assessment (BCA) carried out by Capital Management Engineering Limited on the property is based on the ASTM Standard Guide for Property Condition Assessments: Baseline Property Condition Assessment Process (ASTM E 2018-15) and consisted of the following:

- Interviews with building managers and maintenance staff and review of existing documentation including drawings, specifications and previous reports when available;
- A site visit to visually review the types and conditions of the building systems and elements;

- The identification of actions, with costs in present value dollars, to remediate health and safety issues, to mitigate code violations¹ and to repair major defects in materials or systems that may significantly affect the value of the building or continued operation of the site during the evaluation period;
- Review of the City Condition Framework with regards to risk;
- Recommendations, with cost estimates, for further investigations if required and an Opinion of Costs for work that may be required as a result of these investigations; and,
- The preparation of a report, presented herein.

ASTM E 2018-15 defines a 'Physical Deficiency' as a conspicuous defect or significant deferred maintenance of a Site's material systems, components or equipment as observed during the site assessor's site visit. Included within this definition are material systems, components or equipment that are approaching, have reached, or have exceeded their typical Expected Useful Life (EUL) or whose Remaining Useful Life (RUL) should not be relied upon in view of actual or effective age, abuse, excessive wear and tear, exposure to the elements, lack of proper or routine maintenance, etc.. This definition specifically excludes deficiencies that may be remedied with routine maintenance, miscellaneous minor repairs, normal operating maintenance, etc., and excludes *de minimis* conditions that generally do not constitute a material physical deficiency of the Site.²

The assessment of the Site was based on a visual assessment of the visible and accessible components of the property, buildings and related structures. The site components, building exterior, roof membranes and interior finishes of the on-site buildings and related structures were visually reviewed to check their condition and to identify if any obvious physical deficiencies were present. The review did not include an intrusive investigation of wall assemblies, ceiling cavities or any other enclosed spaces.

No physical tests were conducted and no samples of building materials were collected to confirm or support the findings presented unless otherwise noted in this report. Recommendations and estimates for additional testing or investigations may be presented as part of the report when, in the assessor's opinion, a condition may exist that would substantially alter the findings and cannot be adequately assessed by non-intrusive visual means.

¹ Code compliance is beyond the scope of this project; however specific codes may be referenced during the discussion as a reference standard.

² ASTM E 2018 Section 2.3.22

The review of the mechanical and electrical systems at the property included discussions with the site contacts. A visual review of the mechanical and electrical systems was conducted to determine the type of systems present, age and aesthetic condition. No physical tests were conducted on the mechanical and electrical operating systems.

A detailed evaluation of the property development's compliance with national and provincial building codes and/or fire codes is not part of the scope of this assessment. The estimated costs outlined in this report are based on the conditions observed during the site assessment and the documents provided. Estimated costs are based on a combination of past experience, known contractor pricing and estimating guides such as RSMeans. The opinions of cost are intended for global budgeting purposes only. Actual costs for work recommended can only be determined after preparation of tender documents and/or soliciting quotations from qualified contractors. Costs associated with site and scheduling restrictions, and impacts to ongoing operations have not been taken into account in determining costs. The replacement, repair or maintenance recommendations in this report should be confirmed with a more detailed site investigation and project evaluation prior to implementation.

For the purpose of this report the following temporal units have been applied:

- Immediate - year zero to one;
- Short term - years one to five;
- Long term - years six to ten; and
- Extended term - years eleven to twenty-five.

3.4.1 City of Saint John Risk Rating

The City has produced the City of Saint John Rating Manual (Version 2.0, Dated November 26, 2018). The Risk Rating Matrix as presented in the manual has been presented below and has been incorporated into the CPT. Please refer to the manual for additional information.

		Consequence				
		1 Insignificant	2 Minor	3 Severe	4 Major	5 Catastrophic
Probability	1 Improbable	1	2	3	4	5
	2 Unlikely	2	4	6	8	10
	3 Possible	3	6	9	12	15
	4 Likely	4	8	12	16	20
	5 Highly Probable	5	10	15	20	25

3.5 Supporting Documents

The following documents were provided during the completion of this report:

Supporting Document	Type	Issued By	Date Issued
Drawings	Drawings	Sperry Associates Limited	1983-01-06
SJE bill	Energy	Saint John Energy	2019-09-04
Energy Audit Report	Energy	MCW Maricor	2019-01-01
Life Cycle Plan	Report	ADI Limited	2006-01-05
Mechanical/Electrical Upgrade Report	Report	Unknown	2013-01-24

4 Building Condition Assessment & Capital Plan

4.1 Salient Property Information

Property Name	Canada Games Aquatic Centre
Street Address	50 Union Street
City, Province	Saint John, New Brunswick
Primary Use	Pool
Number of Buildings on Site	One
Foundation	Concrete
Superstructure	Concrete and steel framed
Cladding	Brick veneer
Roof Membrane	Mechanically fastened PVC and sloped prefinished metal
Reported Year Built	1993
Reported Building Area	62,874 ft ²
Evaluation Period	25 Years
Site Assessment Conducted By	Scott MacLeod October 23 rd , 2019 and Mr. Gerard Wttewaal February 5 th , 2020

The property is located at 50 Union Street in Saint John, New Brunswick and is known as Canada Games Aquatic Centre. The property is bordered by Union Street to the north, St. Patrick Street to the west and adjacent commercial buildings to the east and south. A small asphalt paved parking area is located to the east of the building with approximately twenty-four parking spaces.

The building was reported to have been constructed in 1995 and has an approximate floor area of 62,874 ft².

The building contains the competition/lap pool, leisure/kid's pool, fitness rooms, weight and cardio rooms, locker rooms and supporting offices.

The building is assumed to be founded on concrete footings and foundation walls that support the buildings concrete superstructure. The Lobby level floor consists of a suspended concrete slab supported by concrete columns with the partial basement consisting of a concrete slab on grade. The metal roof deck is supported by open web steel joists (OWSJ) that is in turn supported by the building superstructure.

Roofing for the building consists of PVC and metal roof levels. The exterior walls are clad with brick veneer with concrete block backup. The majority of the glazing consists of insulated glazing units in metal frames with a number of insulated glazing units/skylights in wood frames on the west elevation. The main entrance doors consist

of prefinished metal doors with exit and service doors consisting of painted metal doors with and without glazing.

An above ground pedway connects the building to the Market Square facility to the west and to the Saint John City Hall building to the east. The pedway has been assumed to be beyond the scope of this assessment.

Mr. Scott MacLeod of CMEL completed the site visit on October 23rd, 2019. CMEL was accompanied by Mr. Samir Yammine from the City of Saint John during the site visit. A subsequent site visit was completed by Mr. Gerard Wttewaal on February 5th, 2020. All areas of the building were accessible during the site visit.

Selected photographs of the site and facility are appended as **Appendix B**.

4.2 Site Work

Description

There are limited site components associated with the development that consist of the small parking area to the east of the building. Concrete flatwork walkways provide access to the main entrances to the building located on the east and north elevations.

Vehicle access to the property is provided by an asphalt paved driveway from Union Street to the north. The driveway provides access to the grade level asphalt parking area. Asphalt paved parking is provided for approximately twenty four vehicles, including three accessible parking spots. The paving is bordered with concrete curbing.

The north elevation of the building (Union Street) is bordered by concrete flatwork walkways. The west elevation (St. Patrick Street) is bordered by a brick paver walkway. Both walkways are assumed to be maintained by a different department of the municipality and under the responsibility of the facility so for the purposes of this report are beyond the scope of this assessment.

Site lighting consists of two vintage style light fixtures at the main entrance and a limited number of building mounted and soffit mounted fixtures. Supplemental lighting is provided by streetlights on Union and St. Patrick Streets. The streetlights are assumed to be outside of the building's responsibility and for the purposes of this report are beyond the scope of this assessment.

There is no significant landscaping associated with the facility.

Observations/Comments

The concrete flatwork walkways were observed to be in generally fair to good condition. Some localized areas of cracking or heaving of the flatwork were observed. Typically, concrete flatwork has an expected useful life of forty years or more. Based on the observed condition and expected remaining useful life, localized repairs are expected to be required in the long and extended terms of the evaluation period. The estimated cost and timing of the flatwork repairs has been included in the Cost Table.

The limited asphalt paving on the east side of the property was observed to be in fair condition overall with some areas of settlement and alligator cracking. The age of the paving was not reported but appears to be fifteen or more years in age. Paving will typically have an expected useful of fifteen to twenty years but can be extended with partial resurfacing at approximately five year intervals. Based on the observed condition, it is anticipated that ongoing partial resurfacing will be required during at ten year intervals during the evaluation period. The estimated cost and timing of the resurfacing has been included in the Cost Table.

The perimeter concrete curbing appeared to be in fair to good condition with some areas of damage assumed to be the result of impacts from snow removal equipment during the winter season. Typically concrete curbing will have an expected useful life of forty or more years. Based on the observed condition, it is anticipated that localized replacement / major repairs will be required during the evaluation period and can be completed as part of operations and maintenance budgets. No costs have been included in the Cost Table.

The limited number of building mounted fixtures appeared to be in good condition and recently installed. Typically exterior building mounted fixtures will have an expected useful life of twenty years. Based on the observed condition and limited number of fixtures it is assumed that any replacement can be completed as part of operations and maintenance budgets. No costs have been included in the Cost Table.

The soffit mounted fixtures at secondary and service entrances appeared to be in poor condition and beyond their typical useful life of twenty years. Cyclical replacement of the fixtures is expected to be required. Based on the observed condition and limited number of fixtures it is assumed that any replacement can be completed as part of operations and maintenance budgets. No costs have been included in the Cost Table.

The vintage styled fixtures appeared to be in fair condition and are estimated to have been installed in the past ten to fifteen years. These fixtures will typically have an expected useful life of twenty years with, as required, lamp replacement completed as part of general operations and maintenance budgets. Based on the observed condition and estimated remaining useful life it is expected that replacement will not be required until the long term of the evaluation period. The estimated cost and timing has been included in the Cost Table.

Cost Estimate

Item	Action	Year of Install	Expected Useful Life	Anticipated Year of First Expenditure	Quantity	Unit Cost	Cost per Occurrence (Not Inc. Soft Cost)
Concrete Flatwork	Allowance for repairs in the long term	1985	40	2027	300	\$12.00	\$3,600
Concrete Flatwork	Allowance for repairs in the extended term	1985	40	2039	300	\$12.00	\$3,600
Asphalt Paving	Allowance for partial resurfacing at five year intervals	2000	5	2019	3,200	\$5	\$14,400
Curbing	Repairs as part of operations and maintenance	1985	40	2025	-	-	-

Item	Action	Year of Install	Expected Useful Life	Anticipated Year of First Expenditure	Quantity	Unit Cost	Cost per Occurrence (Not Inc. Soft Cost)
Building Mounted Lighting	Replacement as part of operations and maintenance budgets	2018	20	2038	4	-	-
Soffit Mounted Lighting	Replacement as part of operations and maintenance budgets	1985	20	2019	15	\$350	\$5,250
Main Entrance Vintage Style Fixtures	Replacement at end of useful life	2005	20	2025	2	\$1,200	\$2,400

4.3 Structure

Description

The building consists of the Pool Level, Lobby level, a partial basement on the west side of the structure and a mechanical penthouse level.

The building was reported to have been constructed in 1985 and is assumed to be founded on standard concrete spread footings and foundation walls that support the concrete framed superstructure. The Lobby level floor consists of a suspended concrete slab supported by concrete columns with the partial basement consisting of a concrete slab on grade. The metal roof deck is supported by open web steel joists (OWSJ) that is in turn supported by the building superstructure. The pools and whirlpools on the Pool Level of the building are concrete framed. A concrete framed platform diving structure is located on the south side of the competition pool.

Observations/Comments

No evidence of major structural faults was observed with the building. No significant cracking or heaving was observed in the finished floors that would suggest that the foundation is cracking or shifting. The concrete slabs and the concrete framed pool structures appeared to be in good condition with no evidence of significant cracking or differential movement observed or reported. The roofs appeared to be level and stable; no significant signs of deflection or movement were observed. Typically, structural components have an expected useful life of sixty to seventy years or more. Based on the observed condition and expected useful life, we do not anticipate that any significant repairs or replacement will be required during the term of the study. No costs have been included in the Cost Table.

Cost Estimate

Item	Action	Year of Install	Expected Useful Life	Anticipated Year of First Expenditure	Quantity	Unit Cost	Cost per Occurrence (Not Inc. Soft Cost)
Footings and Foundations	No significant repairs or replacements expected to be required during evaluation period	1985	75	2060	62,874	\$4.00	\$251,496
Slab on Grade	No significant repairs or replacements expected to be required during evaluation period	1985	75	2060	62,874	\$7.08	\$445,148

Item	Action	Year of Install	Expected Useful Life	Anticipated Year of First Expenditure	Quantity	Unit Cost	Cost per Occurrence (Not Inc. Soft Cost)
Structural Framing	No significant repairs or replacements expected to be required during evaluation period	1985	75	2060	62,874	\$45.50	\$2,860,767

4.4 Roofing

Description

The majority of the roof levels are clad with low sloped Polyvinyl Chloride (PVC) roof membranes. A painted metal frame is located on the roof level above the pool that appears to be an architectural design element or the base frame for potential new component installation in the future. Drainage for the low sloped roof levels is by roof drains and internal rainwater leaders.

Sloped prefinished metal roofing is located above the leisure/kids pool and on a portion of the mechanical penthouse on the north side of the building and above the fitness/weight room area on the west side of the building. There are a total of eight insulated glazing units/skylights in the sloped roof above the fitness/weight room area. Drainage for the sloped roof levels is provided by sheeting action to grade level.

Observations/Comments

The main sloped PVC roof appeared to be in fair to good condition and was reported to have been installed in 2008. There were no reported or observed recent or active roof leaks associated with the roof. The typical expected useful life of a PVC membrane is twenty-five years and will generally require repairs or localized replacements after fifteen to eighteen years of service. Based on the observed condition and reported year of installation it is not anticipated that the membrane will require cyclical end of life replacement until the extended term of the evaluation period. For the purposes of the capital plan an allowance for repairs and or localized replacement should be anticipated after fifteen to eighteen years of service. It should be noted that the replacement cost reported by the City of Saint John completed in 2008 is significantly higher than industry standard pricing. As a result the cost per square foot for repairs and eventual replacement has been increased in the Cost Table.

The painted metal frame on the roof appeared to be in fair to good condition with no significant evidence of corrosion or staining. The frame appears to have been recently painted and maintained. Typically painted metal exposed to the elements will require frequent ongoing maintenance including painting. Assuming ongoing maintenance it is anticipated that the frame will have a remaining expected useful life of thirty or more years. For the purposes of the capital plan an allowance has been included for refurbishment beyond ongoing maintenance beginning in the in the long term of the evaluation period.

The prefinished metal roofing above the leisure/kid's pool and the mechanical penthouse appeared to be in fair to good condition with no significant evidence of damage or corrosion. The roofing was reported to have been installed in 2008 in

conjunction with the replacement of the PVC roof membranes. Typically prefinished metal roofing will have an expected useful life of thirty-five years. Based on the observed condition and estimated remaining useful life it is not expected that the roofing will require replacement until near the end of the evaluation period. The estimated cost of the replacement has been included in the Cost Table.

The prefinished metal roofing above the fitness/weight room area appeared to be in poor condition with evidence of leakage at the glazing units and at joints between the panels. Significant deterioration of the wood framed glazing units/skylights was noted during the site visit with evidence of corrosion was observed on the exterior side of the panels. The roofing was appears to be original to the building and beyond its expected useful life of thirty-five years. Based on the observed condition and estimated remaining useful life it is expected that the roofing and the associated glazing units/skylights will require replacement in the short term of the evaluation period. The estimated cost of the replacement has been included in the Cost Table.

Cost Estimate

Item	Action	Year of Install	Expected Useful Life	Anticipated Year of First Expenditure	Quantity	Unit Cost	Cost per Occurrence (Not Inc. Soft Cost)
Low Sloped PVC Roof Membranes	Replacement of PVC roof membrane at end of useful life	2008	25	2033	31,400	\$40.00	\$1,256,000
Low Sloped PVC Roof Membranes	Allowance for repairs after 15 to 18 years of service	2008	18	2026	4,710	\$40.00	\$188,400
Painted Metal Frame	Allowance for refurbishment of the metal frame on roof	1985	10	2026	1	\$25,000	\$25,000
Prefinished Metal Roofing - Leisure/Kids Pool/Penthouse	Replacement of metal roofing at end of useful life	2008	35	2043	4,950	\$21.00	\$103,950
Prefinished Metal Roofing - Fitness/Weight Room	Replacement of metal roofing at end of useful life	1985	35	2019	4,200	\$21.00	\$88,200

4.5 Architectural Exterior

4.5.1 Exterior Walls

Description

The exterior walls of the building are clad with brick veneer with concrete block backup and some localized areas of prefinished metal siding accents. There is limited exterior glazing associated with the bridling consisting of insulated glazing units (IGU) in metal frames and sections of vertical and sloped curtain wall. The main entrance doors are located on the northeast elevation and consist of four exterior and interior prefinished metal doors in metal frames. Secondary entrance, exit and service doors consists of painted metal doors with and without glazing in metal frames.

Observations/Comments

The brick veneer exterior walls varied in overall condition from good to poor depending on the location. Areas of efflorescence were noted in a number of areas on the west

and south elevations and are assumed to be the result of the limited dehumidification in the pool area in the past. In addition evidence of mortar deterioration and spalling was observed on the west elevation beginning at the sloped metal roof to wall transition. The expected useful life of brick veneers is typically in excess of sixty years with localized repairs and repointing beginning after approximately twenty-five years of service. Based on the observed condition and estimated remaining useful life it is recommended that an ongoing phased repointing program be completed during the evaluation period. For the purposes of the capital plan an allowance to repoint approximately fifteen percent of the brick at seven year intervals beginning in the short term has been included in the Cost Table.

The limited amount of curtain wall cladding appeared to be in generally fair to poor condition and was reported to be original to the building. Evidence of water ingress and failed seals was observed. Some localized replacement of the insulated glazing units was noted and is assumed to be the result of past damage. Typically curtain wall cladding will have an expected useful life of thirty-five to forty years. Based on the observed condition it is assumed that the curtain wall cladding is at the end of its remaining useful life and will require replacement in the short term of the evaluation period. The estimated cost and timing of the replacement has been included in the Cost Table.

The insulated glazing units appeared to be in fair to poor condition with evidence of failed seals and damaged glazing. The glazing is generally original to the building. Typically prefinished metal glazing has an expected useful life of thirty-five to forty years. Based on the observed condition it is anticipated that the glazing will require replacements in the short term of the evaluation period. The estimated cost and timing of the replacement has been included in the Cost Table.

The prefinished metal cladding appeared to be in generally poor condition with evidence of corrosion and faded finishes. Metal cladding will typically have an expected useful life of thirty-five to forty years. Based on the observed condition and estimated remaining useful life it is expected that replacement will be required in the short term of the evaluation period. The estimated cost and timing of the replacement has been included in the Cost Table.

The caulking at windows, doors, and control joints in the brick veneer varied in age and condition. The majority of the caulking at control joints in the brick veneer was cracked and debonding. Typically caulking has an expected useful life of eighteen years. Caulking is an important component in maintaining the exterior envelope of the building. An allowance for a caulking replacement program has been included in the Cost Table.

The main entrance prefinished metal exterior doors with glazing appeared to be in fair to poor condition and appear to be original to the building. Typically storefront style doors have an expected useful life of thirty-five years depending on the amount of use and frequency of maintenance, hardware replacement, etc.. Based on the observed condition and estimated remaining useful life it is expected that the doors will require replacement in the short term of the evaluation period. Occasional maintenance including hardware replacement will be required during the evaluation period and be

completed as part of operations and maintenance budgets. The estimated cost and timing of the door replacements has been included in the Cost Table.

The exit and service doors appeared to be in fair to poor condition with areas of surface corrosion and faded finishes. Typically metal exterior doors have an expected useful life of twenty to twenty-five years. Based on the observed condition and estimated remaining useful life replacement of the majority of the doors are expected to be required during the short term of the evaluation period. Occasional maintenance including hardware replacement will be required during the evaluation period and be completed as part of operations and maintenance budgets. The estimated cost and timing of the replacements has been included in the Cost Table.

Cost Estimate

Item	Action	Year of Install	Expected Useful Life	Anticipated Year of First Expenditure	Quantity	Unit Cost	Cost per Occurrence (Not Inc. Soft Cost)
Brick Veneer Exterior Walls	Repointing allowance at seven year intervals	1985	7	2019	2,100	\$30.75	\$64,575
Curtain Wall Cladding	Allowance for replacement of curtain wall at end of remaining useful life	1985	35	2019	500	\$180.00	\$90,000
Glazing	Allowance for replacement of glazing units	1985	35	2019	950	\$125.00	\$118,750
Prefinished Metal Siding	Replacement of EIFS cladding	1985	35	2019	350	\$10.00	\$3,500
Caulking	Replacement of caulking	2000	18	2019	1	\$40,000	\$40,000
Main Entrance Storefront Style Doors	Replacement of doors at end of useful life	1985	35	2019	8	\$5,115.00	\$40,920
Secondary, Exit and Service Doors	Replacement of painted metal exit and service doors at end of remaining useful life	1985	25	2019	7	\$920.00	\$6,440

4.6 Architecture, Interior

Description

The building consists of a two storey enclosed pool and contains a competition/lap pool, leisure pool, tot's pool, fitness rooms, weight and cardio rooms, locker rooms and supporting offices. This section is limited to the wall floor and ceiling finishes in the training areas, pool deck, interior walls, ceilings, ancillary areas and interior doors. The hot tubs, steam room, dry sauna, water slides, tot's pool water feature, movable competition/lap pool bulkhead, mechanical bleachers and other associated equipment are discussed in section 4.10 Specialty Systems.

Interior floor finishes consist of ceramic tile in the main lobby and locker rooms with sheet vinyl in the common hallways and fitness rooms. Flooring in the weight and cardio rooms consist of interlocking foam tiles. The pool deck flooring consists of epoxy flooring with ceramic tile in the pools. Walls finishes consist of painted drywall, concrete block or concrete depending on location. Ceilings are generally exposed to the underside of the roof deck or concrete slab throughout the building.

Interior doors throughout the facility typically consist of painted metal doors with and without glazing in metal frames.

The locker rooms are provided with a total of approximately three hundred painted steel lockers.

Observations/Comments

In general the interior finishes throughout the building appeared to be in fair to good condition overall with ongoing repairs and replacements recently completed, no significant deficiencies observed during the site visit.

The ceramic tile flooring in the main lobby was reported to have been installed in 2016 and appeared to be in good condition. Ceramic tile flooring will have an expected useful life of forty or more years. Based on the observed condition and estimated remaining useful life it is not expected that the tile will require replacement during the current evaluation period. No costs have been included in the Cost Table.

The ceramic tile flooring in the locker rooms was reported to have been installed in approximately 2000 and appeared to be in fair condition with some localized cracking. Ceramic tile flooring will have an expected useful life of forty years although can depend on the quality of the original installation. Replacement of damaged tiles is expected to be completed as part of operations and maintenance budgets. Based on the observed condition and estimated remaining useful life it is expected that the tile will require replacement during the long term of the evaluation period. The estimated cost and timing of the replacement has been included in the Cost Table.

The sheet flooring in the hallways and fitness rooms appeared to be in fair to good condition with a portion of the flooring having reportedly been replaced in 2016. Typically sheet flooring will have an expected useful life of twenty years and will depend on the amount and frequency of use. Based on the observed condition it is anticipated that additional flooring replacements will be required during the evaluation period. For the purposes of the capital plan an allowance for replacement of approximately 50% of the sheet flooring at ten year intervals has been included in the Cost Table.

The foam tiles in the weight room were reported to have been recently installed and appeared to be in good condition. Typically foam tiles will be replaced on an as required basis in high use areas as part of operations and maintenance budgets. As such no costs have been included in the Cost Table.

The pool deck epoxy flooring appeared to be in fair condition and it was reported that it was partially replaced in 2015. Typically epoxy flooring in the pool environment will have an expected useful life of fifteen to twenty years. Based on the recent partial replacement it is estimated that cyclical replacement will be required beginning in the long term of the evaluation period. The estimated cost and timing has been included in the Cost Table.

The ceramic pool tiles appeared to be in fair to good condition although is assumed to be original to the building. It was reported that the tiles are regouted every few years.

Ceramic pool tile will have an expected useful life of twenty-five to thirty years. Based on the observed condition and estimated remaining useful life it is expected that replacement will be required near the end of the short term of the evaluation period. The estimated cost assuming not deterioration to the concrete pool structures has been included in the Cost Table.

The painted drywall and concrete block walls and ceilings throughout the building appeared to be in good condition. The painted finishes will have an expected useful life of seven to ten years, however not all areas will require painting at the same time. It is expected that any renewal will occur on an as required basis as part of normal operations and maintenance budgets. No cost has been included in the Cost Table.

The interior doors throughout the building appeared and were reported to be in good condition. Typically interior doors have an expected useful life of fifty to sixty years with occasional repair/replacement of hardware as required. Based on the observed condition a significant door replacement is not expected to be required during the evaluation period. Localized replacement of select doors and or hardware can be completed as part of operations and maintenance budgets. No costs have been included in the Cost Table.

The lockers were installed in 2015 were observed to have significant areas of corrosion at the bases of the lockers. Typically painted steel lockers in a pool environment will have an expected useful life of twenty years. Based on the observed condition it is anticipated that the lockers will have a reduced remaining useful life and will require replacement in the long term of the evaluation period. The reported cost and timing of the replacement has been included in the Cost Table.

Cost Estimate

Item	Action	Year of Install	Expected Useful Life	Anticipated Year of First Expenditure	Quantity	Unit Cost	Cost per Occurrence (Not Inc. Soft Cost)
Lobby Flooring	Replacement not anticipated	2016	40	2056	3,200	\$17.41	\$55,712
Locker Room Tile Flooring	Replacement in long term of evaluation period	2000	40	2026	4,000	\$17.41	\$69,640
Sheet Flooring	Allowance for replacement of approximately 25% of sheet flooring at five year intervals	1985	5	2019	5,700	\$13.83	\$78,831
Epoxy Pool Flooring	Allowance for ongoing replacement of epoxy flooring	2005	15	2026	15,550	\$15.36	\$238,848
Ceramic Pool Tile	Replacement of pool tile at end of remaining useful life	1985	30	2019	17,250	\$17.41	\$300,323
Lockers	Corrosion of bases of lockers. Replacement in long term	2015	20	2026	1	\$275,000.00	\$275,000

4.7 Mechanical Systems

4.7.1 Plumbing

Description

Domestic water and sanitary services were reported to be provided by the municipality. The incoming domestic water line is provided with a backflow preventer. Domestic hot water is provided by three indirect fired hot water tanks with heating supplied from three heat exchangers. Heating water from the boilers is directed to plate exchangers (DHX-1, DHX-2 and DHX-3) that in turn supplies hot water to immersion coils in the hot water tanks. Domestic water is circulated throughout the building by a domestic water pump. The majority of the domestic water supply piping appears to be generally copper throughout the facility. Sanitary piping was reported to consist of cast piping.

There are 13 water closets, 10 urinals, 18 washroom sinks/faucets and 37 showers located in the changing rooms, staff rooms and public washrooms located throughout the facility.

There are a reported total of five bottle filling stations/water fountains manufactured by Elkay located as required throughout the building.

Observations/Comments

The domestic water and sanitary systems were reported to be in good working condition and currently there are no problems with the services and or fixtures.

The indirect fired hot domestic water tanks were reported to have been installed in 2018 and are in good to new condition. Typically well maintained domestic hot water tanks will have an expected useful life of thirty years. Based on the observed condition and estimated remaining useful life, it is not expected that cyclical replacement of the tanks will be required during the current evaluation period. No costs have been included in the Cost Table.

The plate exchangers for the hot water tanks were installed in 2018 and are in new condition. Well maintained plate exchangers will have an expected useful life of thirty years with occasional repairs and seal/gasket replacements. Based on the observed condition and recent installation it is not expected that additional replacement will be required during the evaluation period. No costs have been included in the Cost Table.

The domestic water distribution and sanitary piping was reported to be in generally good condition throughout the facility. It was reported that localized repairs have been completed on an as required basis. Typically, domestic water piping has an expected useful life of forty years. Based on the reported condition and estimated remaining useful life it is expected that ongoing additional repairs and or localized replacements will be required during the evaluation period. For the purposes of the capital plan an allowance for localized repairs and replacements has been included at seven year intervals during the evaluation period.

The domestic water circulation pump was reported to be in fair condition with ongoing maintenance and repairs completed as required. Typically, domestic water circulation

pumps will have an expected useful life of fifteen to twenty years. Based on the observed condition and estimated remaining useful life, it is expected that cyclical replacement of the pumps and motors will be required during the short term of the evaluation period. The estimated cost and timing of the replacement has been included in the Cost Table.

The plumbing fixtures varied in age and condition throughout the facility but the majority appear to have been upgraded since the original building construction. It was reported that all of the water closets, faucet and showers in the facility are in the process of being upgraded in 2020. Typically, sinks, water closets and urinals have an expected useful life of thirty years with shower fixtures having an expected useful life of twenty years. Faucets will typically have an expected useful life of twenty years. Based on the observed and reported condition, it is anticipated the fixtures will require replacement upon reaching the end of their remaining useful life has been included into the capital plan. Minor or selective replacement due to premature failure or vandalism is anticipated to be funded as regular operations and maintenance activities. The estimated cost and timing of the replacement has been included in the Cost Table.

The bottle filling stations/water fountains appeared to be in fair to good condition and are estimated to have been installed within the past five to ten years. Typically bottle refilling stations will have an expected useful life of fifteen to twenty years. Based on the observed condition and estimated remaining useful life replacement is expected to be required in the long term of the evaluation period. The estimated cost and timing of the replacement has been included in the Cost Table.

4.7.2 Heating, Ventilation and Air Conditioning

Description

Heating for the building and the various pools is provided by two natural gas fired Lochinvar 2000 MBH condensing boilers each with a rated output capacity of 1,840,000 Btu/hr installed in 2014. The boilers supply heating water to two heating loops that supply the building heating and the pool water heating. Building heating water is supplied to perimeter baseboard heaters and heating coils in the air handling units. The pool water heating loop supplies heating water to shell and tube exchangers for the competition/lap pool, leisure pool, tot's pool, and the adult and teen whirlpool/hot tubs. The heating water and pool heating water motors vary from 5hp to 40hp.

Ventilation is provided by the following air handling units:

Unit	Manufacturer	Area Serviced	Year Installed	Comments
AHU 1 (Competition Pool)	Seresco	Competition Pool	2017	Heat pump and pool area dehumidification
AHU 2 (Leisure Pool)	Seresco	Leisure Pool	2017	Heat pump and pool area dehumidification
AHU-3	Trane	Admin and Multi Purpose	2003	30 ton cooling

Unit	Manufacturer	Area Serviced	Year Installed	Comments
AHU-4	Trane	Changing Rooms	2003	Heating and ventilation
AHU-5	Trane	Staff Change Rooms	1985	Reported to be original
AHU-6	Trane	Offices under pedway	1985	AC unit added in 2003 (4 tons cooling)
AHU-7	Trane	Fitness Room	1996	Reported to have been upgraded in 1986

HVAC control is provided by a Distech Direct Digital Control (DDC) system installed in 2017 in conjunction with the installation of AHU 1 (Competition Pool) and AHU 2 (Leisure Pool).

Observations/Comments

The Lochinvar 2000 MBH natural gas fired boilers appeared and were reported to be in good condition without any deficiencies. The boilers were reported to have been installed in 2014 and well maintained and serviced condensing boilers will have an expected useful service life of twenty-five to thirty years. Based on the observed and reported condition it is not expected that replacement will be required until the end of the evaluation period. In addition it is anticipated that the boilers will require a major over-haul / retrofit after approximately fifteen to twenty years of service. The estimated cost and timing for the overhaul and eventual replacement have been included in the Cost Table.

The perimeter baseboard radiators, supply and return piping throughout the building were reported to be generally original to the building and in fair overall condition. It was reported that the AHUs provide the majority of the building heating. Typically baseboard radiators and the associated piping will have an expected useful life of forty years before localized repairs and replacements begin to be required on a regular basis. For the purposes of the capital plan an allowance for these repairs and replacements has been included in the Cost Table at five year intervals.

The pool water heating shell and tube heaters are generally original to the building and in fair to good condition overall. It was reported that the exchanger coils in the tot's and leisure pool were replaced in 2018. The exchanger for the competition/lap pool was reported to have been installed in 2010 and the exchanger coils replaced in 2019. The exchangers in the adult and teen whirlpool/hot tubs were reported to have been replaced in 2018. Typically the heat exchangers will have an expected useful life of approximately thirty years. Based on the on the observed condition and estimated remaining useful life it is anticipated that additional repairs and replacements will be required during the evaluation period. Allowances for these replacements have been included in the Cost Table.

The heating and pool water circulation pumps varied in age and condition from good to poor. Ongoing maintenance, repairs and replacement of pumps on an as required basis has been completed. Typically circulation pumps and motors will have an expected useful life of twenty years which can be extended with regular maintenance. Given the

relatively low cost to rebuild and occasionally replace the pumps, it is anticipated that this work will be done under regular operations and maintenance budgets. No cost has been included in the Cost Table.

The Seresco air handling units (model no. NP-018- and NP -045) for the competition/lap and leisure pools (AHU 1 (Competition Pool) and AHU 2 (Leisure Pool)) appeared and were reported to be in good to new condition. Both units were installed in 2017 and assuming ongoing maintenance and repairs will have an expected useful life of twenty to twenty-five years in a pool environment. Based on the observed condition and estimated remaining useful life, it is anticipated that replacement will not be required until the extended term of the evaluation period. The reported cost and estimated timing of the replacement has been included in the Cost Table.

The rooftop mounted air handling unit for the administration and multipurpose rooms (AHU-3) appeared to be in fair condition. The unit was reported to have been installed in 2003 and assuming ongoing maintenance and repairs the unit will have an expected useful life of twenty to twenty-five years. Based on the observed condition and estimated remaining useful life, it is anticipated that replacement will be required in the short term of the evaluation period. The estimated cost and timing of the replacement has been included in the Cost Table.

The air handling unit for the changing rooms (AHU-4) was reported to be in fair condition. The unit was reported to have been installed in 2003. Assuming ongoing maintenance and repairs the unit will have an expected useful life of twenty to twenty-five years in a pool environment. Based on the observed condition and estimated remaining useful life, it is anticipated that replacement will be required in the long term of the evaluation period. The estimated cost and timing of the replacement has been included in the Cost Table.

The air handling unit for the staff changing rooms (AHU-5) was reported to be in fair to poor condition and original to the building. Assuming ongoing maintenance and repairs the unit will have an expected useful life of twenty to twenty-five years in a pool environment. Based on the observed condition and estimated remaining useful life, it is anticipated that replacement will be required in the short term of the evaluation period. The estimated cost and timing of the replacement has been included in the Cost Table.

The air handling unit for the office areas under the pedway (AHU-6) was reported to be in fair condition and was upgraded in 2003 with cooling. Assuming ongoing maintenance and repairs the unit will have an expected useful life of twenty to twenty-five years. Based on the observed condition and estimated remaining useful life, it is anticipated that replacement will be required in the short term of the evaluation period. The estimated cost and timing of the replacement has been included in the Cost Table.

The air handling unit for the fitness room (AHU-7) was reported to be in fair condition and original to the building. Assuming ongoing maintenance and repairs the unit will have an expected useful life of twenty to twenty-five years in a pool environment. Based on the observed condition and estimated remaining useful life, it is anticipated that

replacement will be required in the short term of the evaluation period. The estimated cost and timing of the replacement has been included in the Cost Table

The Direct Digital Control (DDC) system was reported to be in good condition. The system was reported to have been installed in 2017. An allowance has been made for an upgrading of the system in 2019 and after fifteen years of service. The estimated cost and timing of the upgrades has been included in the Cost Table.

4.7.3 Vertical Conveyance

Description

The building is provided with a two stop hydraulic accessibility lift that was reported to have been installed in 2019.

Observations/Comments

It was reported that the accessibility lift was in new condition and is under a maintenance contract. The expected useful life of the lift is thirty or more years. Base on the recent installation and remaining useful life additional replacement is not expected to be required during the current evaluation period. No costs have been included in the Cost Table.

Cost Estimate

Item	Action	Year of Install	Expected Useful Life	Anticipated Year of First Expenditure	Quantity	Unit Cost	Cost per Occurrence (Not Inc. Soft Cost)
Indirect Fired Hot Water Tank #1	Replacement of indirect fired hot water tank not expected to be required	2018	30	2048	1	-	-
Indirect Fired Hot Water Tank #2	Replacement of indirect fired hot water tank not expected to be required	2018	30	2048	1	-	-
Indirect Fired Hot Water Tank #3	Replacement of indirect fired hot water tank not expected to be required	2018	30	2048	1	-	-
Plate Exchanger (DHX-1)	Replacement of exchanger not expected to be required	2018	30	2048	1	-	-
Plate Exchanger (DHX-2)	Replacement of exchanger not expected to be required	2018	30	2048	1	-	-
Plate Exchanger (DHX-3)	Replacement of exchanger not expected to be required	2018	30	2048	1	-	-
Domestic Water and Sanitary Piping	Allowance for localized repairs and replacements at five year intervals	1985	5	2019	1	\$10,000	\$10,000
Domestic Water Circulation Pump	Cyclical pump replacement at end of remaining useful life	2000	20	2020	1	\$7,000	\$7,000
Water Closets	Replacement of water closets at end of remaining useful life	2020	30	2050	13	\$921	\$11,973
Urinals	Replacement at end of remaining useful life	2000	30	2030	10	\$1,125	\$11,250
Sinks	Replacement at end of remaining useful life	2020	30	2050	18	\$1,200	\$21,600
Showers	Replacement at end of remaining useful life	2020	20	2040	37	\$2,000	\$74,000
Bottle Filling Stations/Fountains	Replacement at end of remaining useful life	2005	15	2019	5	\$3,500	\$17,500

Item	Action	Year of Install	Expected Useful Life	Anticipated Year of First Expenditure	Quantity	Unit Cost	Cost per Occurrence (Not Inc. Soft Cost)
Lochinvar Condensing Boiler #1	Replacement of boiler at end of remaining useful life	2014	30	2044	1	\$125,000	\$125,000
Lochinvar Condensing Boiler #2	Replacement of boiler at end of remaining useful life	2014	30	2044	1	\$125,000	\$125,000
Condensing Boiler #1 - Over-Haul	Allowance for over-haul of Boiler #1 at boiler mid life	2014	15	2029	1	\$32,250	\$32,250
Condensing Boiler #2 - Over-Haul	Allowance for over-haul of Boiler #2 at boiler mid life	2014	15	2029	1	\$31,250	\$31,250
Baseboard Radiators, Supply and Return Piping	Allowance for repairs at five year intervals beginning in the long term	1985	5	2019	1	\$10,000	\$10,000
Heat Exchanger - Tot's Pool	Exchanger coils replaced in 2018. End of service life anticipated	2018	30	2048	1	\$5,000	\$5,000
Heat Exchanger - Leisure Pool	Exchanger coils replaced in 2019. End of service life replacement anticipated	2018	30	2048	1	\$25,000	\$25,000
Heat Exchanger - Main Pool	Exchanger replaced in 2010. End of service life replacement anticipated	2010	30	2040	1	\$35,000	\$35,000
Heat Exchangers - Whirlpool/ Hot Tubs	Exchangers replaced in 2019. End of service life replacement anticipated	2018	30	2048	2	\$3,000	\$6,000
Circulation Pumps	Replacement or repairs as part of operations and maintenance budgets	1985	20	2029	8	-	-
AHU 1 (Competition Pool)	Replacement of heat pump at end of useful life	2017	25	2042	1	\$450,000.00	\$450,000
AHU 2 (Leisure Pool)	Replacement of heat pump at end of useful life	2017	25	2042	1	\$450,000	\$45,000
AHU-3	Replacement of rooftop mounted AHU at end of useful life	2003	20	2023	30	\$1,650.00	\$49,500
AHU-4	Replacement of AHU at end of useful life	2003	25	2028	1	\$20,000.00	\$20,000
AHU-5	Replacement of AHU at end of useful life	1985	25	2019	1	\$15,000.00	\$15,000
AHU-6	Replacement of AHU at end of useful life	1985	20	2019	1	\$15,000.00	\$15,000
AHU-7	Replacement of AHU at end of useful life	1996	25	2019	1	\$2,000.00	\$2,000
Direct Digital Control (DDC) System	Allowance for cyclical upgrade of DDC system at fifteen year intervals	2017	15	2032	62,874	\$0.75	\$47,156
Lift	Replacement not expected to be required	2019	30	2049	1	\$60,000.00	\$60,000

4.8 Electrical System

Description

The site is supplied with power underground from the local power utility to the main breaker in the electrical room. The main breaker manufactured by Westinghouse and is rated at 15kV, electricity is then directed to a 2,000kVA step down transformer (12,470V to 347/600V) and then directed to the main switchgear manufactured by ITE and rated

at 1,000A 347/600V. Power is then directed to motor control centers (MCC) manufactured by Square D for the mechanical equipment and to a 300kVA step down transformer (347/600V to 120/208V) to secondary panels, the majority of them manufactured by Westinghouse, located throughout the building.

Lighting in the changing rooms, training areas and hallways consists of LED lighting that was installed in 2020.

The building is also provided with a scoreboard in competition / lap pool area installed in 2015.

The recently installed heat pump air handling units (DHU-1 and DHU-2) and the pool water circulation pumps (P-5 and P-6) are provided with variable speed drives.

The building is not provided with emergency power.

Observations/Comments

No problems were reported regarding the electrical systems. The capacity of the electrical service within the building was reported to be adequate for the current building demand. The main switchgear was reported to have been installed in 2002 and appeared to be in good condition. The expected useful life of the switchgear is forty-five or more years. Based on the observed condition and estimated remaining useful life it is not expected that the switchgear will require major repair or replacement during the evaluation period. No costs have been included in the Cost Table.

The majority of the secondary panels were reported to be original to the building and in fair to good overall condition with the exception of a few panels near the pool area. Similar to the main switchgear, secondary panels have an expected useful life of forty to forty-five years. Based on the observed condition and estimated remaining useful life it is expected that the secondary switchgear will require a phased replacement during the evaluation period. For the purposes of the capital plan an allowance has been included to complete these replacements at five year intervals beginning at the beginning of the extended term of the evaluation period. The estimated cost and timing has been included in the Cost Table.

It was reported that all of the motor control centers (MCC) throughout the building are generally original to the building with the exception of MCC-1 manufactured by Siemens that appears to have been replaced within the past fifteen years. The remaining original MCCs appeared to be in fair to condition. Typically motor control centers will have an expected useful life of forty years with occasional maintenance and localized repairs. Based on the observed and estimated remaining useful life it is anticipated that replacement of the remaining original MCCs will be required in the long term with replacement of the Siemens MCC not expected to be required during the current evaluation period. The estimated cost and timing has been included in the Cost Table.

The branch wiring throughout the development appeared and was reported to be in generally good condition. It was reported that there has been some localized replacements completed on an as required basis. Typically branch wiring has an

expected useful life of forty years. Based on the reported condition it is expected that there will be continuing repairs required during the evaluation period. For the purposes of the capital plan an allowance has been included to address additional localized repairs at five year intervals during the term. The estimated cost and timing has been included in the Cost Table.

The lobby area LED lighting appeared and was reported to be in good condition and installed in 2016. Typically LED fixtures will have an expected useful life of twenty to twenty-five years. Cyclical replacement of the fixtures is anticipated to be required near the end of the evaluation period. Lamp replacement is expected to be completed as part of operations and maintenance budgets. The estimated cost and timing of the fixture replacement has been included in the Cost Table.

The LED lighting in the changing rooms, training areas and hallways appeared to be in new condition and was reported to have been installed in 2020. Typically LED fixtures will have an expected useful life of twenty to twenty-five years. Based on the observed condition and estimated remaining useful life replacement of the fixtures is not expected to be required during the current evaluation period. No costs have been included in the Cost Table.

The Competition and Leisure Pools LED lighting was reported to have been installed in 2017 and is in very good condition. Typically the fixtures will have an expected useful life of twenty-five years. Cyclical replacement of the fixtures is not expected to be required until near the end of the evaluation period. Cyclical lamp replacement is expected to be required and completed as part of operations and maintenance budgets. The estimated cost and timing of the fixture replacement has been included in the Cost Table.

The scoreboard in the competition/ lap pool appeared to be in good condition with no reported deficiencies. The scoreboard was reported to have been installed in 2015 and would typically have an expected useful life of fifteen years with occasional maintenance and repairs completed as part of operations and maintenance budgets. Cyclical replacement of the scoreboard is expected to be required during the evaluation period. The estimated cost and timing of the replacement has been included in the Cost Table.

The variable speed drives for DHU-1 and DHU-2 appeared to be in good condition and were installed in 2017. Typically the drives will have an expected useful life of fifteen years. Cyclical replacement of the drives is expected to be required. The estimated cost and timing of the replacement has been included in the Cost Table.

The variable speed drives for P-5 and P-6 appeared to be in fair condition and estimated to have been installed within the past five to ten years. Typically the drives will have an expected useful life of fifteen years. Cyclical replacement of the drives is expected to be required. The estimated cost and timing of the replacement has been included in the Cost Table.

Cost Estimate

Item	Action	Year of Install	Expected Useful Life	Anticipated Year of First Expenditure	Quantity	Unit Cost	Cost per Occurrence (Not Inc. Soft Cost)
Main Electrical Switchgear	Budgetary replacement cost for main switchgear	2002	45	2047	1	\$175,000	\$175,000
Secondary Electrical Panels	Repair allowance at five year intervals	1985	5	2030	1	\$12,000	\$12,000
Motor Control Centers	Allowance for repair/replacement	1985	40	2028	4	\$8,500	\$34,000
Motor Control Center - Siemens	Allowance for repair/replacement	2005	40	2045	1	\$8,500	\$8,500
Branch Wiring	Allowance for localized repairs as required	1985	5	2024	1	\$12,000.00	\$12,000
Lobby Lighting	Replacement at end of remaining useful life	2016	25	2041	3,250	\$5.50	\$17,875
Changing Room, Fitness Area and Hallways LED Lighting	Replacement at end of remaining useful life	2020	25	2045	24,500	\$5.50	\$134,750
Competition Pool LED Lighting	Replacement at end of remaining useful life	2017	25	2042	22,831	\$6	\$125,572
Leisure Pool LED Lighting	D5020 - Lighting and Branch Wiring	2017	25	2042	12,294	\$6	\$67,616
LED Scoreboard	Cyclical replacement of scoreboard	2015	15	2030	1	\$85,000	\$85,000
VFD for DHU-1 and DHU-2	Replacement at end of useful life	2017	15	2032	2	\$6,500.00	\$13,000
VFD for P-5 and P-6	Replacement at end of useful life	2013	15	2028	2	\$6,500.00	\$13,000

4.9 Life Safety

Description

The facility is protected with a wet pipe sprinkler system located throughout the building with a dry pipe sprinkler system at the chlorine storage area. The incoming water line is provided with a backflow preventer. Fire extinguishers were noted throughout the facility.

A fire alarm panel is located at the main entrance to the building with heat detectors and pull stations noted throughout the facility.

Fire extinguishers are located throughout the building.

Observations/Comments

The sprinkler system was most recently tested on August 16, 2019 by Troy Life and Fire Safety Ltd. and was reported to be in good condition. The system relies on city water pressure. Sprinkler systems have an expected useful life of approximately forty or more years. The piping in the building is not anticipated to require significant replacement during the evaluation period. No costs have been included in the Cost Table.

The fire panel was reported to have been installed in 2019 and is in new condition. Typically fire panels are will have an expected useful life of approximately twenty to twenty-five years. Cyclical replacement of the panel is anticipated to be required at the end of its remaining useful life. The estimated cost and timing have been included in the Cost Table.

The exit lighting were observed to be in good condition overall throughout the building. Typically these units have an expected useful life of twenty to twenty five years. However due to their small size and replacement cost, they can usually be replaced on an as needed basis under operations and maintenance budgets.

The fire extinguishers were observed to have been most recently inspected in June 2017 and are currently out of date. It is recommended that the extinguishers be inspected as a priority repair and an allowance to complete the testing has been included in the Cost Table. Upon completion it is expected that yearly inspections and occasional replacements can be completed as part of operations and maintenance budgets.

Cost Estimate

Item	Action	Year of Install	Expected Useful Life	Anticipated Year of First Expenditure	Quantity	Unit Cost	Cost per Occurrence (Not Inc. Soft Cost)
Sprinkler System	No significant replacement anticipated	1985	40	2044	62,874	\$3.21	\$201,826
Fire Alarm Panel	Replacement of panel at end of remaining useful life	2019	20	2039	1	\$25,000	\$25,000
Fire Extinguishers	Priority repair inspection of extinguishers	2000	15	2019	1	\$1,000	\$1,000

4.10 Specialty Systems

Description

There are three pools associated with the building consisting of the main competition/lap pool, the leisure pool and the tot’s pool. In addition there is an adult whirlpool and a teen whirlpool located on the north side of the pool area. All of the pools and whirlpools are concrete framed and lined with ceramic tile.

A concrete framed platform diving structure supports metal framed platforms and is located on the south side of the competition pool and consists of two levels of 5 meter platform diving and one level of 3 meter springboard diving. The platform structure also provides access to the water slide associated with the competition pool. The platforms are accessed by stainless steel stairs and railings. Railings on the platforms consist of stainless steel or painted metal railings.

The competition pool is provided with four diving boards, eight competition starting blocks and a moveable metal bulkhead. There are five sets mechanical bleachers bordering the competition pool that were reportedly installed in 2010 and 2014.

The tot's pool is provided with a water feature and a second water slide is located in the leisure pool.

Filtration for the competition pool, leisure pool and tot's pool is provided by concrete filter boxes with fabric filters. Filtration for the adult and teen whirlpools is provided by fibreglass sand filters.

A dry sauna and a steam room are located on the pool deck.

Observations/Comments

The concrete platform diving structure appeared to be in good condition and no issues with spalling or corrosion were reported by the site contact. The expected useful life of the concrete is anticipated to be forty or more years with occasional repairs completed on an as required basis. Based on the observed condition and assuming repairs are completed it is expected that the structure will exceed its typical useful life and not require significant replacement during the current evaluation period. No costs have been included in the Cost Table.

The metal framed stairs, platforms and railings appeared to be in fair to good condition with some evidence of corrosion noted on some of the remaining original portions of the frames and railings. The stainless steel portions of the structure appear to have been replaced in the last five to ten years and are in good condition. It is expected that additional replacements will be required during the evaluation period. For the purposes of the capital plan an allowance for replacements have been included in the short and extended terms of the evaluation period.

The concrete filtration tanks for the competition and tot's pools appeared to be in fair condition with no evidence of leakage or deterioration. The concrete structures should not require replacement during the current evaluation period. Localized repairs can be completed as part of operations and maintenance budgets. The filter media was reported require regular replacement and is budgeted for as a capital replacement. An allowance for replacement of the filter media in each pool has been included in the Cost Table.

The filtration tank for the Leisure Pool is epoxy and was reported to have been installed in 2016. The tank was reported to be in good condition and is expected to have an expected useful life of thirty or more years. Based on the observed and reported condition it is not expected that replacement will be required during the current evaluation period. The filter media was reported require regular replacement and is budgeted for as a capital replacement. An allowance for replacement of the filter media in each pool has been included in the Cost Table.

The competition pool diving boards appeared to be in fair to good condition. It was reported by the site contact that the 3 meter diving boards are scheduled for replacement in the short term. Typically commercial quality diving boards will have an expected useful life of twenty years. Based on the observed and reported condition it is anticipated that the platform boards will be replaced in the short term with replacement

of the pool level boards replaced in the long term. The estimated cost and timing of the replacement has been included in the Cost Table.

The starting blocks appeared to be in good condition and were reported to have been installed in 2015. Typically starting blocks will have a useful life of approximately twenty years although that can vary depending on the frequency of use. Cyclical replacement is anticipated at the beginning of the long term evaluation period. The estimated cost and timing for the replacement have been included in the Cost Table.

The competition pool movable bulkhead appeared and was reported to be in fair condition and will have an expected useful life of twenty-five years between major repairs and component replacement. It was reported that the bulkhead was installed in 2005. An allowance has been included in the Cost Table at the end of the long term of the evaluation period for these repairs.

The tot's pool water features appeared to be in fair to good condition and was reported to have been installed in 1991. Water features will have an expected useful life of ten or more years. Based on the observed condition and estimated remaining useful life it is anticipated that replacement will be required at the beginning of the long term of the evaluation period. The estimated cost and timing has been included in the Cost Table.

The bleacher style foldable seating bordering the competition was reported to have been installed in 2010 and 2014. In a pool environment the bleachers will have an expected useful life of twenty years. It was reported that the 2010 bleachers require some localized repairs and maintenance. Based on the observed and reported condition as well as their estimated remaining useful life it is expected that replacement in the long and extended terms of the evaluation period. The estimated cost and timing of the replacement has been included in the Cost Table.

The waterslides appeared to be in fair condition with evidence of deterioration of the metal components and will generally have a twenty-five year useful life. It was reported that the slides are original to the building. Replacement of the slides is expected to be required in the short and long terms of the evaluation period. The estimated cost and timing has been included in the Cost Table.

The dry sauna appeared to be in fair condition and it was reported that the heating element was replaced in 2018 although the cedar wood was original to the building. Typically prefabricated saunas will have an expected useful life of twenty-five or more years with replacement of the electric heating element after approximately fifteen years of service. A complete replacement of the sauna is expected to be required in the extended term of the evaluation period. The estimated cost and timing of the replacement has been included in the Cost Table.

The steam room appeared to be in fair condition with some damaged tiles noted during the site visit. Steam rooms will generally have an expected useful life of forty years. Replacement is expected to be required in the long term of the evaluation period. The estimated cost and timing of the replacement has been included in the Cost Table.

The fitness equipment in the building appeared and was reported to be in good condition and is generally replaced at ten year intervals. An allowance for replacement has been included in the long term of the evaluation period.

Cost Estimate

Item	Action	Year of Install	Expected Useful Life	Anticipated Year of First Expenditure	Quantity	Unit Cost	Cost per Occurrence (Not Inc. Soft Cost)
Platform Concrete Diving Structure	No significant replacement expected to be required	1985	40	2044	1	-	-
Platform Stairs, Decking and Railings	Allowance for replacements in short and extended terms	1985	10	2021	1	\$75,000.00	\$75,000
Competition Pool Filtration	Allowance for replacement of filter media	1985	5	2021	1	\$2,000.00	\$2,000
Leisure Pool Filtration	Allowance for replacement of filter media	2016	5	2021	1	\$2,000.00	\$2,000
Tot's Pool Filtration	Allowance for replacement of filter media	1985	5	2021	1	\$1,000.00	\$1,000
Adult Whirlpool Filtration	Replacement of sand filter at end of remaining useful life	2000	15	2021	1	\$7,500.00	\$7,500
Teens Whirlpool Filtration	Replacement of sand filter at end of remaining useful life	2000	15	2021	1	\$7,500.00	\$7,500
Competition Pool Diving Boards - Platform	Replacement of platform diving boards	1985	20	2019	2	\$14,000.00	\$28,000
Competition Pool Diving Boards - Pool Level	Replacement of pool level diving boards	2000	20	2027	2	\$14,000.00	\$28,000
Competition Pool Starting Blocks	Replacement of blocks at end of remaining useful life	2015	20	2035	8	\$500.00	\$4,000
Competition Pool Bulkhead	Allowance for upgrades and component replacement	2005	25	2030	1	\$350,000.00	\$350,000
Tot's Pool Water Feature	Replacement of water feature at end of remaining useful life	1991	12	2025	1	\$8,000.00	\$8,000
Bleachers 2014	Replacement of bleachers at end of remaining useful life	2014	20	2034	3	\$9,500.00	\$28,500
Bleachers 2010	Localized repairs as part of O&M. Replacement at end of useful life	2010	20	2025	5	\$9,500.00	\$47,500
Leisure Pool Water Slide	Replacement of water slide in leisure pool	1985	25	2022	1	\$35,000.00	\$35,000
Competition Pool Water Slide	Replacement of water slide	1995	25	2025	1	\$150,000.00	\$150,000
Dry Sauna	Heating element replaced in 2018. Original wood	1991	30	2033	1	\$23,100.00	\$23,100
Steam Room	Areas of damaged tile requiring repairs. Replacement at end of remaining useful life	1985	40	2025	1	\$16,350.00	\$16,350
Fitness Equipment	Allowance to upgrade/replace fitness equipment	2016	10	2025	1	\$150,000.00	\$150,000

5 Capital Plan – Canada Games Aquatic Centre

The foregoing recommendations of the Building Condition and Energy Assessment have been integrated into a Capital Asset Management Plan for the Canada Games Aquatic Centre. A key element of the Plan is the Capital Planning Tool (CPT) spreadsheet.

5.1 Priority Repairs and Estimated Costs

Priority Repair Recommendations

Priority repair costs are for observed deficiencies that require immediate action to prevent further deterioration to the element, to other components of the facility or to prevent possible injury due to unsafe conditions and/or code violations. Priority repairs were identified in the out of date inspections certificated for the fire extinguishers.

Major Component Repair and Replacement Project Costs

Costs for the major component replacements identified during the site assessment and energy audit were estimated as described earlier. Major component replacements can be defined as components for which:

- The property owner is responsible;
- Major repair or replacement costs are anticipated to be incurred during its useful life; and
- Costs of repair or replacement will not be covered as part of the annual maintenance budgets.

Information for developing costs for major component replacements and energy efficiency projects are based on observations made during the site assessment and data supplied by the building owner. They are approximate and based on industry standards or CMEL experience. These costs are summarized in the Cash Flow Report in ***Appendix A***.

Quantities and areas are based on field observations, site interviews and/or client supplied drawings and equipment specifications. More precise quantity surveying or site measurements were beyond the scope of this assessment. More detailed engineering designs may be required for more complex replacements or EEM / ESM technologies. It is recommended that quotations from qualified contractors be obtained by the City before any specific project is undertaken.

Some identified projects may be undertaken without specific building or other permits. However, investigation of such needs, including detailed studies and engineering, was beyond the scope of this project and remains the responsibility of the City.

5.2 Capital Plan Recommendations

The site assessment of the Canada Games Aquatic Centre was completed on October 23rd, 2019 and February 5th, 2020. The site appeared to be in fair overall condition and the building appeared to be well maintained. It is recommended that component replacements or major repairs in the Capital Plan are monitored and replaced as indicated in the Cost Table.

The costs for the recapitalization projects and the energy efficiency measures have been entered into the Capital Management Engineering Limited's Capital Planning Tool (CPT) spreadsheet. The CPT provides the City with a list of major components by system. The CPT also provides a probable cost table identifying the anticipated cost by year and calculates the corresponding Facility Condition Index (FCI).

The CPT takes into consideration the hard costs as well as incorporates soft costs on an annual basis. The CPT also incorporates the Energy Audit findings and incorporates those EEM which are recommended and compares the traditional "as like as kind" component replacement with the incorporation of EEM over the evaluation term.

The basic CPT input and output sheets are presented in [Appendix A](#).

The populated and editable version of this base Capital Asset Management Plan has been provided, along with additional instruction and advice, to the City in addition to this supporting report.

5.3 Facility Condition Index

The Facility Condition Index (FCI) is a metric often used for benchmarking in the real estate industry. It is used to assess the current and projected condition of a building asset. By definition, the FCI is defined as the ratio of the Accumulated Deferred Maintenance (ADM) costs to the Current Building Replacement Value (CRV). The FCI can be defined in terms of the following equation:

$$\text{Facility Condition Index (FCI)} = \frac{\text{Accumulated Deferred Maintenance (ADM)}}{\text{Current Building Replacement Value (CRV)}}$$

Building condition is often defined in terms of the FCI. Generally accepted industry standards for FCI's are as follows:

FCI	Remark
0-5%	excellent to good condition
5-10%	good to fair condition
>10%	fair to poor condition

Overall the lower the FCI the better the condition of the building and the lower the risk that an unexpected recapitalization issue will arise which could result in a specific building shutdown or restricted operation. As an FCI increases, the building is in

increasingly poor condition as the backlog of poorly operating or inoperable components in need of replacement rises. An increasing FCI, or backlog of deferred maintenance, impacts not only the capital requirement but leads to increased operation costs especially through emergency maintenance costs.

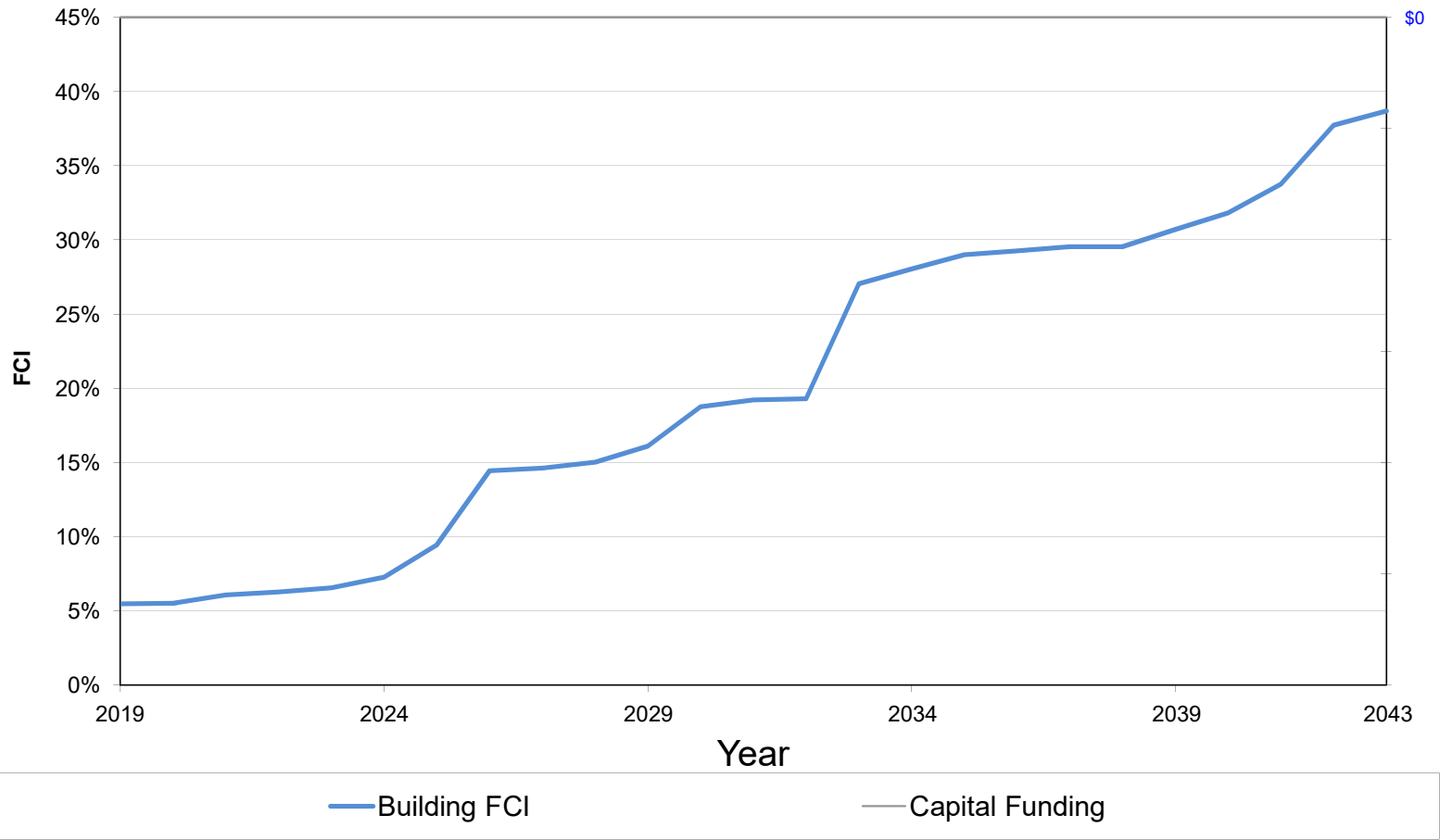
5.4 Anticipated Facility Condition Index Graph

The CPT has the ability to project an FCI for a given facility taking into account the anticipated probable costs by year over the evaluation period and offsetting the requirement by a proposed funding allowance. Multiple funding streams can be modelled. Typically, a target FCI would be determined and the funding requirement calculated to meet the preferred FCI value.

The CPT also graphs the outcomes of incorporating energy efficiency projects and overlays the finding on the FCI graph to allow for easy comparison of the two recapitalization strategies. Incorporating energy efficiencies allows the City to potentially reinvest the operation savings gained from energy efficiency measures back into capital projects to better the building's condition without increasing the overall cost of ownership.

Projected Facility Condition Index of Canada Games Aquatic Centre

May 27, 2020



6 Conclusion

Canada Games Aquatic Centre has a year one anticipated requirement and infrastructure deficit totalling \$1,120,632 and an anticipated five year capital investment requirement of \$1,340,702 to meet all anticipated renewal needs. The building condition is considered in the fair range with a current Facility Condition Index of 6.05%.

Of the Year 1 Infrastructure Deficit costs, in keeping with the City's risk rating criteria, all of the anticipated projects have a rating of 10 or above.

In CMEL opinion, Canada Games Aquatic Centre is in fair condition. The current infrastructure deficit is reasonable and the ongoing recapitalization requirements are considered normal. The building presents as a well operated and maintained facility.

7 Limitations

This report may not be relied upon by any other person or entity without the expressed written consent of Capital Management Engineering Limited and the City of Saint John. Any other parties that rely or make decisions based on this report do so solely at their own risk.

Capital Management Engineering makes no warranties, whether written or oral, statutory, expressed or implied, in connection with the services provided, including, without limitation, any warranty of fitness for any particular purpose or use with respect to the property or building components and systems.

Capital Management Engineering's cumulative liability for all claims relating to this report or the services provided shall not exceed the total amount of all fees actually paid for this report.

The opinions of cost are intended for global budgeting purposes only. Actual costs for recommended work can only be determined after preparation of tender documents, detailing the site restrictions, effects and or restrictions on ongoing operations of the building and requirements associated with the construction schedule.

The recommendations made in this report are based on the visual observations made by the assessor during the site assessment and are limited to the areas of the site and building that were observed and accessible during the assessment. Concealed, inaccessible and un-observed areas may be in a different condition than what is reported herein. During the site assessment the assessor will attempt to verify any additional information provided by the site contact. However, in many cases the information will be relied upon and presented without field verification.

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Appendix A - Capital Plan

General Building Information Worksheet

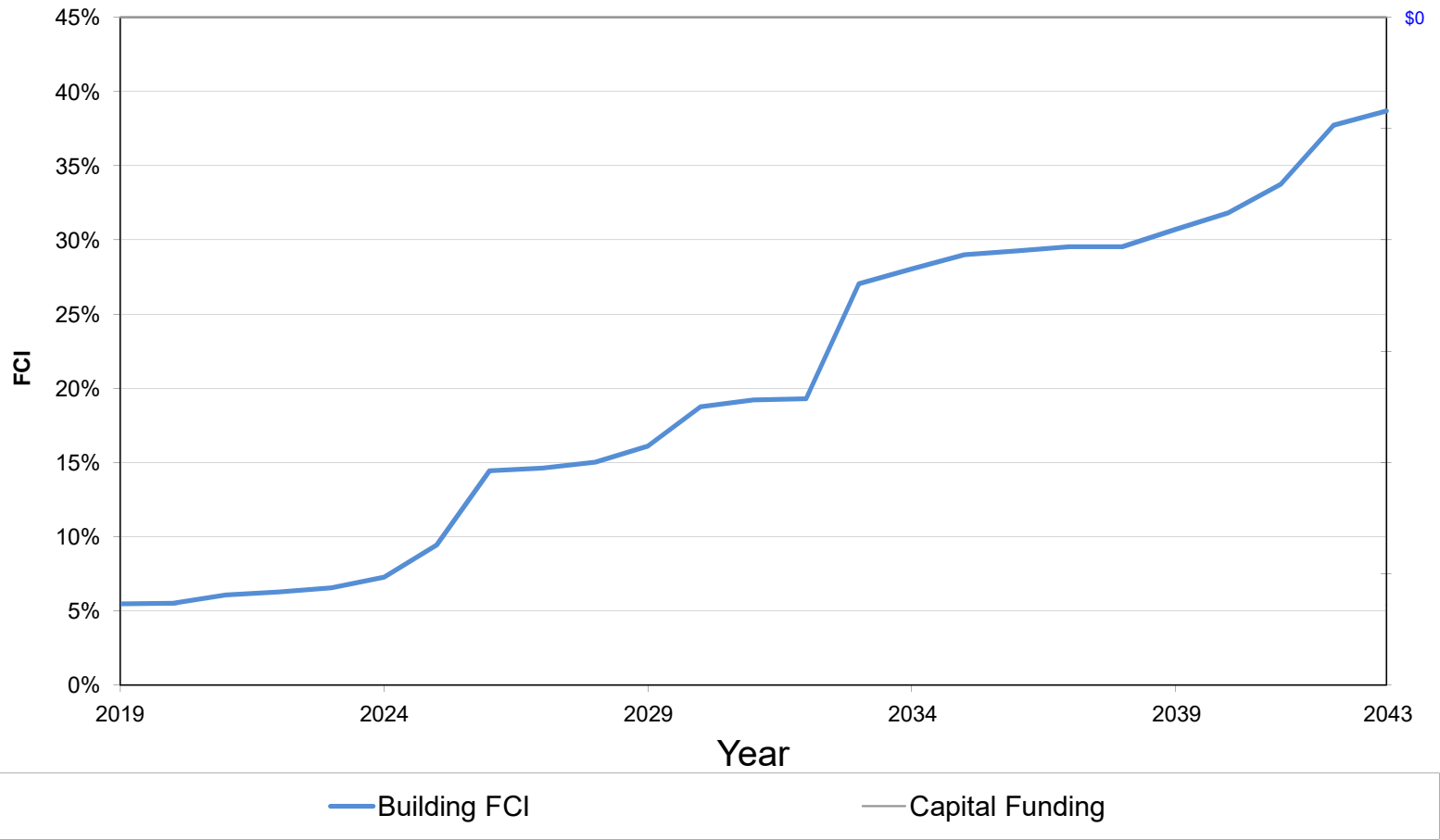
Building Name	Canada Games Aquatic Centre
Civic Address	50 Union Street
Municipality, City	Saint John, NB
Primary Use / Building Type	Pool and Fitness
Primary Units	Square Foot
Building Area Square Foot	62,874
Replacement Cost per Square Foot	\$ 325
Building Replacement Cost	\$ 20,434,050
Year of Construction or Major Renovation	1985
Start Year	2019
Current Year	2019
Target FCI	0%
Soft Costs (%)	18%
Interest Rate	0.00%
Inflation Rate	0.00%

Asset Definition Columns

1	Site Work
2	Structure
3	Roofing
4	Architectural Exterior
5	Architectural Interior
6	Mechanical Systems
7	Electrical Systems
8	Life Safety
9	Specialty Systems

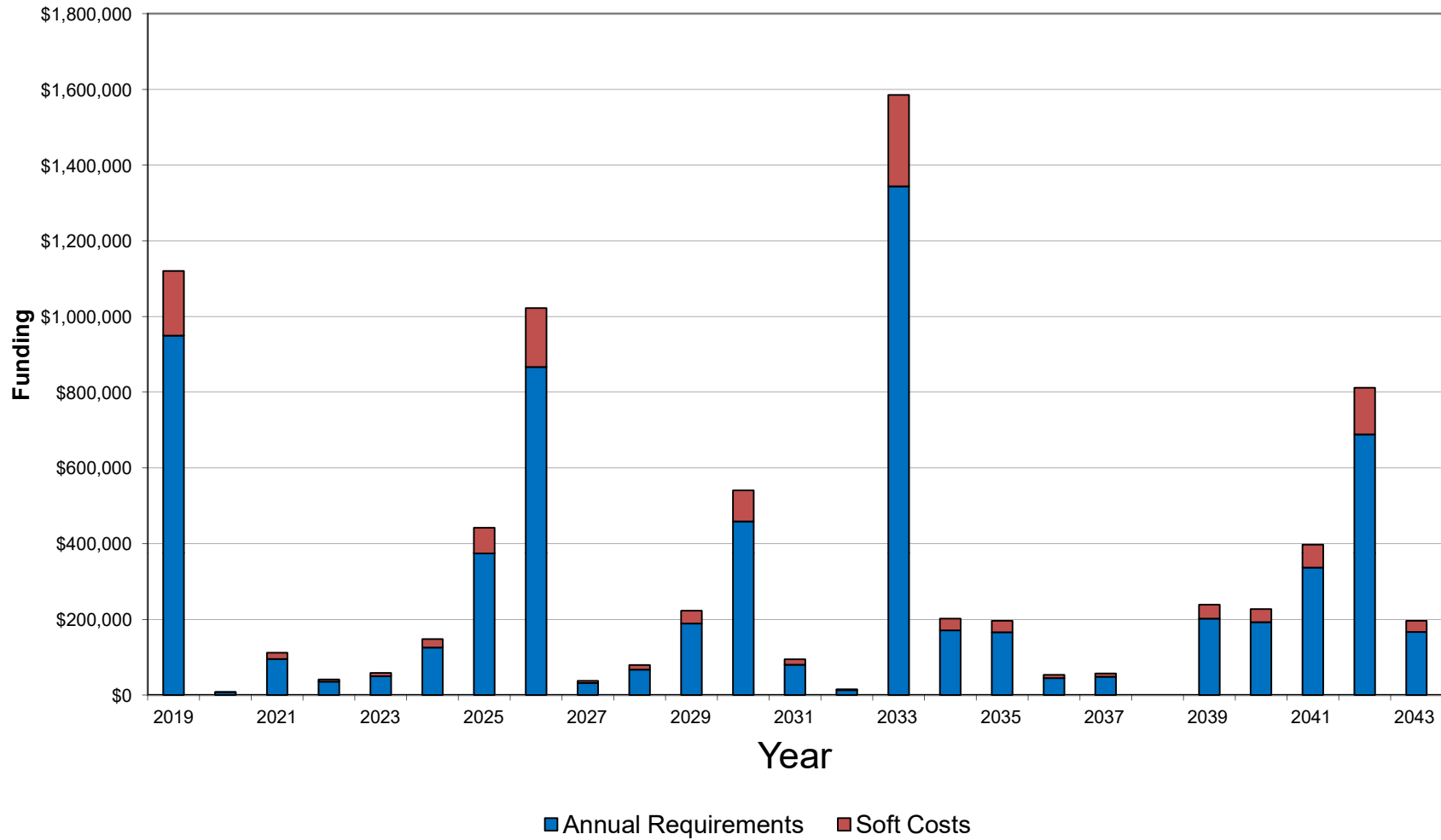
Projected Facility Condition Index of Canada Games Aquatic Centre

May 27, 2020



Recapitalization Costs by Year for Canada Games Aquatic Centre

May 27, 2020



Canada Games Aquatic Centre

Project Output Sheet for Period from 2019 to 2024

Component	Uniformat Code	Recapitalization Detail	Year of Next Replacement	Expected Useful Life (EUL)	Current Age	Risk Rating	Total Cost
Fire Extinguishers	D4090 - Other Fire Protection Systems	Priority repair inspection of extinguishers	2019	15	19	25	\$1,000
Glazing	B2020 - Exterior Windows	Allowance for replacement of glazing units	2019	35	34	20	\$118,750
Ceramic Pool Tile	C3020 - Floor Finishes	Replacement of pool tile at end of remaining useful life	2019	30	34	20	\$300,323
Prefinished Metal Roofing - Fitness/Weight Room	B3010 - Roof Coverings	Replacement of metal roofing at end of useful life	2019	35	34	15	\$88,200
Brick Veneer Exterior Walls	B2010 - Exterior Walls	Repointing allowance at seven year intervals	2019	7	34	15	\$64,575
Curtain Wall Cladding	B2020 - Exterior Windows	Allowance for replacement of curtain wall at end of remaining useful life	2019	35	34	15	\$90,000
Caulking	B2010 - Exterior Walls	Replacement of caulking	2019	18	19	15	\$40,000
Main Entrance Storefront Style Doors	B2030 - Exterior Doors	Replacement of doors at end of useful life	2019	35	34	15	\$40,920
Sheet Flooring	C3020 - Floor Finishes	Allowance for replacement of approximately 25% of sheet flooring at five year intervals	2019	5	34	15	\$78,831
AHU-5	D3040 - Distribution Systems	Replacement of AHU at end of useful life	2019	25	34	15	\$15,000
AHU-6	D3040 - Distribution Systems	Replacement of AHU at end of useful life	2019	20	34	15	\$15,000
AHU-7	D3040 - Distribution Systems	Replacement of AHU at end of useful life	2019	25	23	15	\$2,000
Competition Pool Diving Boards - Platform	E1090 - Other Equipment	Replacement of platform diving boards	2019	20	34	15	\$28,000
Asphalt Paving	G2020 - Parking Lots	Allowance for partial resurfacing at five year intervals	2019	5	19	10	\$14,400
Soffit Mounted Lighting	D5020 - Lighting and Branch Wiring	Replacement of soffit mounted lighting	2019	20	34	10	\$5,250
Prefinished Metal Siding	B2010 - Exterior Walls	Replacement of EIFS cladding	2019	35	34	10	\$3,500
Secondary, Exit and Service Doors	B2030 - Exterior Doors	Replacement of painted metal exit and service doors at end of	2019	25	34	10	\$6,440
Domestic Water and Sanitary Piping	D2030 - Sanitary Waste	Allowance for localized repairs and replacements at five year intervals	2019	5	34	10	\$10,000
Bottle Filling Stations/Fountains	D2010 - Plumbing Fixtures	Replacement at end of remaining useful life	2019	15	14	10	\$17,500
Baseboard Radiators, Supply and Return Piping	D3050 - Terminal & Package Units	Allowance for repairs at five year intervals beginning in the long term	2019	5	34	10	\$10,000
Domestic Water Circulation Pump	D2020 - Domestic Water Distribution	Cyclical pump replacement at end of remaining useful life	2020	20	19	15	\$7,000
Platform Stairs, Decking and Railings	C2010 - Stair Construction	Allowance for replacements in short and extended terms	2021	10	34	12	\$75,000
Competition Pool Filtration	D2090 - Other Plumbing Systems	Allowance for replacement of filter media	2021	5	34	8	\$2,000
Leisure Pool Filtration	D2090 - Other Plumbing Systems	Allowance for replacement of filter media	2021	5	3	8	\$2,000
Tot's Pool Filtration	D2090 - Other Plumbing Systems	Allowance for replacement of filter media	2021	5	34	8	\$1,000

Canada Games Aquatic Centre Project Output Sheet for Period from 2019 to 2024

Component	Uniformat Code	Recapitalization Detail	Year of Next Replacement	Expected Useful Life (EUL)	Current Age	Risk Rating	Total Cost
Adult Whirlpool Filtration	D2090 - Other Plumbing Systems	Replacement of sand filter at end of remaining useful life	2021	15	19	8	\$7,500
Teens Whirlpool Filtration	D2090 - Other Plumbing Systems	Replacement of sand filter at end of remaining useful life	2021	15	19	8	\$7,500
Leisure Pool Water Slide	E1090 - Other Equipment	Replacement of water slide in leisure pool	2022	25	34	12	\$35,000
AHU-3	D3040 - Distribution Systems	Replacement of rooftop mounted AHU at end of useful life	2023	20	16	9	\$49,500
Branch Wiring	D5020 - Lighting and Branch Wiring	Allowance for localized repairs as required	2024	5	34	9	\$12,000

Building Component Summary Worksheet Canada Games Aquatic Centre

Component	Uniformat Code	Recapitalization Detail	Year of Installation or Repair	Expected Useful Life (EUL)	Current Age	Theoretical Remaining Useful Life (RUL)	Useful Life Corrected For Observations	Year of Next Replacement	Decision Parameters					Type of event (Cyclic/Single)	Unit	Quantity	Unit Cost	Total Cost	Location	Material	Dimension	Make and Model	Risk Rating
									Recovery Cost	Health & Safety	Loss of Service	Environmental Impact	Consequence of Failure										
Site Work																							
Concrete Flatwork	G2030 - Pedestrian Paving	Allowance for repairs in the long term	1985	40	34	6	8	2027	\$2,000 - \$20,000	Negligible or no injury	Small num. of customers / minor disruption	Negligible or no impact	2	Single	ft²	300	\$ 12.00	\$ 3,600	Site	Concrete		6	
Concrete Flatwork	G2030 - Pedestrian Paving	Allowance for repairs in the extended term	1985	40	34	6	20	2039	\$2,000 - \$20,000	Negligible or no injury	Small num. of customers / minor disruption	Negligible or no impact	2	Single	ft²	300	\$ 12.00	\$ 3,600	Site	Concrete		4	
Asphalt Paving	G2020 - Parking Lots	Allowance for partial resurfacing at five year intervals	2000	5	19	-14	0	2019	\$2,000 - \$20,000	Negligible or no injury	Small num. of customers / minor disruption	Negligible or no impact	2	Cyclical	ft²	3,200	\$ 4.50	\$ 14,400	Site	Asphalt		10	
Curbing	G2020 - Parking Lots	Repairs as part of operations and maintenance	1985	40	34	6	6	2025	< \$2,000	Negligible or no injury	Small num. of customers / minor disruption	Negligible or no impact	1	Cyclical	Lft		\$ -	\$ -	Site	Concrete		3	
Building Mounted Lighting	D5020 - Lighting and Branch Wiring	Replacement as part of operations and maintenance budgets	2018	20	1	19	19	2038	< \$2,000	Negligible or no injury	Small num. of customers / minor disruption	Negligible or no impact	1	Cyclical	Ea	4	\$ -	\$ -	Site			2	
Soffit Mounted Lighting	D5020 - Lighting and Branch Wiring	Replacement of soffit mounted lighting	1985	20	34	-14	0	2019	\$2,000 - \$20,000	Negligible or no injury	Small num. of customers / minor disruption	Negligible or no impact	2	Cyclical	Ea	15	\$ 350.00	\$ 5,250	Site	Concrete		10	
Main Entrance Vintage Style Fixtures	D5020 - Lighting and Branch Wiring	Replacement at end of useful life	2005	20	14	6	6	2025	\$2,000 - \$20,000	Negligible or no injury	Small num. of customers / minor disruption	Negligible or no impact	2	Cyclical	Ea	2	\$ 1,200.00	\$ 2,400	Site	Concrete		6	
Structure																							
Footings and Foundations	A1010 - Standard Foundations	No significant repairs or replacements expected to be required during evaluation period	1985	75	34	41	41	2060	\$100,000 - \$1M	Negligible or no injury	Small num. of customers / minor disruption	Negligible or no impact	4	Cyclical	ft²	62,874	\$ 4.00	\$ 251,496		Concrete		4	
Slab on Grade	A1030 - Slab on Grade	No significant repairs or replacements expected to be required during evaluation period	1985	75	34	41	41	2060	\$100,000 - \$1M	Negligible or no injury	Small num. of customers / minor disruption	Negligible or no impact	4	Cyclical	ft²	62,874	\$ 7.08	\$ 445,148				4	
Structural Framing	B1010 - Floor Construction	No significant repairs or replacements expected to be required during evaluation period	1985	75	34	41	41	2060	> \$1M	Negligible or no injury	Small num. of customers / minor disruption	Negligible or no impact	5	Cyclical	ft²	62,874	\$ 45.50	\$ 2,860,767				5	
Roofing																							
Low Sloped PVC Roof Membranes	B3010 - Roof Coverings	Replacement of PVC roof membrane at end of useful life	2008	25	11	14	14	2033	> \$1M	Minor personal injury	Major local disruption / extended period	Reversible in 3 months	5	Cyclical	ft²	31,400	\$ 40.00	\$ 1,256,000	Roof	PVC		10	
Low Sloped PVC Roof Membranes	B3010 - Roof Coverings	Allowance for repairs after 15 to 18 years of service	2008	18	11	7	7	2026	\$100,000 - \$1M	Negligible or no injury	Small num. of customers / significant disruption	Reversible in 3 months	4	Single	ft²	4,710	\$ 40.00	\$ 188,400	Roof	PVC		12	
Painted Metal Frame	B3010 - Roof Coverings	Allowance for refurbishment of the metal frame on roof	1985	10	34	-24	7	2026	\$20,000 - \$100,000	Negligible or no injury	Small num. of customers / significant disruption	Reversible in 3 months	3	Cyclical	Ea	1	\$ 25,000.00	\$ 25,000	Roof	PVC		9	
Prefinished Metal Roofing - Leisure/Kids Pool/Penthouse	B3010 - Roof Coverings	Replacement of metal roofing at end of useful life	2008	35	11	24	24	2043	\$100,000 - \$1M	Negligible or no injury	Small num. of customers / significant disruption	Reversible in 3 months	4	Cyclical	ft²	4,950	\$ 21.00	\$ 103,950	Roof	PVC		4	
Prefinished Metal Roofing - Fitness/Weight Room	B3010 - Roof Coverings	Replacement of metal roofing at end of useful life	1985	35	34	1	0	2019	\$20,000 - \$100,000	Negligible or no injury	Small num. of customers / significant disruption	Reversible in 3 months	3	Cyclical	ft²	4,200	\$ 21.00	\$ 88,200	Southwest	Mod Bit		15	
Architectural Exterior																							
Brick Veneer Exterior Walls	B2010 - Exterior Walls	Repointing allowance at seven year intervals	1985	7	34	-27	0	2019	\$20,000 - \$100,000	Negligible or no injury	Small num. of customers / minor disruption	Negligible or no impact	3	Cyclical	ft²	2,100	\$ 30.75	\$ 64,575	All Elevations	Brick	2100 ft²	15	
Curtain Wall Cladding	B2020 - Exterior Windows	Allowance for replacement of curtain wall at end of remaining useful life	1985	35	34	1	0	2019	\$20,000 - \$100,000	Negligible or no injury	Small num. of customers / minor disruption	Negligible or no impact	3	Cyclical	ft²	500	\$ 180.00	\$ 90,000	All Elevations	Metal and Glass	500 ft²	15	
Glazing	B2020 - Exterior Windows	Allowance for replacement of glazing units	1985	35	34	1	0	2019	\$100,000 - \$1M	Negligible or no injury	Small num. of customers / minor disruption	Negligible or no impact	4	Cyclical	ft²	950	\$ 125.00	\$ 118,750	North, east and west	Metal and Glass	950 ft²	20	
Prefinished Metal Siding	B2010 - Exterior Walls	Replacement of EIFS cladding	1985	35	34	1	0	2019	\$2,000 - \$20,000	Negligible or no injury	Small num. of customers / minor disruption	Negligible or no impact	2	Cyclical	ft²	350	\$ 10.00	\$ 3,500	Southwest	Metal	350 ft²	10	
Caulking	B2010 - Exterior Walls	Replacement of caulking	2000	18	19	-1	0	2019	\$2,000 - \$100,000	Negligible or no injury	Major local service loss / extended period	Negligible or no impact	3	Cyclical	LS	1	\$ 40,000.00	\$ 40,000	South	Metal and Glass	1 LS	15	
Main Entrance Storefront Style Doors	B2030 - Exterior Doors	Replacement of doors at end of useful life	1985	35	34	1	0	2019	\$20,000 - \$100,000	Minor personal injury	Small num. of customers / significant disruption	Negligible or no impact	3	Cyclical	Ea	8	\$ 5,115.00	\$ 40,920	All Elevations		8 Ea	15	
Secondary, Exit and Service Doors	B2030 - Exterior Doors	Replacement of painted metal exit and service doors at end of remaining useful life	1985	25	34	-9	0	2019	\$2,000 - \$20,000	Minor personal injury	Small num. of customers / significant disruption	Negligible or no impact	2	Cyclical	Ea	7	\$ 920.00	\$ 6,440	All Elevations	Metal	7 Ea	10	

Building Component Summary Worksheet Canada Games Aquatic Centre

Component	Uniformat Code	Recapitalization Detail	Year of Installation or Repair	Expected Useful Life (EUL)	Current Age	Theoretical Remaining Useful Life (RUL)	Useful Life Corrected For Observations	Year of Next Replacement	Decision Parameters					Type of event (Cyclic/Single)	Unit	Quantity	Unit Cost	Total Cost	Location	Material	Dimension	Make and Model	Risk Rating
									Recovery Cost	Health & Safety	Loss of Service	Environmental Impact	Consequence of Failure										
Electrical Systems																							
Main Electrical Switchgear	D5010 - Electrical Service & Distribution	Budgetary replacement cost for main switchgear	2002	45	17	28	28	2047	\$100,000 - \$1M	Loss of Life	Major local disruption / extended period	Negligible or no impact	4	Cyclical	Ea	1	\$ 175,000	\$ 175,000	Electrical Room		1 Ea	Westinghouse	4
Secondary Electrical Panels	D5010 - Electrical Service & Distribution	Repair allowance at five year intervals	1985	5	34	-29	11	2030	\$2,000 - \$20,000	Loss of Life	Major local disruption / extended period	Negligible or no impact	4	Cyclical	LS	1	\$ 12,000	\$ 12,000	Various		1 LS	Westinghouse	8
Motor Control Centers	D5010 - Electrical Service & Distribution	Allowance for repair/replacement	1985	40	34	6	9	2028	\$20,000 - \$100,000	Loss of Life	Major local disruption / extended period	Negligible or no impact	4	Cyclical	Ea	4	\$ 8,500	\$ 34,000	Various		4 Ea	Siemens	12
Motor Control Center - Siemens	D5010 - Electrical Service & Distribution	Allowance for repair/replacement	2005	40	14	26	26	2045	\$2,000 - \$20,000	Loss of Life	Major local disruption / extended period	Negligible or no impact	4	Cyclical	LS	1	\$ 8,500	\$ 8,500			1 LS		4
Branch Wiring	D5020 - Lighting and Branch Wiring	Allowance for localized repairs as required	1985	5	34	-29	5	2024	\$2,000 - \$20,000	Serious injury with hospitalization	Small num. of customers / significant disruption	Negligible or no impact	3	Cyclical	LS	1	\$ 12,000	\$ 12,000			1 LS		9
Lobby Lighting	D5020 - Lighting and Branch Wiring	Replacement at end of remaining useful life	2016	25	3	22	22	2041	\$2,000 - \$20,000	Minor personal injury	Major local service loss / extended period	Negligible or no impact	3	Cyclical	ft²	3,250	\$ 5.50	\$ 17,875	Lobby		3250 ft²		3
Changing Room, Fitness Area and Hallways LED Lighting	D5020 - Lighting and Branch Wiring	Replacement at end of remaining useful life	2020	25	-1	26	26	2045	\$100,000 - \$1M	Minor personal injury	Major local service loss / extended period	Negligible or no impact	4	Cyclical	ft²	24,500	\$ 5.50	\$ 134,750	various		24500 ft²		4
Competition Pool LED Lighting	D5020 - Lighting and Branch Wiring	Replacement at end of remaining useful life	2017	25	2	23	23	2042	\$100,000 - \$1M	Minor personal injury	Major local service loss / extended period	Negligible or no impact	4	Cyclical	ft²	22,831	\$ 5.50	\$ 125,572	Pool		22831.25 ft²		4
Leisure Pool LED Lighting	D5020 - Lighting and Branch Wiring	D5020 - Lighting and Branch Wiring	2017	25	2	23	23	2042	\$20,000 - \$100,000	Minor personal injury	Major local service loss / extended period	Negligible or no impact	3	Cyclical	ft²	12,294	\$ 5.50	\$ 67,616	Pool		12293.75 ft²		3
LED Scoreboard	D5090 - Other Electrical Systems	Cyclical replacement of scoreboard	2015	15	4	11	11	2030	\$20,000 - \$100,000	Minor personal injury	Small num. of customers / significant disruption	Negligible or no impact	3	Cyclical	Ea	1	\$ 85,000	\$ 85,000	Pool		1 Ea		6
VFD for DHU-1 and DHU-2	D3040 - Distribution Systems	Replacement at end of useful life	2017	15	2	13	13	2032	\$2,000 - \$20,000	Minor personal injury	Small num. of customers / significant disruption	Negligible or no impact	2	Cyclical	Ea	2	\$ 6,500	\$ 13,000	Mech Penthouse		2 Ea		4
VFD for P-5 and P-6	D3040 - Distribution Systems	Replacement at end of useful life	2013	15	6	9	9	2028	\$2,000 - \$20,000	Minor personal injury	Small num. of customers / significant disruption	Negligible or no impact	2	Cyclical	Ea	2	\$ 6,500	\$ 13,000	Mech Penthouse		2 Ea		6
Life Safety																							
Sprinkler System	D4010 - Sprinklers	No significant replacement anticipated	1985	40	34	6	25	2044	\$100,000 - \$1M	Multiple loss of life or city-wide epidemic	Major local disruption / extended period	Negligible or no impact	5	Cyclical	ft²	62,874	\$ 3.21	\$ 201,826		metal	62874 ft²		5
Fire Alarm Panel	D4090 - Other Fire Protection Systems	Replacement of panel at end of remaining useful life	2019	20	0	20	20	2039	\$20,000 - \$100,000	Multiple loss of life or city-wide epidemic	Major local disruption / extended period	Negligible or no impact	5	Cyclical	Ea	1	\$ 25,000.00	\$ 25,000	Main entrance		1 Ea	EST	10
Fire Extinguishers	D4090 - Other Fire Protection Systems	Priority repair inspection of extinguishers	2000	15	19	-4	0	2019	< \$2,000	Multiple loss of life or city-wide epidemic	Major local disruption / extended period	Negligible or no impact	5	Single	Ea	1	\$ 1,000.00	\$ 1,000			1 Ea		25
Specialty Systems																							
Platform Concrete Diving Structure	A1020 - Special Foundations	No significant replacement expected to be required	1985	40	34	6	25	2044	< \$2,000	Serious injury with hospitalization	Small num. of customers / significant disruption	Negligible or no impact	3	Cyclical	Ea	1	\$ -	\$ -	Competition Pool	Concrete	1 Ea		3
Platform Stairs, Decking and Railings	C2010 - Stair Construction	Allowance for replacements in short and extended terms	1985	10	34	-24	2	2021	\$20,000 - \$100,000	Serious injury with hospitalization	Small num. of customers / significant disruption	Negligible or no impact	3	Cyclical	Ea	1	\$ 75,000.00	\$ 75,000	Competition Pool	Steel	1 Ea		12
Competition Pool Filtration	D2090 - Other Plumbing Systems	Allowance for replacement of filter media	1985	5	34	-29	2	2021	\$2,000 - \$20,000	Minor personal injury	Small num. of customers / minor disruption	Negligible or no impact	2	Cyclical	Ea	1	\$ 2,000.00	\$ 2,000	Pool Room	Concrete	1 Ea		8
Leisure Pool Filtration	D2090 - Other Plumbing Systems	Allowance for replacement of filter media	2016	5	3	2	2	2021	\$2,000 - \$20,000	Minor personal injury	Small num. of customers / minor disruption	Negligible or no impact	2	Cyclical	Ea	1	\$ 2,000.00	\$ 2,000	Pool Room	Concrete	1 Ea		8
Tot's Pool Filtration	D2090 - Other Plumbing Systems	Allowance for replacement of filter media	1985	5	34	-29	2	2021	< \$2,000	Minor personal injury	Small num. of customers / minor disruption	Negligible or no impact	2	Cyclical	Ea	1	\$ 1,000.00	\$ 1,000	Pool Room	Concrete	1 Ea		8
Adult Whirlpool Filtration	D2090 - Other Plumbing Systems	Replacement of sand filter at end of remaining useful life	2000	15	19	-4	2	2021	\$2,000 - \$20,000	Minor personal injury	Small num. of customers / significant disruption	Negligible or no impact	2	Cyclical	Ea	1	\$ 7,500.00	\$ 7,500	Pool Room		1 Ea		8
Teens Whirlpool Filtration	D2090 - Other Plumbing Systems	Replacement of sand filter at end of remaining useful life	2000	15	19	-4	2	2021	\$2,000 - \$20,000	Minor personal injury	Small num. of customers / significant disruption	Negligible or no impact	2	Cyclical	Ea	1	\$ 7,500.00	\$ 7,500	Pool Room		1 Ea		8
Competition Pool Diving Boards - Platform	E1090 - Other Equipment	Replacement of platform diving boards	1985	20	34	-14	0	2019	\$20,000 - \$100,000	Serious injury with hospitalization	Small num. of customers / significant disruption	Negligible or no impact	3	Cyclical	Ea	2	\$ 14,000.00	\$ 28,000	Competition Pool		2 Ea		15
Competition Pool Diving Boards - Pool Level	E1090 - Other Equipment	Replacement of pool level diving boards	2000	20	19	1	8	2027	\$20,000 - \$100,000	Serious injury with hospitalization	Small num. of customers / significant disruption	Negligible or no impact	3	Cyclical	Ea	2	\$ 14,000.00	\$ 28,000	Competition Pool		2 Ea		9
Competition Pool Starting Blocks	E1090 - Other Equipment	Replacement of blocks at end of remaining useful life	2015	20	4	16	16	2035	\$2,000 - \$20,000	Serious injury with hospitalization	Small num. of customers / significant disruption	Negligible or no impact	3	Cyclical	Ea	8	\$ 500.00	\$ 4,000	Competition Pool		8 Ea		6
Competition Pool Bulkhead	E1090 - Other Equipment	Allowance for upgrades and component replacement	2005	25	14	11	11	2030	\$100,000 - \$1M	Serious injury with hospitalization	Small num. of customers / significant disruption	Negligible or no impact	4	Cyclical	Ea	1	\$ 350,000.00	\$ 350,000	Competition Pool		1 Ea		8
Tot's Pool Water Feature	E1090 - Other Equipment	Replacement of water feature at end of remaining useful life	1991	12	28	-16	6	2025	\$2,000 - \$20,000	Negligible or no injury	Small num. of customers / significant disruption	Negligible or no impact	2	Cyclical	Ea	1	\$ 8,000.00	\$ 8,000	Tot's Pool		1 Ea		6
Bleachers 2014	E1090 - Other Equipment	Replacement of bleachers at end of remaining useful life	2014	20	5	15	15	2034	\$20,000 - \$100,000	Minor personal injury	Small num. of customers / minor disruption	Negligible or no impact	3	Cyclical	Ea	3	\$ 9,500.00	\$ 28,500	Competition Pool		3 Ea		6
Bleachers 2010	E1090 - Other Equipment	Localized repairs as part of O&M. Replacement at end of useful life	2010	20	9	11	6	2025	\$20,000 - \$100,000	Minor personal injury	Small num. of customers / minor disruption	Negligible or no impact	3	Cyclical	Ea	5	\$ 9,500.00	\$ 47,500	Competition Pool		5 Ea		9
Leisure Pool Water Slide	E1090 - Other Equipment	Replacement of water slide in leisure pool	1985	25	34	-9	3	2022	\$20,000 - \$100,000	Serious injury with hospitalization	Small num. of customers / significant disruption	Negligible or no impact	3	Cyclical	Ea	1	\$ 35,000.00	\$ 35,000	Liesure Pool		1 Ea		12
Competition Pool Water Slide	E1090 - Other Equipment	Replacement of water slide	1995	25	24	1	6	2025	\$100,000 - \$1M	Serious injury with hospitalization	Small num. of customers / significant disruption	Negligible or no impact	4	Cyclical	Ea	1	\$ 150,000.00	\$ 150,000	Competition Pool		1 Ea		12
Dry Sauna	E1090 - Other Equipment	Heating element replaced in 2018. Original wood	1991	30	28	2	14	2033	\$20,000 - \$100,000	Serious injury with hospitalization	Small num. of customers / significant disruption	Negligible or no impact	3	Cyclical	Ea	1	\$ 23,100.00	\$ 23,100	Pool Deck		1 Ea		6
Steam Room	E1090 - Other Equipment	Areas of damaged tile requiring repairs. Replacement at end of remaining useful life	1985	40	34	6	6	2025	\$2,000 - \$20,000	Minor personal injury	Small num. of customers / significant disruption	Negligible or no impact	2	Cyclical	Ea	1	\$ 16,350.00	\$ 16,350	Pool Deck		1 Ea		6
Fitness Equipment	E1090 - Other Equipment	Allowance to upgrade/replace fitness equipment	2016	10	3	7	6	2025	\$100,000 - \$1M	Minor personal injury	Small num. of customers / significant disruption	Negligible or no impact	4	Cyclical	LS	1	\$ 150,000.00	\$ 150,000	Fitness Area		1 LS		12

**Canada Games Aquatic Centre
Cash Flow Analysis Output Sheet**

Component	Uniformat Code	Recapitalization Detail	Type of event (cyclic/single)	Year of Installation or Repair	Expected Useful Life (EUL)	Useful Life Corrected For Observations	Year of Next Replacement	Unit Cost	Total Cost	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9
										2019	2020	2021	2022	2023	2024	2025	2026	2027
Site Work																		
Concrete Flatwork	G2030 - Pedestrian Paving	Allowance for repairs in the long term	Single	1985	40	8	2027	\$ 12	\$ 3,600	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,600
Concrete Flatwork	G2030 - Pedestrian Paving	Allowance for repairs in the extended term	Single	1985	40	20	2039	\$ 12	\$ 3,600	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Asphalt Paving	G2020 - Parking Lots	Allowance for partial resurfacing at five year intervals	Cyclical	2000	5	0	2019	\$ 5	\$ 14,400	\$ 14,400	\$ -	\$ -	\$ -	\$ -	\$ 14,400	\$ -	\$ -	\$ -
Curbing	G2020 - Parking Lots	Repairs as part of operations and maintenance	Cyclical	1985	40	6	2025	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Building Mounted Lighting	D5020 - Lighting and Branch Wiring	Replacement as part of operations and maintenance budgets	Cyclical	2018	20	19	2038	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Soffit Mounted Lighting	D5020 - Lighting and Branch Wiring	Replacement of soffit mounted lighting	Cyclical	1985	20	0	2019	\$ 350	\$ 5,250	\$ 5,250	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Main Entrance Vintage Style Fixtures	D5020 - Lighting and Branch Wiring	Replacement at end of useful life	Cyclical	2005	20	6	2025	\$ 1,200	\$ 2,400	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,400	\$ -	\$ -
Site Work Summary										\$ 19,650	\$ -	\$ -	\$ -	\$ -	\$ 14,400	\$ 2,400	\$ -	\$ 3,600
Structure																		
Footings and Foundations	A1010 - Standard Foundations	No significant repairs or replacements expected to be required during evaluation period	Cyclical	1985	75	41	2060	\$ 4	\$ 251,496	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Slab on Grade	A1030 - Slab on Grade	No significant repairs or replacements expected to be required during evaluation period	Cyclical	1985	75	41	2060	\$ 7	\$ 445,148	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Structural Framing	B1010 - Floor Construction	No significant repairs or replacements expected to be required during evaluation period	Cyclical	1985	75	41	2060	\$ 46	\$ 2,860,767	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Structure Summary										\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Roofing																		
Low Sloped PVC Roof Membranes	B3010 - Roof Coverings	Replacement of PVC roof membrane at end of useful life	Cyclical	2008	25	14	2033	\$ 40	\$ 1,256,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Low Sloped PVC Roof Membranes	B3010 - Roof Coverings	Allowance for repairs after 15 to 18 years of service	Single	2008	18	7	2026	\$ 40	\$ 188,400	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 188,400	\$ -
Painted Metal Frame	B3010 - Roof Coverings	Allowance for refurbishment of the metal frame on roof	Cyclical	1985	10	7	2026	\$ 25,000	\$ 25,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 25,000	\$ -
Prefinished Metal Roofing - Leisure/Kids Pool/Penthouse	B3010 - Roof Coverings	Replacement of metal roofing at end of useful life	Cyclical	2008	35	24	2043	\$ 21	\$ 103,950	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Prefinished Metal Roofing - Fitness/Weight Room	B3010 - Roof Coverings	Replacement of metal roofing at end of useful life	Cyclical	1985	35	0	2019	\$ 21	\$ 88,200	\$ 88,200	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Roofing Summary										\$ 88,200	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 213,400	\$ -
Architectural Exterior																		
Brick Veneer Exterior Walls	B2010 - Exterior Walls	Repointing allowance at seven year intervals	Cyclical	1985	7	0	2019	\$ 31	\$ 64,575	\$ 64,575	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 64,575	\$ -
Curtain Wall Cladding	B2020 - Exterior Windows	Allowance for replacement of curtain wall at end of remaining useful life	Cyclical	1985	35	0	2019	\$ 180	\$ 90,000	\$ 90,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Glazing	B2020 - Exterior Windows	Allowance for replacement of glazing units	Cyclical	1985	35	0	2019	\$ 125	\$ 118,750	\$ 118,750	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Prefinished Metal Siding	B2010 - Exterior Walls	Replacement of EIFS cladding	Cyclical	1985	35	0	2019	\$ 10	\$ 3,500	\$ 3,500	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Caulking	B2010 - Exterior Walls	Replacement of caulking	Cyclical	2000	18	0	2019	\$ 40,000	\$ 40,000	\$ 40,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Main Entrance Storefront Style Doors	B2030 - Exterior Doors	Replacement of doors at end of useful life	Cyclical	1985	35	0	2019	\$ 5,115	\$ 40,920	\$ 40,920	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Secondary, Exit and Service Doors	B2030 - Exterior Doors	Replacement of painted metal exit and service doors at end of remaining useful life	Cyclical	1985	25	0	2019	\$ 920	\$ 6,440	\$ 6,440	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Architectural Exterior Summary										\$ 364,185	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 64,575	\$ -
Architectural Interior																		
Lobby Flooring	C3020 - Floor Finishes	Replacement not anticipated	Cyclical	2016	40	37	2056	\$ 17	\$ 55,712	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Locker Room Tile Flooring	C3020 - Floor Finishes	Replacement in long term of evaluation period	Cyclical	2000	40	7	2026	\$ 17	\$ 69,640	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 69,640	\$ -
Sheet Flooring	C3020 - Floor Finishes	Allowance for replacement of approximately 25% of sheet flooring at five year intervals	Cyclical	1985	5	0	2019	\$ 14	\$ 78,831	\$ 78,831	\$ -	\$ -	\$ -	\$ -	\$ 78,831	\$ -	\$ -	\$ -
Epoxy Pool Flooring	C3020 - Floor Finishes	Allowance for ongoing replacement of epoxy flooring	Cyclical	2005	15	7	2026	\$ 15	\$ 238,848	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 238,848	\$ -
Ceramic Pool Tile	C3020 - Floor Finishes	Replacement of pool tile at end of remaining useful life	Cyclical	1985	30	0	2019	\$ 17	\$ 300,323	\$ 300,323	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Lockers	C1030 - Fittings	Corrosion of bases of lockers. Replacement in long term	Cyclical	2015	20	7	2026	\$ 275,000	\$ 275,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 275,000	\$ -
Architectural Interior Summary										\$ 379,154	\$ -	\$ -	\$ -	\$ -	\$ 78,831	\$ -	\$ 583,488	\$ -

**Canada Games Aquatic Centre
Cash Flow Analysis Output Sheet**

Component	Uniformat Code	Recapitalization Detail	Type of event (cyclic/single)	Year of Installation or Repair	Expected Useful Life (EUL)	Useful Life Corrected For Observations	Year of Next Replacement	Unit Cost	Year 10 2028	Year 11 2029	Year 12 2030	Year 13 2031	Year 14 2032	Year 15 2033	Year 16 2034	Year 17 2035	Year 18 2036	Year 19 2037
Site Work																		
Concrete Flatwork	G2030 - Pedestrian Paving	Allowance for repairs in the long term	Single	1985	40	8	2027	\$ 12	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Concrete Flatwork	G2030 - Pedestrian Paving	Allowance for repairs in the extended term	Single	1985	40	20	2039	\$ 12	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Asphalt Paving	G2020 - Parking Lots	Allowance for partial resurfacing at five year intervals	Cyclical	2000	5	0	2019	\$ 5	\$ -	\$ 14,400	\$ -	\$ -	\$ -	\$ -	\$ 14,400	\$ -	\$ -	\$ -
Curbing	G2020 - Parking Lots	Repairs as part of operations and maintenance	Cyclical	1985	40	6	2025	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Building Mounted Lighting	D5020 - Lighting and Branch Wiring	Replacement as part of operations and maintenance budgets	Cyclical	2018	20	19	2038	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Soffit Mounted Lighting	D5020 - Lighting and Branch Wiring	Replacement of soffit mounted lighting	Cyclical	1985	20	0	2019	\$ 350	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Main Entrance Vintage Style Fixtures	D5020 - Lighting and Branch Wiring	Replacement at end of useful life	Cyclical	2005	20	6	2025	\$ 1,200	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Site Work Summary									\$ -	\$ 14,400	\$ -	\$ -	\$ -	\$ -	\$ 14,400	\$ -	\$ -	\$ -
Structure																		
Footings and Foundations	A1010 - Standard Foundations	No significant repairs or replacements expected to be required during evaluation period	Cyclical	1985	75	41	2060	\$ 4	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Slab on Grade	A1030 - Slab on Grade	No significant repairs or replacements expected to be required during evaluation period	Cyclical	1985	75	41	2060	\$ 7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Structural Framing	B1010 - Floor Construction	No significant repairs or replacements expected to be required during evaluation period	Cyclical	1985	75	41	2060	\$ 46	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Structure Summary									\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Roofing																		
Low Sloped PVC Roof Membranes	B3010 - Roof Coverings	Replacement of PVC roof membrane at end of useful life	Cyclical	2008	25	14	2033	\$ 40	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,256,000	\$ -	\$ -	\$ -	\$ -
Low Sloped PVC Roof Membranes	B3010 - Roof Coverings	Allowance for repairs after 15 to 18 years of service	Single	2008	18	7	2026	\$ 40	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Painted Metal Frame	B3010 - Roof Coverings	Allowance for refurbishment of the metal frame on roof	Cyclical	1985	10	7	2026	\$ 25,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 25,000	\$ -
Prefinished Metal Roofing - Leisure/Kids Pool/Penthouse	B3010 - Roof Coverings	Replacement of metal roofing at end of useful life	Cyclical	2008	35	24	2043	\$ 21	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Prefinished Metal Roofing - Fitness/Weight Room	B3010 - Roof Coverings	Replacement of metal roofing at end of useful life	Cyclical	1985	35	0	2019	\$ 21	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Roofing Summary									\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,256,000	\$ -	\$ -	\$ 25,000	\$ -
Architectural Exterior																		
Brick Veneer Exterior Walls	B2010 - Exterior Walls	Repointing allowance at seven year intervals	Cyclical	1985	7	0	2019	\$ 31	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 64,575	\$ -	\$ -	\$ -	\$ -
Curtain Wall Cladding	B2020 - Exterior Windows	Allowance for replacement of curtain wall at end of remaining useful life	Cyclical	1985	35	0	2019	\$ 180	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Glazing	B2020 - Exterior Windows	Allowance for replacement of glazing units	Cyclical	1985	35	0	2019	\$ 125	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Prefinished Metal Siding	B2010 - Exterior Walls	Replacement of EIFS cladding	Cyclical	1985	35	0	2019	\$ 10	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Caulking	B2010 - Exterior Walls	Replacement of caulking	Cyclical	2000	18	0	2019	\$ 40,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 40,000
Main Entrance Storefront Style Doors	B2030 - Exterior Doors	Replacement of doors at end of useful life	Cyclical	1985	35	0	2019	\$ 5,115	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Secondary, Exit and Service Doors	B2030 - Exterior Doors	Replacement of painted metal exit and service doors at end of remaining useful life	Cyclical	1985	25	0	2019	\$ 920	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Architectural Exterior Summary									\$ -	\$ -	\$ -	\$ -	\$ -	\$ 64,575	\$ -	\$ -	\$ -	\$ 40,000
Architectural Interior																		
Lobby Flooring	C3020 - Floor Finishes	Replacement not anticipated	Cyclical	2016	40	37	2056	\$ 17	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Locker Room Tile Flooring	C3020 - Floor Finishes	Replacement in long term of evaluation period	Cyclical	2000	40	7	2026	\$ 17	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Sheet Flooring	C3020 - Floor Finishes	Allowance for replacement of approximately 25% of sheet flooring at five year intervals	Cyclical	1985	5	0	2019	\$ 14	\$ -	\$ 78,831	\$ -	\$ -	\$ -	\$ 78,831	\$ -	\$ -	\$ -	\$ -
Epoxy Pool Flooring	C3020 - Floor Finishes	Allowance for ongoing replacement of epoxy flooring	Cyclical	2005	15	7	2026	\$ 15	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Ceramic Pool Tile	C3020 - Floor Finishes	Replacement of pool tile at end of remaining useful life	Cyclical	1985	30	0	2019	\$ 17	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Lockers	C1030 - Fittings	Corrosion of bases of lockers. Replacement in long term	Cyclical	2015	20	7	2026	\$ 275,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Architectural Interior Summary									\$ -	\$ 78,831	\$ -	\$ -	\$ -	\$ 78,831	\$ -	\$ -	\$ -	\$ -

**Canada Games Aquatic Centre
Cash Flow Analysis Output Sheet**

Component	Uniformat Code	Recapitalization Detail	Type of event (cyclic/single)	Year of Installation or Repair	Expected Useful Life (EUL)	Useful Life Corrected For Observations	Year of Next Replacement	Unit Cost	Year 20	Year 21	Year 22	Year 23	Year 24	Year 25
									2038	2039	2040	2041	2042	2043
Site Work														
Concrete Flatwork	G2030 - Pedestrian Paving	Allowance for repairs in the long term	Single	1985	40	8	2027	\$ 12	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Concrete Flatwork	G2030 - Pedestrian Paving	Allowance for repairs in the extended term	Single	1985	40	20	2039	\$ 12	\$ -	\$ 3,600	\$ -	\$ -	\$ -	\$ -
Asphalt Paving	G2020 - Parking Lots	Allowance for partial resurfacing at five year intervals	Cyclical	2000	5	0	2019	\$ 5	\$ -	\$ 14,400	\$ -	\$ -	\$ -	\$ -
Curbing	G2020 - Parking Lots	Repairs as part of operations and maintenance	Cyclical	1985	40	6	2025	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Building Mounted Lighting	D5020 - Lighting and Branch Wiring	Replacement as part of operations and maintenance budgets	Cyclical	2018	20	19	2038	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Soffit Mounted Lighting	D5020 - Lighting and Branch Wiring	Replacement of soffit mounted lighting	Cyclical	1985	20	0	2019	\$ 350	\$ -	\$ 5,250	\$ -	\$ -	\$ -	\$ -
Main Entrance Vintage Style Fixtures	D5020 - Lighting and Branch Wiring	Replacement at end of useful life	Cyclical	2005	20	6	2025	\$ 1,200	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Site Work Summary									\$ -	\$ 23,250	\$ -	\$ -	\$ -	\$ -
Structure														
Footings and Foundations	A1010 - Standard Foundations	No significant repairs or replacements expected to be required during evaluation period	Cyclical	1985	75	41	2060	\$ 4	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Slab on Grade	A1030 - Slab on Grade	No significant repairs or replacements expected to be required during evaluation period	Cyclical	1985	75	41	2060	\$ 7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Structural Framing	B1010 - Floor Construction	No significant repairs or replacements expected to be required during evaluation period	Cyclical	1985	75	41	2060	\$ 46	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Structure Summary									\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Roofing														
Low Sloped PVC Roof Membranes	B3010 - Roof Coverings	Replacement of PVC roof membrane at end of useful life	Cyclical	2008	25	14	2033	\$ 40	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Low Sloped PVC Roof Membranes	B3010 - Roof Coverings	Allowance for repairs after 15 to 18 years of service	Single	2008	18	7	2026	\$ 40	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Painted Metal Frame	B3010 - Roof Coverings	Allowance for refurbishment of the metal frame on roof	Cyclical	1985	10	7	2026	\$ 25,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Prefinished Metal Roofing - Leisure/Kids Pool/Penthouse	B3010 - Roof Coverings	Replacement of metal roofing at end of useful life	Cyclical	2008	35	24	2043	\$ 21	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 103,950
Prefinished Metal Roofing - Fitness/Weight Room	B3010 - Roof Coverings	Replacement of metal roofing at end of useful life	Cyclical	1985	35	0	2019	\$ 21	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Roofing Summary									\$ -	\$ -	\$ -	\$ -	\$ -	\$ 103,950
Architectural Exterior														
Brick Veneer Exterior Walls	B2010 - Exterior Walls	Repointing allowance at seven year intervals	Cyclical	1985	7	0	2019	\$ 31	\$ -	\$ -	\$ 64,575	\$ -	\$ -	\$ -
Curtain Wall Cladding	B2020 - Exterior Windows	Allowance for replacement of curtain wall at end of remaining useful life	Cyclical	1985	35	0	2019	\$ 180	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Glazing	B2020 - Exterior Windows	Allowance for replacement of glazing units	Cyclical	1985	35	0	2019	\$ 125	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Prefinished Metal Siding	B2010 - Exterior Walls	Replacement of EIFS cladding	Cyclical	1985	35	0	2019	\$ 10	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Caulking	B2010 - Exterior Walls	Replacement of caulking	Cyclical	2000	18	0	2019	\$ 40,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Main Entrance Storefront Style Doors	B2030 - Exterior Doors	Replacement of doors at end of useful life	Cyclical	1985	35	0	2019	\$ 5,115	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Secondary, Exit and Service Doors	B2030 - Exterior Doors	Replacement of painted metal exit and service doors at end of remaining useful life	Cyclical	1985	25	0	2019	\$ 920	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Architectural Exterior Summary									\$ -	\$ -	\$ 64,575	\$ -	\$ -	\$ -
Architectural Interior														
Lobby Flooring	C3020 - Floor Finishes	Replacement not anticipated	Cyclical	2016	40	37	2056	\$ 17	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Locker Room Tile Flooring	C3020 - Floor Finishes	Replacement in long term of evaluation period	Cyclical	2000	40	7	2026	\$ 17	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Sheet Flooring	C3020 - Floor Finishes	Allowance for replacement of approximately 25% of sheet flooring at five year intervals	Cyclical	1985	5	0	2019	\$ 14	\$ -	\$ 78,831	\$ -	\$ -	\$ -	\$ -
Epoxy Pool Flooring	C3020 - Floor Finishes	Allowance for ongoing replacement of epoxy flooring	Cyclical	2005	15	7	2026	\$ 15	\$ -	\$ -	\$ -	\$ 238,848	\$ -	\$ -
Ceramic Pool Tile	C3020 - Floor Finishes	Replacement of pool tile at end of remaining useful life	Cyclical	1985	30	0	2019	\$ 17	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Lockers	C1030 - Fittings	Corrosion of bases of lockers. Replacement in long term	Cyclical	2015	20	7	2026	\$ 275,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Architectural Interior Summary									\$ -	\$ 78,831	\$ -	\$ 238,848	\$ -	\$ -

**Canada Games Aquatic Centre
Cash Flow Analysis Output Sheet**

Component	Uniformat Code	Recapitalization Detail	Type of event (cyclic/single)	Year of Installation or Repair	Expected Useful Life (EUL)	Useful Life Corrected For Observations	Year of Next Replacement	Unit Cost	Total Cost	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9
										2019	2020	2021	2022	2023	2024	2025	2026	2027
Mechanical Systems																		
Indirect Fired Hot Water Tank #1	D2020 - Domestic Water Distribution	Replacement of indirect fired hot water tank not expected to be required	Cyclical	2018	30	29	2048	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Indirect Fired Hot Water Tank #2	D2020 - Domestic Water Distribution	Replacement of indirect fired hot water tank not expected to be required	Cyclical	2018	30	29	2048	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Indirect Fired Hot Water Tank #3	D2020 - Domestic Water Distribution	Replacement of indirect fired hot water tank not expected to be required	Cyclical	2018	30	29	2048	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Plate Exchanger (DHX-1)	D2020 - Domestic Water Distribution	Replacement of exchanger not expected to be required	Cyclical	2018	30	29	2048	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Plate Exchanger (DHX-2)	D2020 - Domestic Water Distribution	Replacement of exchanger not expected to be required	Cyclical	2018	30	29	2048	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Plate Exchanger (DHX-3)	D2020 - Domestic Water Distribution	Replacement of exchanger not expected to be required	Cyclical	2018	30	29	2048	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Domestic Water and Sanitary Piping	D2030 - Sanitary Waste	Allowance for localized repairs and replacements at five year	Cyclical	1985	5	0	2019	\$ 10,000	\$ 10,000	\$ 10,000	\$ -	\$ -	\$ -	\$ -	\$ 10,000	\$ -	\$ -	\$ -
Domestic Water Circulation Pump	D2020 - Domestic Water Distribution	Cyclical pump replacement at end of remaining useful life	Cyclical	2000	20	1	2020	\$ 7,000	\$ 7,000	\$ -	\$ 7,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Water Closets	D2010 - Plumbing Fixtures	Replacement of water closets at end of remaining useful life	Cyclical	2020	30	31	2050	\$ 921	\$ 11,973	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Urinals	D2010 - Plumbing Fixtures	Replacement at end of remaining useful life	Cyclical	2000	30	11	2030	\$ 1,125	\$ 11,250	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Sinks	D2010 - Plumbing Fixtures	Replacement at end of remaining useful life	Cyclical	2020	30	31	2050	\$ 1,200	\$ 21,600	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Showers	D2010 - Plumbing Fixtures	Replacement at end of remaining useful life	Cyclical	2020	20	21	2040	\$ 2,000	\$ 74,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Bottle Filling Stations/Fountains	D2010 - Plumbing Fixtures	Replacement at end of remaining useful life	Cyclical	2005	15	0	2019	\$ 3,500	\$ 17,500	\$ 17,500	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Lochinvar Condensing Boiler #1	D3020 - Heat Generating Systems	Replacement of boiler at end of remaining useful life	Cyclical	2014	30	25	2044	\$ 125,000	\$ 125,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Lochinvar Condensing Boiler #2	D3020 - Heat Generating Systems	Replacement of boiler at end of remaining useful life	Cyclical	2014	30	25	2044	\$ 125,000	\$ 125,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Condensing Boiler #1 - Over-Haul	D3020 - Heat Generating Systems	Allowance for over-haul of Boiler #1 at boiler mid life	Cyclical	2014	15	10	2029	\$ 32,250	\$ 32,250	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Condensing Boiler #2 - Over-Haul	D3020 - Heat Generating Systems	Allowance for over-haul of Boiler #2 at boiler mid life	Cyclical	2014	15	10	2029	\$ 31,250	\$ 31,250	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Baseboard Radiators, Supply and Return Piping	D3050 - Terminal & Package Units	Allowance for repairs at five year intervals beginning in the long term	Cyclical	1985	5	0	2019	\$ 10,000	\$ 10,000	\$ 10,000	\$ -	\$ -	\$ -	\$ -	\$ 10,000	\$ -	\$ -	\$ -
Heat Exchanger - Tot's Pool	D3020 - Heat Generating Systems	Exchanger coils replaced in 2018. End of service life	Cyclical	2018	30	29	2048	\$ 5,000	\$ 5,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Heat Exchanger - Leisure Pool	D3020 - Heat Generating Systems	Exchanger coils replaced in 2019. End of service life	Cyclical	2018	30	29	2048	\$ 25,000	\$ 25,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Heat Exchanger - Main Pool	D3020 - Heat Generating Systems	Exchanger replaced in 2010. End of service life replacement anticipated	Cyclical	2010	30	21	2040	\$ 35,000	\$ 35,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Heat Exchangers - Whirlpool/ Hot Tubs	D3020 - Heat Generating Systems	Exchangers replaced in 2019. End of service life replacement	Cyclical	2018	30	29	2048	\$ 3,000	\$ 6,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Circulation Pumps	D3020 - Heat Generating Systems	Replacement or repairs as part of operations and	Cyclical	1985	20	10	2029	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
AHU 1 (Competition Pool)	D3040 - Distribution Systems	Replacement of heat pump at end of useful life	Cyclical	2017	25	23	2042	\$ 450,000	\$ 450,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
AHU 2 (Leisure Pool)	D3040 - Distribution Systems	Replacement of heat pump at end of useful life	Cyclical	2017	25	23	2042	\$ 450,000	\$ 45,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
AHU-3	D3040 - Distribution Systems	Replacement of rooftop mounted AHU at end of useful life	Cyclical	2003	20	4	2023	\$ 1,650	\$ 49,500	\$ -	\$ -	\$ -	\$ -	\$ 49,500	\$ -	\$ -	\$ -	\$ -
AHU-4	D3040 - Distribution Systems	Replacement of AHU at end of useful life	Cyclical	2003	25	9	2028	\$ 20,000	\$ 20,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
AHU-5	D3040 - Distribution Systems	Replacement of AHU at end of useful life	Cyclical	1985	25	0	2019	\$ 15,000	\$ 15,000	\$ 15,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
AHU-6	D3040 - Distribution Systems	Replacement of AHU at end of useful life	Cyclical	1985	20	0	2019	\$ 15,000	\$ 15,000	\$ 15,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
AHU-7	D3040 - Distribution Systems	Replacement of AHU at end of useful life	Cyclical	1996	25	0	2019	\$ 2,000	\$ 2,000	\$ 2,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Direct Digital Control (DDC) System	D3060 - Controls and Instrumentation	Allowance for cyclical upgrade of DDC system at fifteen year intervals	0	2017	15	13	2032	\$ 1	\$ 47,156	Event Type ERROR	Event Type ERROR	Event Type ERROR	Event Type ERROR	Event Type ERROR	Event Type ERROR	Event Type ERROR	Event Type ERROR	Event Type ERROR
Lift	D1010 - Elevators & Lifts	Replacement not expected to be required	0	2019	30	30	2049	\$ 60,000	\$ 60,000	Event Type ERROR	Event Type ERROR	Event Type ERROR	Event Type ERROR	Event Type ERROR	Event Type ERROR	Event Type ERROR	Event Type ERROR	Event Type ERROR
Mechanical Systems Summary										\$ 69,500	\$ 7,000	\$ -	\$ -	\$ 49,500	\$ 20,000	\$ -	\$ -	\$ -

**Canada Games Aquatic Centre
Cash Flow Analysis Output Sheet**

Component	Uniformat Code	Recapitalization Detail	Type of event (cyclic/single)	Year of Installation or Repair	Expected Useful Life (EUL)	Useful Life Corrected For Observations	Year of Next Replacement	Unit Cost	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19
									2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Mechanical Systems																		
Indirect Fired Hot Water Tank #1	D2020 - Domestic Water Distribution	Replacement of indirect fired hot water tank not expected to be required	Cyclical	2018	30	29	2048	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Indirect Fired Hot Water Tank #2	D2020 - Domestic Water Distribution	Replacement of indirect fired hot water tank not expected to be required	Cyclical	2018	30	29	2048	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Indirect Fired Hot Water Tank #3	D2020 - Domestic Water Distribution	Replacement of indirect fired hot water tank not expected to be required	Cyclical	2018	30	29	2048	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Plate Exchanger (DHX-1)	D2020 - Domestic Water Distribution	Replacement of exchanger not expected to be required	Cyclical	2018	30	29	2048	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Plate Exchanger (DHX-2)	D2020 - Domestic Water Distribution	Replacement of exchanger not expected to be required	Cyclical	2018	30	29	2048	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Plate Exchanger (DHX-3)	D2020 - Domestic Water Distribution	Replacement of exchanger not expected to be required	Cyclical	2018	30	29	2048	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Domestic Water and Sanitary Piping	D2030 - Sanitary Waste	Allowance for localized repairs and replacements at five year	Cyclical	1985	5	0	2019	\$ 10,000	\$ -	\$ 10,000	\$ -	\$ -	\$ -	\$ -	\$ 10,000	\$ -	\$ -	\$ -
Domestic Water Circulation Pump	D2020 - Domestic Water Distribution	Cyclical pump replacement at end of remaining useful life	Cyclical	2000	20	1	2020	\$ 7,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Water Closets	D2010 - Plumbing Fixtures	Replacement of water closets at end of remaining useful life	Cyclical	2020	30	31	2050	\$ 921	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Urinals	D2010 - Plumbing Fixtures	Replacement at end of remaining useful life	Cyclical	2000	30	11	2030	\$ 1,125	\$ -	\$ -	\$ 11,250	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Sinks	D2010 - Plumbing Fixtures	Replacement at end of remaining useful life	Cyclical	2020	30	31	2050	\$ 1,200	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Showers	D2010 - Plumbing Fixtures	Replacement at end of remaining useful life	Cyclical	2020	20	21	2040	\$ 2,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Bottle Filling Stations/Fountains	D2010 - Plumbing Fixtures	Replacement at end of remaining useful life	Cyclical	2005	15	0	2019	\$ 3,500	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 17,500	\$ -	\$ -	\$ -
Lochinvar Condensing Boiler #1	D3020 - Heat Generating Systems	Replacement of boiler at end of remaining useful life	Cyclical	2014	30	25	2044	\$ 125,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Lochinvar Condensing Boiler #2	D3020 - Heat Generating Systems	Replacement of boiler at end of remaining useful life	Cyclical	2014	30	25	2044	\$ 125,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Condensing Boiler #1 - Over-Haul	D3020 - Heat Generating Systems	Allowance for over-haul of Boiler #1 at boiler mid life	Cyclical	2014	15	10	2029	\$ 32,250	\$ -	\$ 32,250	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Condensing Boiler #2 - Over-Haul	D3020 - Heat Generating Systems	Allowance for over-haul of Boiler #2 at boiler mid life	Cyclical	2014	15	10	2029	\$ 31,250	\$ -	\$ 31,250	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Baseboard Radiators, Supply and Return Piping	D3050 - Terminal & Package Units	Allowance for repairs at five year intervals beginning in the long term	Cyclical	1985	5	0	2019	\$ 10,000	\$ -	\$ 10,000	\$ -	\$ -	\$ -	\$ -	\$ 10,000	\$ -	\$ -	\$ -
Heat Exchanger - Tot's Pool	D3020 - Heat Generating Systems	Exchanger coils replaced in 2018. End of service life	Cyclical	2018	30	29	2048	\$ 5,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Heat Exchanger - Leisure Pool	D3020 - Heat Generating Systems	Exchanger coils replaced in 2019. End of service life	Cyclical	2018	30	29	2048	\$ 25,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Heat Exchanger - Main Pool	D3020 - Heat Generating Systems	Exchanger replaced in 2010. End of service life replacement anticipated	Cyclical	2010	30	21	2040	\$ 35,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Heat Exchangers - Whirlpool/ Hot Tubs	D3020 - Heat Generating Systems	Exchangers replaced in 2019. End of service life replacement	Cyclical	2018	30	29	2048	\$ 3,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Circulation Pumps	D3020 - Heat Generating Systems	Replacement or repairs as part of operations and	Cyclical	1985	20	10	2029	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
AHU 1 (Competition Pool)	D3040 - Distribution Systems	Replacement of heat pump at end of useful life	Cyclical	2017	25	23	2042	\$ 450,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
AHU 2 (Leisure Pool)	D3040 - Distribution Systems	Replacement of heat pump at end of useful life	Cyclical	2017	25	23	2042	\$ 450,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
AHU-3	D3040 - Distribution Systems	Replacement of rooftop mounted AHU at end of useful life	Cyclical	2003	20	4	2023	\$ 1,650	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
AHU-4	D3040 - Distribution Systems	Replacement of AHU at end of useful life	Cyclical	2003	25	9	2028	\$ 20,000	\$ 20,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
AHU-5	D3040 - Distribution Systems	Replacement of AHU at end of useful life	Cyclical	1985	25	0	2019	\$ 15,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
AHU-6	D3040 - Distribution Systems	Replacement of AHU at end of useful life	Cyclical	1985	20	0	2019	\$ 15,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
AHU-7	D3040 - Distribution Systems	Replacement of AHU at end of useful life	Cyclical	1996	25	0	2019	\$ 2,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Direct Digital Control (DDC) System	D3060 - Controls and Instrumentation	Allowance for cyclical upgrade of DDC system at fifteen year intervals	0	2017	15	13	2032	\$ 1	Event Type ERROR	Event Type ERROR	Event Type ERROR	Event Type ERROR	Event Type ERROR	Event Type ERROR	Event Type ERROR	Event Type ERROR	Event Type ERROR	Event Type ERROR
Lift	D1010 - Elevators & Lifts	Replacement not expected to be required	0	2019	30	30	2049	\$ 60,000	Event Type ERROR	Event Type ERROR	Event Type ERROR	Event Type ERROR	Event Type ERROR	Event Type ERROR	Event Type ERROR	Event Type ERROR	Event Type ERROR	Event Type ERROR
Mechanical Systems Summary									\$ 20,000	\$ 83,500	\$ 11,250	\$ -	\$ -	\$ -	\$ 37,500	\$ -	\$ -	\$ -

**Canada Games Aquatic Centre
Cash Flow Analysis Output Sheet**

Component	Uniformat Code	Recapitalization Detail	Type of event (cyclic/single)	Year of Installation or Repair	Expected Useful Life (EUL)	Useful Life Corrected For Observations	Year of Next Replacement	Unit Cost	Year 20	Year 21	Year 22	Year 23	Year 24	Year 25
									2038	2039	2040	2041	2042	2043
Mechanical Systems														
Indirect Fired Hot Water Tank #1	D2020 - Domestic Water Distribution	Replacement of indirect fired hot water tank not expected to be required	Cyclical	2018	30	29	2048	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Indirect Fired Hot Water Tank #2	D2020 - Domestic Water Distribution	Replacement of indirect fired hot water tank not expected to be required	Cyclical	2018	30	29	2048	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Indirect Fired Hot Water Tank #3	D2020 - Domestic Water Distribution	Replacement of indirect fired hot water tank not expected to be required	Cyclical	2018	30	29	2048	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Plate Exchanger (DHX-1)	D2020 - Domestic Water Distribution	Replacement of exchanger not expected to be required	Cyclical	2018	30	29	2048	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Plate Exchanger (DHX-2)	D2020 - Domestic Water Distribution	Replacement of exchanger not expected to be required	Cyclical	2018	30	29	2048	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Plate Exchanger (DHX-3)	D2020 - Domestic Water Distribution	Replacement of exchanger not expected to be required	Cyclical	2018	30	29	2048	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Domestic Water and Sanitary Piping	D2030 - Sanitary Waste	Allowance for localized repairs and replacements at five year	Cyclical	1985	5	0	2019	\$ 10,000	\$ -	\$ 10,000	\$ -	\$ -	\$ -	\$ -
Domestic Water Circulation Pump	D2020 - Domestic Water Distribution	Cyclical pump replacement at end of remaining useful life	Cyclical	2000	20	1	2020	\$ 7,000	\$ -	\$ -	\$ 7,000	\$ -	\$ -	\$ -
Water Closets	D2010 - Plumbing Fixtures	Replacement of water closets at end of remaining useful life	Cyclical	2020	30	31	2050	\$ 921	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Urinals	D2010 - Plumbing Fixtures	Replacement at end of remaining useful life	Cyclical	2000	30	11	2030	\$ 1,125	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Sinks	D2010 - Plumbing Fixtures	Replacement at end of remaining useful life	Cyclical	2020	30	31	2050	\$ 1,200	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Showers	D2010 - Plumbing Fixtures	Replacement at end of remaining useful life	Cyclical	2020	20	21	2040	\$ 2,000	\$ -	\$ -	\$ 74,000	\$ -	\$ -	\$ -
Bottle Filling Stations/Fountains	D2010 - Plumbing Fixtures	Replacement at end of remaining useful life	Cyclical	2005	15	0	2019	\$ 3,500	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Lochinvar Condensing Boiler #1	D3020 - Heat Generating Systems	Replacement of boiler at end of remaining useful life	Cyclical	2014	30	25	2044	\$ 125,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Lochinvar Condensing Boiler #2	D3020 - Heat Generating Systems	Replacement of boiler at end of remaining useful life	Cyclical	2014	30	25	2044	\$ 125,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Condensing Boiler #1 - Over-Haul	D3020 - Heat Generating Systems	Allowance for over-haul of Boiler #1 at boiler mid life	Cyclical	2014	15	10	2029	\$ 32,250	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Condensing Boiler #2 - Over-Haul	D3020 - Heat Generating Systems	Allowance for over-haul of Boiler #2 at boiler mid life	Cyclical	2014	15	10	2029	\$ 31,250	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Baseboard Radiators, Supply and Return Piping	D3050 - Terminal & Package Units	Allowance for repairs at five year intervals beginning in the long term	Cyclical	1985	5	0	2019	\$ 10,000	\$ -	\$ 10,000	\$ -	\$ -	\$ -	\$ -
Heat Exchanger - Tot's Pool	D3020 - Heat Generating Systems	Exchanger coils replaced in 2018. End of service life	Cyclical	2018	30	29	2048	\$ 5,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Heat Exchanger - Leisure Pool	D3020 - Heat Generating Systems	Exchanger coils replaced in 2019. End of service life	Cyclical	2018	30	29	2048	\$ 25,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Heat Exchanger - Main Pool	D3020 - Heat Generating Systems	Exchanger replaced in 2010. End of service life replacement anticipated	Cyclical	2010	30	21	2040	\$ 35,000	\$ -	\$ -	\$ 35,000	\$ -	\$ -	\$ -
Heat Exchangers - Whirlpool/ Hot Tubs	D3020 - Heat Generating Systems	Exchangers replaced in 2019. End of service life replacement	Cyclical	2018	30	29	2048	\$ 3,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Circulation Pumps	D3020 - Heat Generating Systems	Replacement or repairs as part of operations and	Cyclical	1985	20	10	2029	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
AHU 1 (Competition Pool)	D3040 - Distribution Systems	Replacement of heat pump at end of useful life	Cyclical	2017	25	23	2042	\$ 450,000	\$ -	\$ -	\$ -	\$ -	\$ 450,000	\$ -
AHU 2 (Leisure Pool)	D3040 - Distribution Systems	Replacement of heat pump at end of useful life	Cyclical	2017	25	23	2042	\$ 450,000	\$ -	\$ -	\$ -	\$ -	\$ 45,000	\$ -
AHU-3	D3040 - Distribution Systems	Replacement of rooftop mounted AHU at end of useful life	Cyclical	2003	20	4	2023	\$ 1,650	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 49,500
AHU-4	D3040 - Distribution Systems	Replacement of AHU at end of useful life	Cyclical	2003	25	9	2028	\$ 20,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
AHU-5	D3040 - Distribution Systems	Replacement of AHU at end of useful life	Cyclical	1985	25	0	2019	\$ 15,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
AHU-6	D3040 - Distribution Systems	Replacement of AHU at end of useful life	Cyclical	1985	20	0	2019	\$ 15,000	\$ -	\$ 15,000	\$ -	\$ -	\$ -	\$ -
AHU-7	D3040 - Distribution Systems	Replacement of AHU at end of useful life	Cyclical	1996	25	0	2019	\$ 2,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Direct Digital Control (DDC) System	D3060 - Controls and Instrumentation	Allowance for cyclical upgrade of DDC system at fifteen year intervals	0	2017	15	13	2032	\$ 1	Event Type ERROR	Event Type ERROR	Event Type ERROR	Event Type ERROR	Event Type ERROR	Event Type ERROR
Lift	D1010 - Elevators & Lifts	Replacement not expected to be required	0	2019	30	30	2049	\$ 60,000	Event Type ERROR	Event Type ERROR	Event Type ERROR	Event Type ERROR	Event Type ERROR	Event Type ERROR
Mechanical Systems Summary									\$ -	\$ 35,000	\$ 116,000	\$ -	\$ 495,000	\$ 49,500

**Canada Games Aquatic Centre
Cash Flow Analysis Output Sheet**

Component	Uniformat Code	Recapitalization Detail	Type of event (cyclic/single)	Year of Installation or Repair	Expected Useful Life (EUL)	Useful Life Corrected For Observations	Year of Next Replacement	Unit Cost	Total Cost	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9
										2019	2020	2021	2022	2023	2024	2025	2026	2027
Electrical Systems																		
Main Electrical Switchgear	D5010 - Electrical Service & Distribution	Budgetary replacement cost for main switchgear	Cyclical	2002	45	28	2047	\$ 175,000	\$ 175,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Secondary Electrical Panels	D5010 - Electrical Service & Distribution	Repair allowance at five year intervals	Cyclical	1985	5	11	2030	\$ 12,000	\$ 12,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Motor Control Centers	D5010 - Electrical Service & Distribution	Allowance for repair/replacement	Cyclical	1985	40	9	2028	\$ 8,500	\$ 34,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Motor Control Center - Siemens	D5010 - Electrical Service & Distribution	Allowance for repair/replacement	Cyclical	2005	40	26	2045	\$ 8,500	\$ 8,500	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Branch Wiring	D5020 - Lighting and Branch Wiring	Allowance for localized repairs as required	Cyclical	1985	5	5	2024	\$ 12,000	\$ 12,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 12,000	\$ -	\$ -	\$ -
Lobby Lighting	D5020 - Lighting and Branch Wiring	Replacement at end of remaining useful life	Cyclical	2016	25	22	2041	\$ 6	\$ 17,875	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Changing Room, Fitness Area and Hallways	D5020 - Lighting and Branch Wiring	Replacement at end of remaining useful life	Cyclical	2020	25	26	2045	\$ 6	\$ 134,750	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Competition Pool LED Lighting	D5020 - Lighting and Branch Wiring	Replacement at end of remaining useful life	Cyclical	2017	25	23	2042	\$ 6	\$ 125,572	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Leisure Pool LED Lighting	D5020 - Lighting and Branch Wiring	D5020 - Lighting and Branch Wiring	Cyclical	2017	25	23	2042	\$ 6	\$ 67,616	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
LED Scoreboard	D5090 - Other Electrical Systems	Cyclical replacement of scoreboard	Cyclical	2015	15	11	2030	\$ 85,000	\$ 85,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
VFD for DHU-1 and DHU-2	D3040 - Distribution Systems	Replacement at end of useful life	Cyclical	2017	15	13	2032	\$ 6,500	\$ 13,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
VFD for P-5 and P-6	D3040 - Distribution Systems	Replacement at end of useful life	Cyclical	2013	15	9	2028	\$ 6,500	\$ 13,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Electrical Systems Summary										\$ -	\$ -	\$ -	\$ -	\$ -	\$ 12,000	\$ -	\$ -	\$ -
Life Safety																		
Sprinkler System	D4010 - Sprinklers	No significant replacement anticipated	Cyclical	1985	40	25	2044	\$ 3	\$ 201,826	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Fire Alarm Panel	D4090 - Other Fire Protection	Replacement of panel at end of remaining useful life	Cyclical	2019	20	20	2039	\$ 25,000	\$ 25,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Fire Extinguishers	D4090 - Other Fire Protection	Priority repair inspection of extinguishers	Single	2000	15	0	2019	\$ 1,000	\$ 1,000	\$ 1,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Life Safety Summary										\$ 1,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Specialty Systems																		
Platform Concrete Diving Structure	A1020 - Special Foundations	No significant replacement expected to be required	Cyclical	1985	40	25	2044	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Platform Stairs, Decking and Railings	C2010 - Stair Construction	Allowance for replacements in short and extended terms	Cyclical	1985	10	2	2021	\$ 75,000	\$ 75,000	\$ -	\$ -	\$ 75,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Competition Pool Filtration	D2090 - Other Plumbing Systems	Allowance for replacement of filter media	Cyclical	1985	5	2	2021	\$ 2,000	\$ 2,000	\$ -	\$ -	\$ 2,000	\$ -	\$ -	\$ -	\$ -	\$ 2,000	\$ -
Leisure Pool Filtration	D2090 - Other Plumbing Systems	Allowance for replacement of filter media	Cyclical	2016	5	2	2021	\$ 2,000	\$ 2,000	\$ -	\$ -	\$ 2,000	\$ -	\$ -	\$ -	\$ -	\$ 2,000	\$ -
Tot's Pool Filtration	D2090 - Other Plumbing Systems	Allowance for replacement of filter media	Cyclical	1985	5	2	2021	\$ 1,000	\$ 1,000	\$ -	\$ -	\$ 1,000	\$ -	\$ -	\$ -	\$ -	\$ 1,000	\$ -
Adult Whirlpool Filtration	D2090 - Other Plumbing Systems	Replacement of sand filter at end of remaining useful life	Cyclical	2000	15	2	2021	\$ 7,500	\$ 7,500	\$ -	\$ -	\$ 7,500	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Teens Whirlpool Filtration	D2090 - Other Plumbing Systems	Replacement of sand filter at end of remaining useful life	Cyclical	2000	15	2	2021	\$ 7,500	\$ 7,500	\$ -	\$ -	\$ 7,500	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Competition Pool Diving Boards - Platform	E1090 - Other Equipment	Replacement of platform diving boards	Cyclical	1985	20	0	2019	\$ 14,000	\$ 28,000	\$ 28,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Competition Pool Diving Boards - Pool Level	E1090 - Other Equipment	Replacement of pool level diving boards	Cyclical	2000	20	8	2027	\$ 14,000	\$ 28,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 28,000
Competition Pool Starting Blocks	E1090 - Other Equipment	Replacement of blocks at end of remaining useful life	Cyclical	2015	20	16	2035	\$ 500	\$ 4,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Competition Pool Bulkhead	E1090 - Other Equipment	Allowance for upgrades and component replacement	Cyclical	2005	25	11	2030	\$ 350,000	\$ 350,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Tot's Pool Water Feature	E1090 - Other Equipment	Replacement of water feature at end of remaining useful life	Cyclical	1991	12	6	2025	\$ 8,000	\$ 8,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 8,000	\$ -	\$ -
Bleachers 2014	E1090 - Other Equipment	Replacement of bleachers at end of remaining useful life	Cyclical	2014	20	15	2034	\$ 9,500	\$ 28,500	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Bleachers 2010	E1090 - Other Equipment	Localized repairs as part of O&M. Replacement at end of	Cyclical	2010	20	6	2025	\$ 9,500	\$ 47,500	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 47,500	\$ -	\$ -
Leisure Pool Water Slide	E1090 - Other Equipment	Replacement of water slide in leisure pool	Cyclical	1985	25	3	2022	\$ 35,000	\$ 35,000	\$ -	\$ -	\$ -	\$ 35,000	\$ -	\$ -	\$ -	\$ -	\$ -
Competition Pool Water Slide	E1090 - Other Equipment	Replacement of water slide	Cyclical	1995	25	6	2025	\$ 150,000	\$ 150,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 150,000	\$ -	\$ -
Dry Sauna	E1090 - Other Equipment	Heating element replaced in 2018. Original wood	Cyclical	1991	30	14	2033	\$ 23,100	\$ 23,100	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Steam Room	E1090 - Other Equipment	Areas of damaged tile requiring repairs. Replacement at end	Cyclical	1985	40	6	2025	\$ 16,350	\$ 16,350	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 16,350	\$ -	\$ -
Fitness Equipment	E1090 - Other Equipment	Allowance to upgrade/replace fitness equipment	Cyclical	2016	10	6	2025	\$ 150,000	\$ 150,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 150,000	\$ -	\$ -
Specialty Systems Summary										\$ 28,000	\$ -	\$ 95,000	\$ 35,000	\$ -	\$ -	\$ 371,850	\$ 5,000	\$ 28,000

**Canada Games Aquatic Centre
Cash Flow Analysis Output Sheet**

Component	Uniformat Code	Recapitalization Detail	Type of event (cyclic/single)	Year of Installation or Repair	Expected Useful Life (EUL)	Useful Life Corrected For Observations	Year of Next Replacement	Unit Cost	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19
									2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Electrical Systems																		
Main Electrical Switchgear	D5010 - Electrical Service & Distribution	Budgetary replacement cost for main switchgear	Cyclical	2002	45	28	2047	\$ 175,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Secondary Electrical Panels	D5010 - Electrical Service & Distribution	Repair allowance at five year intervals	Cyclical	1985	5	11	2030	\$ 12,000	\$ -	\$ -	\$ 12,000	\$ -	\$ -	\$ -	\$ 12,000	\$ -	\$ -	\$ -
Motor Control Centers	D5010 - Electrical Service & Distribution	Allowance for repair/replacement	Cyclical	1985	40	9	2028	\$ 8,500	\$ 34,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Motor Control Center - Siemens	D5010 - Electrical Service & Distribution	Allowance for repair/replacement	Cyclical	2005	40	26	2045	\$ 8,500	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Branch Wiring	D5020 - Lighting and Branch Wiring	Allowance for localized repairs as required	Cyclical	1985	5	5	2024	\$ 12,000	\$ -	\$ 12,000	\$ -	\$ -	\$ -	\$ -	\$ 12,000	\$ -	\$ -	\$ -
Lobby Lighting	D5020 - Lighting and Branch Wiring	Replacement at end of remaining useful life	Cyclical	2016	25	22	2041	\$ 6	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Changing Room, Fitness Area and Hallways	D5020 - Lighting and Branch Wiring	Replacement at end of remaining useful life	Cyclical	2020	25	26	2045	\$ 6	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Competition Pool LED Lighting	D5020 - Lighting and Branch Wiring	Replacement at end of remaining useful life	Cyclical	2017	25	23	2042	\$ 6	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Leisure Pool LED Lighting	D5020 - Lighting and Branch Wiring	D5020 - Lighting and Branch Wiring	Cyclical	2017	25	23	2042	\$ 6	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
LED Scoreboard	D5090 - Other Electrical Systems	Cyclical replacement of scoreboard	Cyclical	2015	15	11	2030	\$ 85,000	\$ -	\$ -	\$ 85,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
VFD for DHU-1 and DHU-2	D3040 - Distribution Systems	Replacement at end of useful life	Cyclical	2017	15	13	2032	\$ 6,500	\$ -	\$ -	\$ -	\$ -	\$ 13,000	\$ -	\$ -	\$ -	\$ -	\$ -
VFD for P-5 and P-6	D3040 - Distribution Systems	Replacement at end of useful life	Cyclical	2013	15	9	2028	\$ 6,500	\$ 13,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Electrical Systems Summary									\$ 47,000	\$ 12,000	\$ 97,000	\$ -	\$ 13,000	\$ -	\$ 12,000	\$ 12,000	\$ -	\$ -
Life Safety																		
Sprinkler System	D4010 - Sprinklers	No significant replacement anticipated	Cyclical	1985	40	25	2044	\$ 3	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Fire Alarm Panel	D4090 - Other Fire Protection	Replacement of panel at end of remaining useful life	Cyclical	2019	20	20	2039	\$ 25,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Fire Extinguishers	D4090 - Other Fire Protection	Priority repair inspection of extinguishers	Single	2000	15	0	2019	\$ 1,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Life Safety Summary									\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Specialty Systems																		
Platform Concrete Diving Structure	A1020 - Special Foundations	No significant replacement expected to be required	Cyclical	1985	40	25	2044	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Platform Stairs, Decking and Railings	C2010 - Stair Construction	Allowance for replacements in short and extended terms	Cyclical	1985	10	2	2021	\$ 75,000	\$ -	\$ -	\$ -	\$ 75,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Competition Pool Filtration	D2090 - Other Plumbing Systems	Allowance for replacement of filter media	Cyclical	1985	5	2	2021	\$ 2,000	\$ -	\$ -	\$ -	\$ 2,000	\$ -	\$ -	\$ -	\$ -	\$ 2,000	\$ -
Leisure Pool Filtration	D2090 - Other Plumbing Systems	Allowance for replacement of filter media	Cyclical	2016	5	2	2021	\$ 2,000	\$ -	\$ -	\$ -	\$ 2,000	\$ -	\$ -	\$ -	\$ -	\$ 2,000	\$ -
Tot's Pool Filtration	D2090 - Other Plumbing Systems	Allowance for replacement of filter media	Cyclical	1985	5	2	2021	\$ 1,000	\$ -	\$ -	\$ -	\$ 1,000	\$ -	\$ -	\$ -	\$ -	\$ 1,000	\$ -
Adult Whirlpool Filtration	D2090 - Other Plumbing Systems	Replacement of sand filter at end of remaining useful life	Cyclical	2000	15	2	2021	\$ 7,500	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 7,500	\$ -
Teens Whirlpool Filtration	D2090 - Other Plumbing Systems	Replacement of sand filter at end of remaining useful life	Cyclical	2000	15	2	2021	\$ 7,500	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 7,500	\$ -
Competition Pool Diving Boards - Platform	E1090 - Other Equipment	Replacement of platform diving boards	Cyclical	1985	20	0	2019	\$ 14,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Competition Pool Diving Boards - Pool Level	E1090 - Other Equipment	Replacement of pool level diving boards	Cyclical	2000	20	8	2027	\$ 14,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Competition Pool Starting Blocks	E1090 - Other Equipment	Replacement of blocks at end of remaining useful life	Cyclical	2015	20	16	2035	\$ 500	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 4,000	\$ -	\$ -
Competition Pool Bulkhead	E1090 - Other Equipment	Allowance for upgrades and component replacement	Cyclical	2005	25	11	2030	\$ 350,000	\$ -	\$ -	\$ 350,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Tot's Pool Water Feature	E1090 - Other Equipment	Replacement of water feature at end of remaining useful life	Cyclical	1991	12	6	2025	\$ 8,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 8,000
Bleachers 2014	E1090 - Other Equipment	Replacement of bleachers at end of remaining useful life	Cyclical	2014	20	15	2034	\$ 9,500	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 28,500	\$ -	\$ -	\$ -
Bleachers 2010	E1090 - Other Equipment	Localized repairs as part of O&M. Replacement at end of	Cyclical	2010	20	6	2025	\$ 9,500	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Leisure Pool Water Slide	E1090 - Other Equipment	Replacement of water slide in leisure pool	Cyclical	1985	25	3	2022	\$ 35,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Competition Pool Water Slide	E1090 - Other Equipment	Replacement of water slide	Cyclical	1995	25	6	2025	\$ 150,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Dry Sauna	E1090 - Other Equipment	Heating element replaced in 2018. Original wood	Cyclical	1991	30	14	2033	\$ 23,100	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 23,100	\$ -	\$ -	\$ -	\$ -
Steam Room	E1090 - Other Equipment	Areas of damaged tile requiring repairs. Replacement at end	Cyclical	1985	40	6	2025	\$ 16,350	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Fitness Equipment	E1090 - Other Equipment	Allowance to upgrade/replace fitness equipment	Cyclical	2016	10	6	2025	\$ 150,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 150,000	\$ -	\$ -
Specialty Systems Summary									\$ -	\$ -	\$ 350,000	\$ 80,000	\$ -	\$ 23,100	\$ 28,500	\$ 154,000	\$ 20,000	\$ 8,000

**Canada Games Aquatic Centre
Cash Flow Analysis Output Sheet**

Component	Uniformat Code	Recapitalization Detail	Type of event (cyclic/single)	Year of Installation or Repair	Expected Useful Life (EUL)	Useful Life Corrected For Observations	Year of Next Replacement	Unit Cost	Year 20	Year 21	Year 22	Year 23	Year 24	Year 25
									2038	2039	2040	2041	2042	2043
Electrical Systems														
Main Electrical Switchgear	D5010 - Electrical Service & Distribution	Budgetary replacement cost for main switchgear	Cyclical	2002	45	28	2047	\$ 175,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Secondary Electrical Panels	D5010 - Electrical Service & Distribution	Repair allowance at five year intervals	Cyclical	1985	5	11	2030	\$ 12,000	\$ -	\$ -	\$ 12,000	\$ -	\$ -	\$ -
Motor Control Centers	D5010 - Electrical Service & Distribution	Allowance for repair/replacement	Cyclical	1985	40	9	2028	\$ 8,500	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Motor Control Center - Siemens	D5010 - Electrical Service & Distribution	Allowance for repair/replacement	Cyclical	2005	40	26	2045	\$ 8,500	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Branch Wiring	D5020 - Lighting and Branch Wiring	Allowance for localized repairs as required	Cyclical	1985	5	5	2024	\$ 12,000	\$ -	\$ 12,000	\$ -	\$ -	\$ -	\$ -
Lobby Lighting	D5020 - Lighting and Branch Wiring	Replacement at end of remaining useful life	Cyclical	2016	25	22	2041	\$ 6	\$ -	\$ -	\$ -	\$ 17,875	\$ -	\$ -
Changing Room, Fitness Area and Hallways	D5020 - Lighting and Branch Wiring	Replacement at end of remaining useful life	Cyclical	2020	25	26	2045	\$ 6	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Competition Pool LED Lighting	D5020 - Lighting and Branch Wiring	Replacement at end of remaining useful life	Cyclical	2017	25	23	2042	\$ 6	\$ -	\$ -	\$ -	\$ -	\$ 125,572	\$ -
Leisure Pool LED Lighting	D5020 - Lighting and Branch Wiring	D5020 - Lighting and Branch Wiring	Cyclical	2017	25	23	2042	\$ 6	\$ -	\$ -	\$ -	\$ -	\$ 67,616	\$ -
LED Scoreboard	D5090 - Other Electrical Systems	Cyclical replacement of scoreboard	Cyclical	2015	15	11	2030	\$ 85,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
VFD for DHU-1 and DHU-2	D3040 - Distribution Systems	Replacement at end of useful life	Cyclical	2017	15	13	2032	\$ 6,500	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
VFD for P-5 and P-6	D3040 - Distribution Systems	Replacement at end of useful life	Cyclical	2013	15	9	2028	\$ 6,500	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 13,000
Electrical Systems Summary									\$ -	\$ 12,000	\$ 12,000	\$ 17,875	\$ 193,188	\$ 13,000
Life Safety														
Sprinkler System	D4010 - Sprinklers	No significant replacement anticipated	Cyclical	1985	40	25	2044	\$ 3	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Fire Alarm Panel	D4090 - Other Fire Protection	Replacement of panel at end of remaining useful life	Cyclical	2019	20	20	2039	\$ 25,000	\$ -	\$ 25,000	\$ -	\$ -	\$ -	\$ -
Fire Extinguishers	D4090 - Other Fire Protection	Priority repair inspection of extinguishers	Single	2000	15	0	2019	\$ 1,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Life Safety Summary									\$ -	\$ 25,000	\$ -	\$ -	\$ -	\$ -
Specialty Systems														
Platform Concrete Diving Structure	A1020 - Special Foundations	No significant replacement expected to be required	Cyclical	1985	40	25	2044	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Platform Stairs, Decking and Railings	C2010 - Stair Construction	Allowance for replacements in short and extended terms	Cyclical	1985	10	2	2021	\$ 75,000	\$ -	\$ -	\$ -	\$ 75,000	\$ -	\$ -
Competition Pool Filtration	D2090 - Other Plumbing Systems	Allowance for replacement of filter media	Cyclical	1985	5	2	2021	\$ 2,000	\$ -	\$ -	\$ -	\$ 2,000	\$ -	\$ -
Leisure Pool Filtration	D2090 - Other Plumbing Systems	Allowance for replacement of filter media	Cyclical	2016	5	2	2021	\$ 2,000	\$ -	\$ -	\$ -	\$ 2,000	\$ -	\$ -
Tot's Pool Filtration	D2090 - Other Plumbing Systems	Allowance for replacement of filter media	Cyclical	1985	5	2	2021	\$ 1,000	\$ -	\$ -	\$ -	\$ 1,000	\$ -	\$ -
Adult Whirlpool Filtration	D2090 - Other Plumbing Systems	Replacement of sand filter at end of remaining useful life	Cyclical	2000	15	2	2021	\$ 7,500	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Teens Whirlpool Filtration	D2090 - Other Plumbing Systems	Replacement of sand filter at end of remaining useful life	Cyclical	2000	15	2	2021	\$ 7,500	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Competition Pool Diving Boards - Platform	E1090 - Other Equipment	Replacement of platform diving boards	Cyclical	1985	20	0	2019	\$ 14,000	\$ -	\$ 28,000	\$ -	\$ -	\$ -	\$ -
Competition Pool Diving Boards - Pool Level	E1090 - Other Equipment	Replacement of pool level diving boards	Cyclical	2000	20	8	2027	\$ 14,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Competition Pool Starting Blocks	E1090 - Other Equipment	Replacement of blocks at end of remaining useful life	Cyclical	2015	20	16	2035	\$ 500	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Competition Pool Bulkhead	E1090 - Other Equipment	Allowance for upgrades and component replacement	Cyclical	2005	25	11	2030	\$ 350,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Tot's Pool Water Feature	E1090 - Other Equipment	Replacement of water feature at end of remaining useful life	Cyclical	1991	12	6	2025	\$ 8,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Bleachers 2014	E1090 - Other Equipment	Replacement of bleachers at end of remaining useful life	Cyclical	2014	20	15	2034	\$ 9,500	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Bleachers 2010	E1090 - Other Equipment	Localized repairs as part of O&M. Replacement at end of	Cyclical	2010	20	6	2025	\$ 9,500	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Leisure Pool Water Slide	E1090 - Other Equipment	Replacement of water slide in leisure pool	Cyclical	1985	25	3	2022	\$ 35,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Competition Pool Water Slide	E1090 - Other Equipment	Replacement of water slide	Cyclical	1995	25	6	2025	\$ 150,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Dry Sauna	E1090 - Other Equipment	Heating element replaced in 2018. Original wood	Cyclical	1991	30	14	2033	\$ 23,100	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Steam Room	E1090 - Other Equipment	Areas of damaged tile requiring repairs. Replacement at end	Cyclical	1985	40	6	2025	\$ 16,350	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Fitness Equipment	E1090 - Other Equipment	Allowance to upgrade/replace fitness equipment	Cyclical	2016	10	6	2025	\$ 150,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Specialty Systems Summary									\$ -	\$ 28,000	\$ -	\$ 80,000	\$ -	\$ -

Canada Games Aquatic Centre Cash Flow Summary Output Sheet

Canada Games Aquatic Centre	Year 1 2019	Year 2 2020	Year 3 2021	Year 4 2022	Year 5 2023	Year 6 2024	Year 7 2025	Year 8 2026	Year 9 2027	Year 10 2028
Site Work	\$ 19,650	\$ -	\$ -	\$ -	\$ -	\$ 14,400	\$ 2,400	\$ -	\$ 3,600	\$ -
Structure	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Roofing	\$ 88,200	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 213,400	\$ -	\$ -
Architectural Exterior	\$ 364,185	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 64,575	\$ -	\$ -
Architectural Interior	\$ 379,154	\$ -	\$ -	\$ -	\$ -	\$ 78,831	\$ -	\$ 583,488	\$ -	\$ -
Mechanical Systems	\$ 69,500	\$ 7,000	\$ -	\$ -	\$ 49,500	\$ 20,000	\$ -	\$ -	\$ -	\$ 20,000
Electrical Systems	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 12,000	\$ -	\$ -	\$ -	\$ 47,000
Life Safety	\$ 1,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Specialty Systems	\$ 28,000	\$ -	\$ 95,000	\$ 35,000	\$ -	\$ -	\$ 371,850	\$ 5,000	\$ 28,000	\$ -
TOTAL for Canada Games Aquatic Centre	\$ 949,689	\$ 7,000	\$ 95,000	\$ 35,000	\$ 49,500	\$ 125,231	\$ 374,250	\$ 866,463	\$ 31,600	\$ 67,000

Facility Condition Calculation Output Sheet

Canada Games Aquatic Centre	Year 1 2019	Year 2 2020	Year 3 2021	Year 4 2022	Year 5 2023	Year 6 2024	Year 7 2025	Year 8 2026	Year 9 2027	Year 10 2028
Balance Carried from Previous Year	\$ -	\$ 1,120,632	\$ 1,128,892	\$ 1,240,992	\$ 1,282,292	\$ 1,340,702	\$ 1,488,475	\$ 1,930,090	\$ 2,952,516	\$ 2,989,804
Anticipated Annual Recap Requirement	\$ 949,689	\$ 7,000	\$ 95,000	\$ 35,000	\$ 49,500	\$ 125,231	\$ 374,250	\$ 866,463	\$ 31,600	\$ 67,000
Soft Costs	\$ 170,944	\$ 1,260	\$ 17,100	\$ 6,300	\$ 8,910	\$ 22,542	\$ 67,365	\$ 155,963	\$ 5,688	\$ 12,060
Total Anticipated Requirements	\$ 1,120,632	\$ 1,128,892	\$ 1,240,992	\$ 1,282,292	\$ 1,340,702	\$ 1,488,475	\$ 1,930,090	\$ 2,952,516	\$ 2,989,804	\$ 3,068,864
Capital Funding	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Operational Costs	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Maintenance Costs	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Loan Payments	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Building Replacement Value	\$ 20,434,050	\$ 20,434,050	\$ 20,434,050	\$ 20,434,050	\$ 20,434,050	\$ 20,434,050	\$ 20,434,050	\$ 20,434,050	\$ 20,434,050	\$ 20,434,050
Amount of Deferred Maintenance	\$ 1,120,632	\$ 1,128,892	\$ 1,240,992	\$ 1,282,292	\$ 1,340,702	\$ 1,488,475	\$ 1,930,090	\$ 2,952,516	\$ 2,989,804	\$ 3,068,864
Annual Cost of Ownership	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
FCI	5.48%	5.52%	6.07%	6.28%	6.56%	7.28%	9.45%	14.45%	14.63%	15.02%

Canada Games Aquatic Centre Cash Flow Summary Output Sheet

Canada Games Aquatic Centre	Year 11 2029	Year 12 2030	Year 13 2031	Year 14 2032	Year 15 2033	Year 16 2034	Year 17 2035	Year 18 2036	Year 19 2037	Year 20 2038	Year 21 2039	Year 22 2040	Year 23 2041	Year 24 2042	Year 25 2043
Site Work	\$ 14,400	\$ -	\$ -	\$ -	\$ -	\$ 14,400	\$ -	\$ -	\$ -	\$ -	\$ 23,250	\$ -	\$ -	\$ -	\$ -
Structure	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Roofing	\$ -	\$ -	\$ -	\$ -	\$ 1,256,000	\$ -	\$ -	\$ 25,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 103,950
Architectural Exterior	\$ -	\$ -	\$ -	\$ -	\$ 64,575	\$ -	\$ -	\$ -	\$ 40,000	\$ -	\$ -	\$ 64,575	\$ -	\$ -	\$ -
Architectural Interior	\$ 78,831	\$ -	\$ -	\$ -	\$ -	\$ 78,831	\$ -	\$ -	\$ -	\$ -	\$ 78,831	\$ -	\$ 238,848	\$ -	\$ -
Mechanical Systems	\$ 83,500	\$ 11,250	\$ -	\$ -	\$ -	\$ 37,500	\$ -	\$ -	\$ -	\$ -	\$ 35,000	\$ 116,000	\$ -	\$ 495,000	\$ 49,500
Electrical Systems	\$ 12,000	\$ 97,000	\$ -	\$ 13,000	\$ -	\$ 12,000	\$ 12,000	\$ -	\$ -	\$ -	\$ 12,000	\$ 12,000	\$ 17,875	\$ 193,188	\$ 13,000
Life Safety	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 25,000	\$ -	\$ -	\$ -	\$ -
Specialty Systems	\$ -	\$ 350,000	\$ 80,000	\$ -	\$ 23,100	\$ 28,500	\$ 154,000	\$ 20,000	\$ 8,000	\$ -	\$ 28,000	\$ -	\$ 80,000	\$ -	\$ -
TOTAL for Canada Games Aquatic Centre	\$ 188,731	\$ 458,250	\$ 80,000	\$ 13,000	\$ 1,343,675	\$ 171,231	\$ 166,000	\$ 45,000	\$ 48,000	\$ -	\$ 202,081	\$ 192,575	\$ 336,723	\$ 688,188	\$ 166,450

Facility Condition Calculation Output Sheet

Canada Games Aquatic Centre	Year 11 2029	Year 12 2030	Year 13 2031	Year 14 2032	Year 15 2033	Year 16 2034	Year 17 2035	Year 18 2036	Year 19 2037	Year 20 2038	Year 21 2039	Year 22 2040	Year 23 2041	Year 24 2042	Year 25 2043
Balance Carried from Previous Year	\$ 3,068,864	\$ 3,291,567	\$ 3,832,302	\$ 3,926,702	\$ 3,942,042	\$ 5,527,578	\$ 5,729,631	\$ 5,925,511	\$ 5,978,611	\$ 6,035,251	\$ 6,035,251	\$ 6,273,707	\$ 6,500,945	\$ 6,898,278	\$ 7,710,339
Anticipated Annual Recap Requirement	\$ 188,731	\$ 458,250	\$ 80,000	\$ 13,000	\$ 1,343,675	\$ 171,231	\$ 166,000	\$ 45,000	\$ 48,000	\$ -	\$ 202,081	\$ 192,575	\$ 336,723	\$ 688,188	\$ 166,450
Soft Costs	\$ 33,972	\$ 82,485	\$ 14,400	\$ 2,340	\$ 241,862	\$ 30,822	\$ 29,880	\$ 8,100	\$ 8,640	\$ -	\$ 36,375	\$ 34,664	\$ 60,610	\$ 123,874	\$ 29,961
Total Anticipated Requirements	\$ 3,291,567	\$ 3,832,302	\$ 3,926,702	\$ 3,942,042	\$ 5,527,578	\$ 5,729,631	\$ 5,925,511	\$ 5,978,611	\$ 6,035,251	\$ 6,035,251	\$ 6,273,707	\$ 6,500,945	\$ 6,898,278	\$ 7,710,339	\$ 7,906,750
Capital Funding	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Operational Costs	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Maintenance Costs	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Loan Payments	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Building Replacement Value	\$ 20,434,050	\$ 20,434,050	\$ 20,434,050	\$ 20,434,050	\$ 20,434,050	\$ 20,434,050	\$ 20,434,050	\$ 20,434,050	\$ 20,434,050	\$ 20,434,050	\$ 20,434,050	\$ 20,434,050	\$ 20,434,050	\$ 20,434,050	\$ 20,434,050
Amount of Deferred Maintenance	\$ 3,291,567	\$ 3,832,302	\$ 3,926,702	\$ 3,942,042	\$ 5,527,578	\$ 5,729,631	\$ 5,925,511	\$ 5,978,611	\$ 6,035,251	\$ 6,035,251	\$ 6,273,707	\$ 6,500,945	\$ 6,898,278	\$ 7,710,339	\$ 7,906,750
Annual Cost of Ownership	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
FCI	16.11%	18.75%	19.22%	19.29%	27.05%	28.04%	29.00%	29.26%	29.54%	29.54%	30.70%	31.81%	33.76%	37.73%	38.69%

Appendix B - Photo Log



Photo 1: Asphalt Paved Parking Area



Photo 2: Asphalt Roadway



Photo 3: Entrance Doors



Photo 4: Brick Veneer and Glazing



Photo 5: Exterior Brick Veneer and Sloped Metal Roofing



Photo 6: Exterior Cladding and Secondary Entrance Doors



Photo 7: Exterior Cladding



Photo 8: Modified Bitumen Roofing and Metal Frame on Roof



Photo 9: Modified Bitumen Roofing



Photo 10: Trane Rooftop Unit



Photo 11: Main Lobby Finishes



Photo 12: General Fitness Room Condition



Photo 13: General Gym Conditions



Photo 14: Kids pool amenities



Photo 15: Leisure Pool



Photo 16: Aluminum Pool Side Change Rooms And Mezzanine

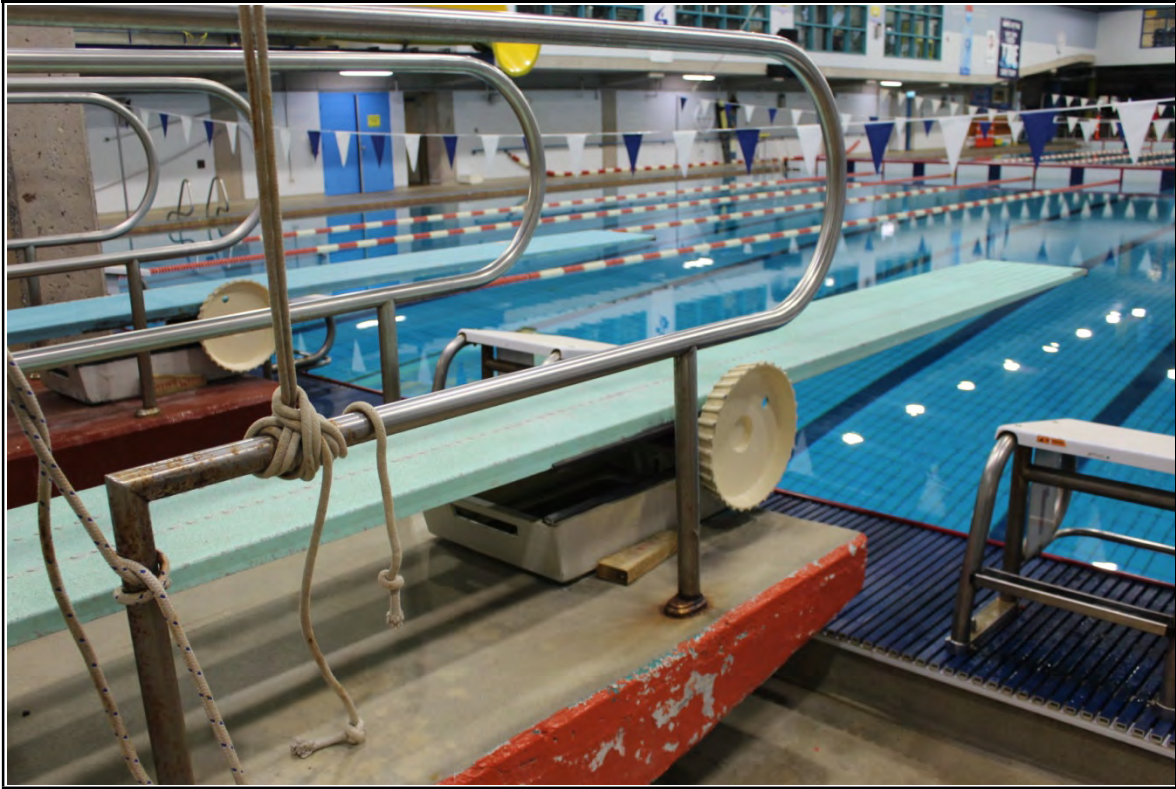


Photo 17: Spalling Concrete On The Base Of Diving Board



Photo 18: Corrosion And Rust On Piping And Hanging Pipe Clamps

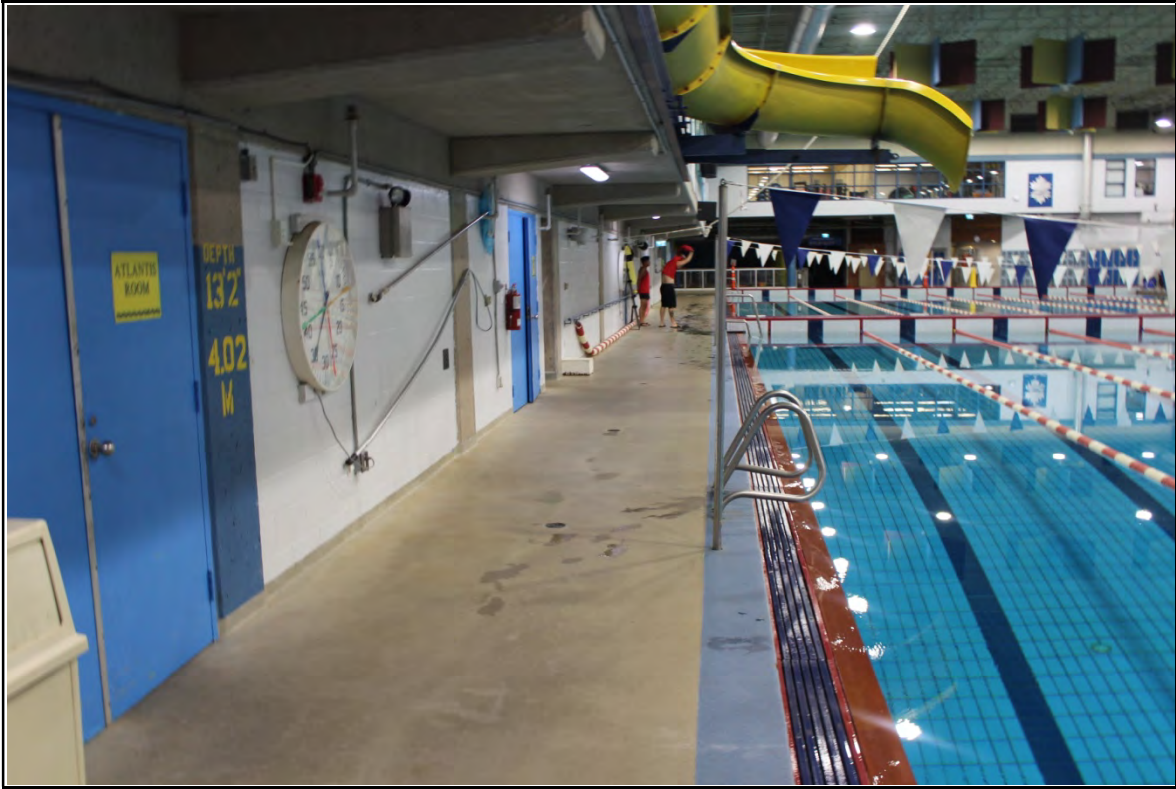


Photo 19: Typical Pool Deck Conditions, Slight Rusting On Bottom Of The Waterslide



Photo 20: Typical Locker-room Finishes



Photo 21: Common Washroom Finishes



Photo 22: Shell And Tube Heat Exchanger (Main Pool)



Photo 23: Facilities Dehumidifier System



Photo 24: Vortex Air Separator



Photo 25: Swimming Pool Ventilation System



Photo 26: Chlorine Tanks And Detectors/Gauges

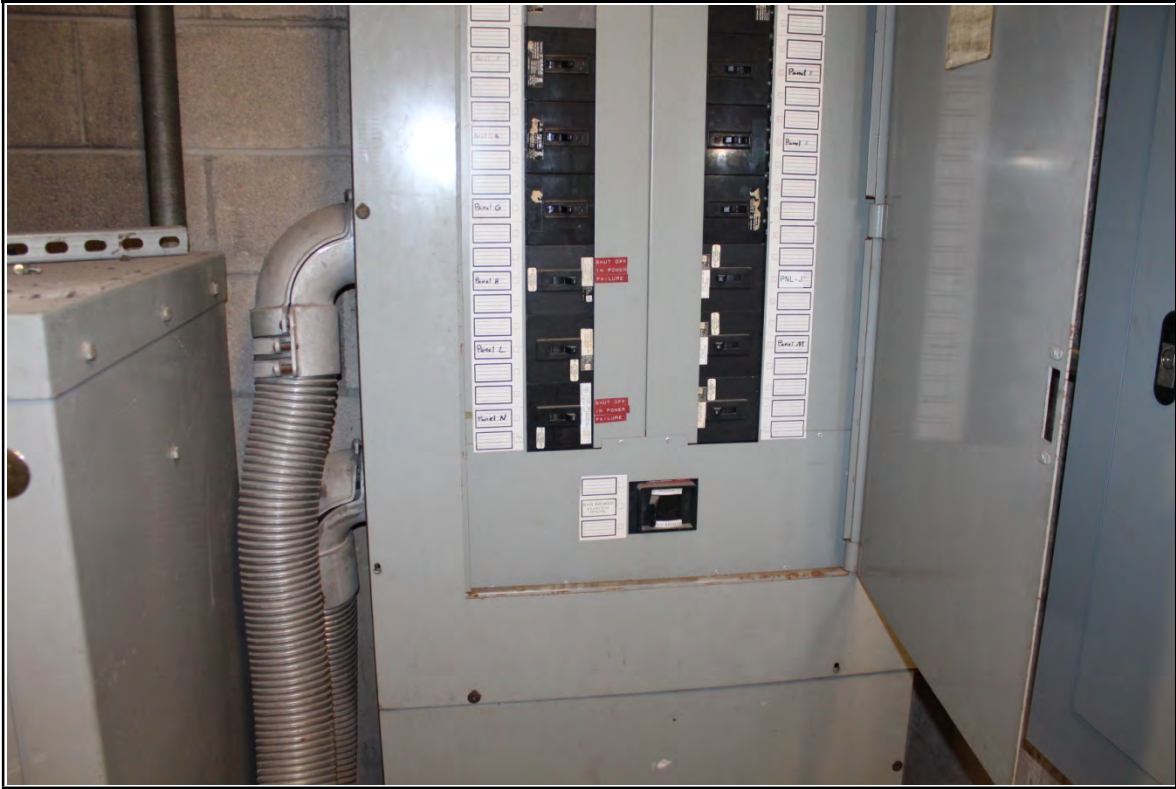


Photo 27: Circuit Breaker Panel



Photo 28: Variable Frequency Drives



Photo 29: Motor Control Center



Photo 30: Main Power Supply



Photo 31: Sprinkler Tree



Photo 32: Fire Extinguisher