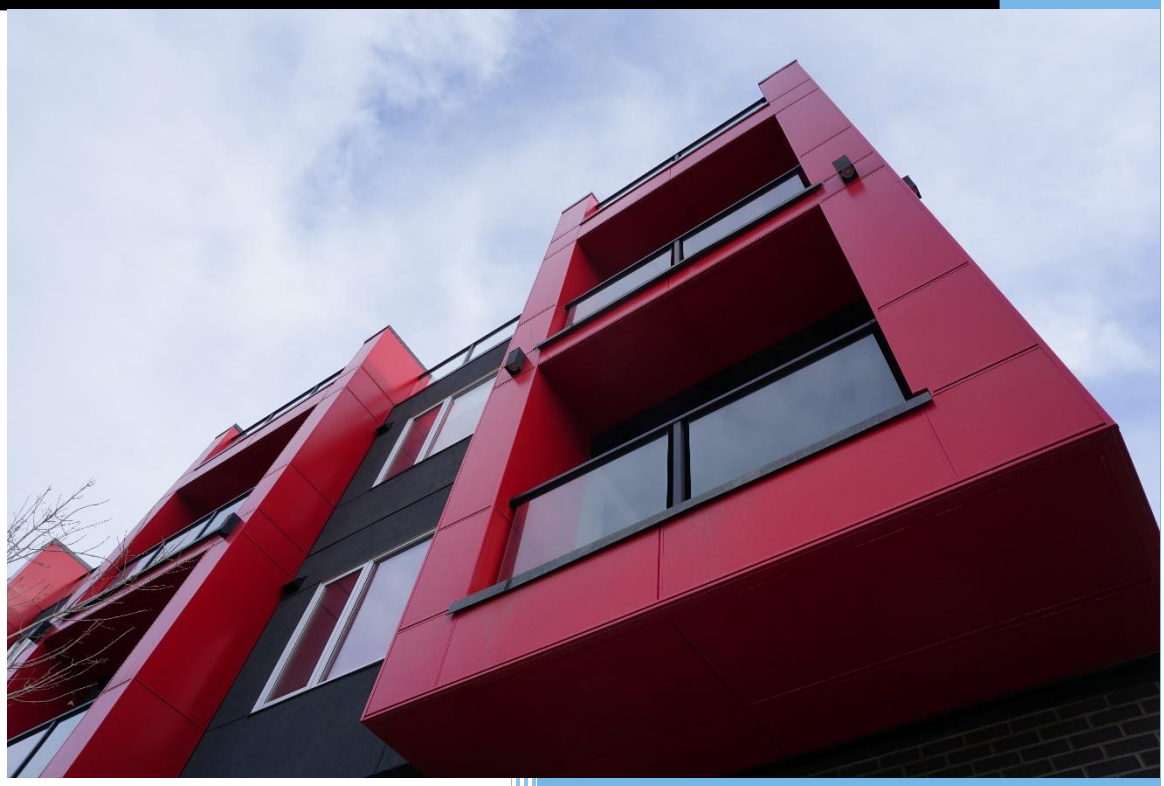
2018

Reserve Fund Study

ID Inglewood - Condominium Corporation No. 1612056



Authors:

Susan Eyre & Alan Eyre

eyre.consulting Inc.
Reserve Fund Planners

eyre.consulting Inc.
Reserve Fund Planners
susan@eyreconsulting.ca
587-832-6161

February 12, 2019

Nilda Mendoza
Community Manager
C-Era Property Management & Realty
Suite B, 6010 - 12 Street SE
Calgary, Alberta
T2H 2X2

Dear Nilda:

Re: Reserve Fund Study for Condominium Corporation No. 1612056 - 1526 - 9 Avenue SE

Pursuant to your request for a Reserve Fund Study for ID Inglewood located at 1526 - 9 Avenue SE , Calgary Alberta, we have prepared and submitted this report.

This report of the Reserve Fund Study describes the reserve fund concepts and major reserve fund items. It provides current and future replacement reserve estimates and presents three reserve funding options. The Reserve Fund Study is a complex document and should be reviewed in detail and within the context of this report.

The report recommends that a reserve fund plan and strategy be adopted and implemented.

As outlined in this report, if one of the funding models is adopted, the current reserve fund along with the chosen contribution schedule will ensure reserve funds are adequate to cover potential expenditures required to repair or replace common elements or assets of the Corporation when needed.

We appreciate the opportunity to perform this Reserve Fund Study for you and would be pleased to provide you with complete review and updating services for the reserve fund of the Corporation, as required in the future.

If you have any questions, please do not hesitate to contact me at:
Phone: 587-832-6161
E-mail: susan@eyre.consulting

Yours truly,

Susan Eyre, B. A., B. Comm., CPM, CRP
eyre.consulting Inc.

CERTIFICATION

We hereby certify that we are persons authorized to conduct reserve fund studies, as described in Section 21 (1) (c) of the Province of Alberta Condominium Property Regulation.

Regarding Susan Eyre, I have worked in the property management industry since 1986, managing condominium and commercial buildings. I am experienced in both the physical and financial operations of property management including; the inspection and coordination of maintenance, repairs and replacements of property components, the preparation and implementation of operating budgets, the implementation of capital budgets, financial reporting to ownership and enforcement of by-laws. I have a Bachelor of Arts and a Bachelor of Commerce degree from the University of Alberta and have held a Certified Property Manager (CPM) designation since 1992. In April of 2016 I received my Certified Reserve Planner designation (CRP) from the Real Estate Institute of Canada (REIC).

Regarding Alan Eyre, I have been preparing and delivering reserve fund reports with Susan since mid-2016. I have a strong understanding of building components and construction techniques, from both a theoretical and a hands-on perspective. I am a journeyman insulator and have completed electrical, security system (alarm & cameras), networking system (wired & wireless), plumbing, carpentry, tiling, flooring, painting, wood retaining wall, manufactured stone, and roofing projects for family and friends. I received a Bachelor of Science in Engineering degree from the University of Alberta in 1993 and spent many years working in the telecommunications field. In 2017, I received an Architectural Technologies diploma with Honours from SAIT.

We have personally inspected the property and examined the documents provided. To the best of our knowledge and belief, the information and data used herein are true and correct.

We have no interest, present or prospective, in the property or its management, other than the previous disclosure that Susan Eyre is also employed by C-Era Property Management & Realty as their real estate broker. Neither the employment to prepare this Reserve Fund Study nor the compensation is contingent on the amount of the reserve fund estimates reported.

The Reserve Fund Study complies with Section 23 of the Province of Alberta Condominium Property Regulation.

Dated December 10, 2018

Susan Eyre B. A., B. Comm., CPM, CRP
eyre.consulting Inc.

Alan Eyre B.SC. Engineering- EE, AT
eyre.consulting Inc.

Document Information

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Payment received	**January 31, 2019**
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Study/Report valid period (corporation's year end)	**September 1, 2018 – August 31, 2023**

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1 EXECUTIVE SUMMARY OF FACTS, CONCLUSIONS & RECOMMENDATIONS

This executive summary has been prepared as a quick reference of pertinent facts and estimates of this Reserve Fund Study, and it is provided as convenience only. Readers are advised to refer to the full text of this Reserve Fund Study for detailed information.

1.1 PROJECTION FACTORS

Construction Inflation Factor	2.8%
Investment Rate	1.9%

1.2 FUNDING OPTIONS

The planner's funding options, set out below and detailed in this report, will assist the Corporation to achieve and maintain an adequate reserve fund. In our opinion, any of the three options presented below, which show the annual contributions, any special assessments, and earned investment income, will adequately fund immediate and future reserve fund expenditures. However, the Moderate Funding option and the Critical Year option carry elevated risk of special assessments within and beyond the study period. The risk is higher for the Critical Year option, but its assessment requirement is much lower.

The annual **reserve fund contribution (RFC)** for the current year and the recommended contributions for each model for the next 5 years are shown in the tables below. *(The increases suggested below apply to the reserve fund contributions, not to the entire condominium budget (i.e. operating budget*). For an example of the impact to condominium fees, see note 5 at the end of this document.)

Table 1 - Current (Planned) RFC & Recommended RFC for the Next 5 Years – Benchmark Model

Year	Recommended RFC	Increase over previous year	Special Assessment
2018	$114,820		$121,620
2019	$114,820	0.0%	$0
2020	$114,920	0.1%	$0
2021	$115,060	0.1%	$0
2022	$115,240	0.2%	$0
2023	$115,240	0.0%	$0

Table 2 - Current (Planned) RFC & Recommended RFC for the Next 5 Years – Moderate Model

Year	Recommended RFC	Increase over previous year	Special Assessment
2018	$25,000		$0
2019	$31,500	26.0%	$0
2020	$39,060	24.0%	$0
2021	$47,650	22.0%	$0
2022	$57,180	20.0%	$0
2023	$67,470	18.0%	$0

Table 3 - Current (Planned) RFC & Recommended RFC for the Next 5 Years – Critical Year Model

Year	Recommended RFC	Increase over previous year	Special Assessment
2018	$25,000		$0
2019	$28,000	12.0%	$0
2020	$31,360	12.0%	$0
2021	$35,120	12.0%	$0
2022	$39,330	12.0%	$0
2023	$44,050	12.0%	$0

See the full contribution schedules in section 6 for the remaining contribution values and increases.

1.3 NOTABLE IMPENDING EXPENDITURES

The following table provides some insight as to the total expenditures for the current year and the following 5 years, along with a brief description of the constituent components for the year's expenditure.

Table 4 - Upcoming Expenditures

Year	Expenditure	Items
2018	$0	-
2019	$3,280	Steel Posts, Beams, Canopies - Canopy Paint
2020	$4,440	Retaining Walls - Concrete
2021	$6,540	EIFS - "Stucco", Irrigation, Landscaping
2022	$0	-
2023	$36,190	Drywall, Painting - Interior Components - 7 Year Cycle, Reserve Fund Study

Note, these items should be repaired or replaced if/when they require such action and not just because they appear in the 25 Year Cash Flow Projection and Benchmark Analysis at a specific time. Some items may require attention sooner or later than this study projects. Regular inspections by qualified individuals may be required to make that determination.

1.4 ADDITIONAL RECOMMENDATIONS

The following list presents various recommendation which, if followed, will help protect the value of the property.

- The Corporation should prepare and implement a long-term reserve fund strategy.
- Major repairs and replacements should be recorded in, and funded from, a separate reserve fund account.
- The reserve fund should be placed in an interest-bearing bank account, invested in guaranteed securities, or in other investments authorized under the Condominium Property Regulation.
- The Corporation should make such expenditures, as necessary, to maintain the property.
- The reserve fund should be reviewed every year to ensure that the underlying assumptions are still valid and that the estimates remain current.
- The Corporation should update the Reserve Fund Study every 5 years.

2 PROPERTY DESCRIPTION

This section provides some basic information describing the property, its location, and its financial status regarding the reserve fund.

2.1 LEGAL REGISTRATION

Corporation Number: 1612056

2.2 LOCATION

ID Inglewood
1526 - 9 Avenue SE
Calgary, Alberta
T2G 0T7

2.3 OVERVIEW OF PROPERTY

ID Inglewood is a 4-storey, combination commercial & residential building located at 1526 - 9th Avenue SE in the community of Inglewood. The project was registered in August of 2016 (and amended in February 2017) as Plan Number 1612056, with 3 commercial units, 19 residential units and 19 parking units.

2.4 THE CORPORATION'S FINANCIAL PICTURE

The anticipated reserve fund balance at the beginning of the study period is $ 0.

The current budgeted annual reserve fund contribution is $25,000.

3 RESERVE FUND STUDY & REPORT EXPLAINED

The purpose of a reserve fund study is to produce a 25-year capital budget for the commonly owned real & personal property, and any managed property, of the corporation in accordance with the provisions of the Province of Alberta Condominium Property Act, Section 38(1).

A reserve fund study report is a **financial document**, which presents the findings of the study and should clearly show the financial position of the corporation's reserve account and any unfunded depreciation of commonly owned real, personal, and managed property (benchmark shortfall).

3.1 THE PROVINCE OF ALBERTA CONDOMINIUM PROPERTY REGULATION, SECTION 23(1)(2)

This reserve fund study complies with the reserve fund provisions of the Province of Alberta Condominium Property Regulation, Section 23(1)(2):

Reserve fund study, report and plan

23(1) The board must retain a qualified person to carry out a study of the depreciating property for the purposes of determining the following:

(a) An inventory of all of the depreciating property that, under the circumstances under which that property will be or is normally used, may need to be repaired or replaced within the next 25 years;
(b) The present condition or state of repair of the depreciating property and an estimate as to when each component of the depreciating property will need to be repaired or replaced;
(c) The estimated costs of repairs to or replacement of the depreciating property using as a basis for that estimate costs that are not less than the costs existing at the time That the reserve fund report is prepared;
(d) The life expectancy of each component of the depreciating property once that property has been repaired or replaced.

23(2) In carrying out the reserve fund study under subsection (1), the qualified person must also do the following:

(a) Determine the current amount of funds, if any, included in the corporation's reserve fund.
(b) Recommend the amount of funds, if any, that should be included in or added to the corporation's reserve fund in order to provide the necessary funds to establish and maintain or to maintain, as the case may be, a reserve fund for the purposes of section 38 of the Act.
(c) Describe the basis for determining
    (i) The amount of the funds under clause (a), and
    (ii) The amount in respect of which the recommendation was made under clause (b).

3.2 REAL ESTATE INSTITUTE OF CANADA (REIC) FUND PLANNING STANDARDS

REIC has established reserve fund planning standards that exceed the regulatory requirements above and are recognized and emulated across Canada. These standards, presented throughout this report, consist of investigations, analyses and calculations that provide realistic and supportable reserve fund estimates.

3.3 RESERVE FUND STUDY ELEMENTS

This reserve fund study comprises the following elements:

- It identifies the reserve components and estimates their normal life span and present condition.
- It estimates the remaining serviceable years for each of the reserve components and proposes a time schedule for repairs and/or replacement.
- It estimates the current replacement cost of the components including the cost of removing worn-out items.
- It projects the future value of current replacement costs using an estimated annual inflation rate.
- It projects the future value of current reserve funds compounded at an estimated investment rate.
- It calculates current reserve fund contributions required, and to be invested appropriately, to fund future reserve fund expenditures.

The reserve fund study is a practical guide to assist the board of directors and/or the property manager to plan budgets and maintenance programs.

3.4 GENERAL CONDITIONS AND ASSUMPTIONS

Reserve fund estimates are subjective. They are based on an understanding of the service life of property components and experience gained from observing properties over time. It must be appreciated that reserve fund budgeting and projections are not exact sciences. They are, at best, prudent provisions for identified common property typical wear items[4] and some possible contingencies, if or when they arise. Reserve fund requirements are subject to change and must be reviewed and modified over time. The Alberta requirement is every five (5) years.

3.5 RESERVE FUND PROJECTION FACTORS

Our opinion of what is required to determine future contributions and the future value of expenditures includes estimates of inflation factors and investment rates. Inflation factors and investment rates must be developed on an objective basis and derived from an economic analysis of the marketplace.

The estimated inflation factor and the selected investment rate are powerful factors in projecting reserve fund contributions and requirements. They can vary dramatically over time and must be periodically reviewed to ensure their relevance and accuracy.

Although Alberta regulations require a reserve fund plan to be projected over a period of 25 years, reserve fund projection factors can only be based on short-term economic conditions because of their volatility over time.

3.5.1 INFLATION FACTOR

Inflation measurement in reserve fund projections must be based on construction indices rather than the widely quoted Consumer Price Index (CPI), which measures the cost of a basket of consumer goods, not construction costs.

Inflation rates for the report were developed using data provided by Statistics Canada. CANSIM is Statistics Canada's key socioeconomic database. Updated daily, CANSIM provides fast easy access to a broad range of the latest statistics available in Canada.

Year		**1989**	**1990**	**1991**	**1992**	**1993**	**1994**	**1995**	**1996**
Yearly Increase		6.1	4.3	-0.1	0.9	0.9	2.0	3.0	0.8
Year	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**
Yearly Increase	1.9	3.0	2.5	4.4	3.4	2.7	3.1	4.8	6.6
Year	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**
Yearly Increase	14.1	19.2	11.2	-7.9	-2.6	2.2	3.9	1.7	1.4
Year	**2015**	**2016**	**2017**		Mean OBC Price Index				
Yearly Increase	-0.5	-0.7	1.2		(Excluding Highlighted Years)			**2.8**	

Figure 1 - Price Indexes of Apartment Building Construction

The rate of increase based on the price index selected and an analysis of the year over year change in prices concludes that a rate of **2.8%** inflation would be prudent.

3.5.2 INVESTMENT RATE

Investment income can be a significant source of revenue for reserve funds; therefore, it is imperative that reserve funds are continuously and prudently invested. Prudent reserve fund investment requires that investments are reasonably matched with anticipated reserve fund expenditures, ensuring reserve fund liquidity. Funds should be invested in a diversified laddered portfolio, which ensures that they are available when needed.

Investment opportunities range from bank deposits and guaranteed investment certificates (GICs) to government bonds and corporate shares. Bank deposits and GIC's are insured by the Canada Deposit Insurance Corporation (CDIC) up to a maximum of $100,000, covering principal and interest. Schedule 2.2 of the Province of Alberta Condominium Property Regulation defines the authorized investment options. This section of the legislation should be reviewed prior to making any investment decisions.

The ability of condominium corporations to earn the highest return available in the marketplace, given the restricted conditions of investments, depends on the expertise of the corporation's financial management and the amount of available funds for investment.

Therefore, the reserve fund planner must consider management policies, the size of the reserve fund available for investment and the historical investment performance.

The benchmark calculations and the reserve fund projections assume that reserve fund contributions will be constantly and continuously invested.

The investment rate used for this analysis was determined by using the published interest rate of the National Bank of Canada for reserve fund investments. The investment rate is estimated to be **1.9%**.

3.6 IMPACT OF NEGATIVE REAL RATE OF RETURN

When the investment rate is consistently lower than the inflation rate, the real rate of return is negative and component repair/replacement costs rise faster than the invested savings. Consequently, owners must make up this difference by funding it directly. In a positive real rate of return environment, the savings grow faster than the replacement costs and the savings burden is lessened. It is important to understand, however, that inflation works on the entire replacement cost burden while the investment rate is working only on the amount saved. In the early days of a reserve fund, there is typically a large spread between these two values.

4 RESERVE COMPONENT ANALYSIS AND ESTIMATED COSTS

Several important steps are required to produce a reserve fund. One of those steps is to determine the reserve components. This is usually done by a review of the corporation's condominium plan and bylaws. Another step is to visit the site and confirm the presence and condition of the components. After those steps, various life estimates are made, and then a cost analysis of the components is performed.

4.1 PROPERTY INSPECTION

The building and site improvements were inspected on March 14 and July 12, 2018 by Susan and Alan Eyre.

4.2 COMPONENT CLASSIFICATION

Reserve components in this report are presented in substantially the same way that a building is constructed. We start with the foundation and superstructure, move to the exterior walls, the roof assembly, the electrical & mechanical systems, life safety systems, conveyancing systems, interior improvements, and, finally, the site improvements & services. Components not present on the project are omitted; therefore, some category numbers may be skipped.

4.3 LIFE SPAN ANALYSIS

It is important to understand that a life span analysis is a somewhat subjective assessment of the age properties of a reserve component. It tries to predict the service life, estimated age (or effective age), and estimated remaining life of the component. Furthermore, the life span of a reserve component is dependent on factors such as maintenance or extreme conditions.

4.3.1 "LIFE SPAN", "SERVICE LIFE", & "LIFE CYCLE"

The terms "life span", "service life", and "life cycle" are used in this document. They are defined as follows:

- "Life span", or "service life", is the time frame for which a component is expected to function as intended. Its service life may end due to outright failure, pending failure, or obsolescence.

- "Life cycle" is the time frame for which a component will be supported by the manufacturer or maintenance company. Once a component is at the end of its life cycle, otherwise known as "end of life" (EOL), a plan should be made for the replacement of the component. It may still be functioning, but when it fails, it will not be repairable.

4.3.2 NORMAL LIFE SPAN

Normal life span is defined as the period a reserve component is expected to last considering the following factors:

- Industry standard life expectancy
- Environmental conditions
- Preventive maintenance
- Functional obsolescence
- Life cycle

4.3.3 EFFECTIVE AGE

The effective age is defined as the relative age of a component within its normal life span, or life cycle, based on several factors:

- Actual age
- Observed condition
- Maintenance history
- Probability of hidden conditions
- Utilization mode

4.3.4 REMAINING LIFE

Given a normal life span estimate and a sound estimate of the effective age, the remaining life span of a reserve component is determined by subtracting the effective age from the normal life span.

This does not mean that reserve expenditures should only be made at the end of the remaining life. Reserve expenditures should be made at the "appropriate time" which we define as the time which best maintains occupant & visitor safety and protects common & personal property from damage that would occur from the sudden failure of the component. This exact time can be difficult to determine. However, regular inspections and evaluations by qualified people can narrow it down and provide a risk profile for the various replacement/repair timing options.

4.4 CURRENT COST ESTIMATE

The current cost estimate is defined as the estimated cost to replace a reserve component today. This cost estimate is based on the quantity involved and the installed price with removal where required. Cost data was obtained from internet research, contractor/supplier interviews, invoices (when available), contractor estimates (when available), and costing databases. For this analysis, the cost database used was RSMeans Commercial Renovation Cost Data 2017 edition. Its data was adjusted as to time, location, and currency (Canadian Dollars).

All costs are strictly estimates and are subject to confirmation at the time competitive bids are obtained from contractors specializing in the repair or replacement work required.

The following factors have been considered in calculating the repair and replacement cost estimates:

- **Quality of Construction:** Replacement cost estimates assume that work is completed by qualified contractors using current construction techniques and quality materials. Prices include contractors' overhead and profit. The costs of repairs and/or replacements of many reserve components are invariably higher than original building costs when contractors have considerable latitude in planning their work and can utilize economies of scale. In contrast, repair work must frequently be performed within certain constraints. As a result, cost estimates include additional expenses associated with safety installations, noise abatements, limited access, restricted work schedules and the convenience of the occupants.

- **Demolition and Disposal Costs:** The estimates also include provisions for demolition of the existing component and disposal costs. Dumping fees have been rising in recent years. It is believed that environmental regulations will become more stringent in the future, which will further increase disposal costs.

- **GST:** Non-commercial corporations pay GST on purchases without an offset credit; therefore, GST is included in the analysis.

- **Repair Contingency:** Some reserve components are expected to last the life of the property; however, they may require repair over time. It is difficult to forecast the incidence of repairs as it will depend on such

things as original construction deficiencies, extreme weather, and maintenance schedules. To deal with these types of reserve components, a repair contingency is established based on a percentage of the total estimated cost of replacement or on a direct cost estimate for the specific expected repairs.

- **Professional Fees:** Professional consulting fees are either included in the cost estimate for the component or presented separately in section 12 of the component list. If the fees would normally be part of the repair or replacement, then it is included with the component cost. If we feel an expert should be consulted before a repair is done, we highlight the expected costs in the professional fees section.

4.5 RESERVE COMPONENT DESCRIPTIONS

The following pages list each reserve fund component in table form and provides the following information:

- **Physical Description:** Provides some basic detail about the component in this project's application.
- **Potential Deterioration:** Provides a moderate level of detail regarding the factors that cause the deterioration of the component.
- **Condition Analysis:** Provides some insight into the condition of the component at the time of the site visit(s).
- **Type of Reserve Allocation:** Provides an explanation of what the allocated amount is for.
- **Life Cycle Analysis/Cost Estimates:** Summarizes the component's life variables, ***current cost*** to replace or repair, and estimated years the work will be done.

4.5.1.01 - SUBSTRUCTURE - FOOTINGS, COLUMNS, WALLS

Footings, Columns, Walls	
Physical Description	No structural plans were provided, but from the architectural plans, the building foundation consists of steel-reinforced poured concrete footings, columns and walls forming an underground parking garage. The parking garage ceiling forms a main level floor slab and extends past the building perimeter in three locations. These exterior portions of the floor slab are roofs in those locations and require a waterproofing system and a thermal layer as specified in the plans. Building plans called for water-proofing of the below grade concrete walls but a specification was not provided. There is a weeping tile drainage system under the parkade slab (150mm diameter weep tile) that eventually deposits collected water into the weep tile sump pit.
Potential Deterioration	Concrete can deteriorate due to several factors: Differential soil settlement or movement caused by improper compaction or by excessive drying or excessive moisture accumulation in the soil. Excessive lateral pressures caused by frost or hydrostatic pressures (both of which are water related causes). Improper curing due to rapid drying of fresh concrete. This issue is demonstrated by visible hair line fracturing or crack on the surface and eventual spalling. Corrosion of reinforcing materials within the concrete caused by chemical attack (soil or surface conditions - salts, acids, sulfates, alkali, etc.) or excessive moisture penetration which results in an expansion of the reinforcing material and potentially excessive compression forces on the concrete causing the concrete to break and fall away from the main body. Impact from vehicles. This is particularly evident in parking facilities as stalls are often very close to the structure's columns.
Condition Analysis	The condition of the underground parking garage structure and slab during our visit was good. There were a few settlement cracks noted on the slab, but nothing that was concerning. There was some leaking from the walls adjacent to parking stall #20 that are concerning. This location is also next to the storm water storage tank. There may be some leakage through the tank into the north exterior wall of the foundation as well as through the tank walls into the garage space. During our first visit, we also noted a very high humidity level in the underground parking garage. This condition resulted in condensation on the garage ceiling in some locations as well as on many metal and plastic components in the garage. Even galvanized metal components will corrode with sufficient exposure to moisture. We recommend exploring humidity reduction measures. Any persistent moisture on reinforced concrete structural components is a concern. Persistent moisture may lead to premature degradation of the reinforced concrete by the mode(s) indicated in the "Potential Deterioration" section. During our second site visit, we noted that a repair had been attempted at this location, but there was still moisture present. We recommend an inspection of the holding tank by an engineer with the appropriate experience. Please see the following **article**. During our first visit, we also noted a very high humidity level in the underground parking garage. This condition resulted in condensation on the garage ceiling in some locations as well as on many metal and plastic components in the garage. Even galvanized metal components will corrode with sufficient exposure to moisture. We recommend exploring humidity reduction measures.

Footings, Columns, Walls		
Type of Reserve Allocation	A repair contingency is provided for a basic engineering inspection, crack filling, and surface patching of the concrete during the repair cycle. No contingency has been provided for repairing the storm water storage tank as this is considered a warranty issue.	
Life Cycle Analysis/Cost Estimate	Year of Acquisition	2016
	Normal Life Span (repair cycle)	25 years
	Effective Age	2 years
	Remaining Life Span	23 years
	Estimated Year of Work	2041
	Expenditure Type	Repair Contingency
	Expenditure Estimate	$4,980

Figure 2 - Leaking from wall and onto slab.

Figure 3 - Leak patched but still leaking.

Figure 4 - Condensation on garage ceiling.

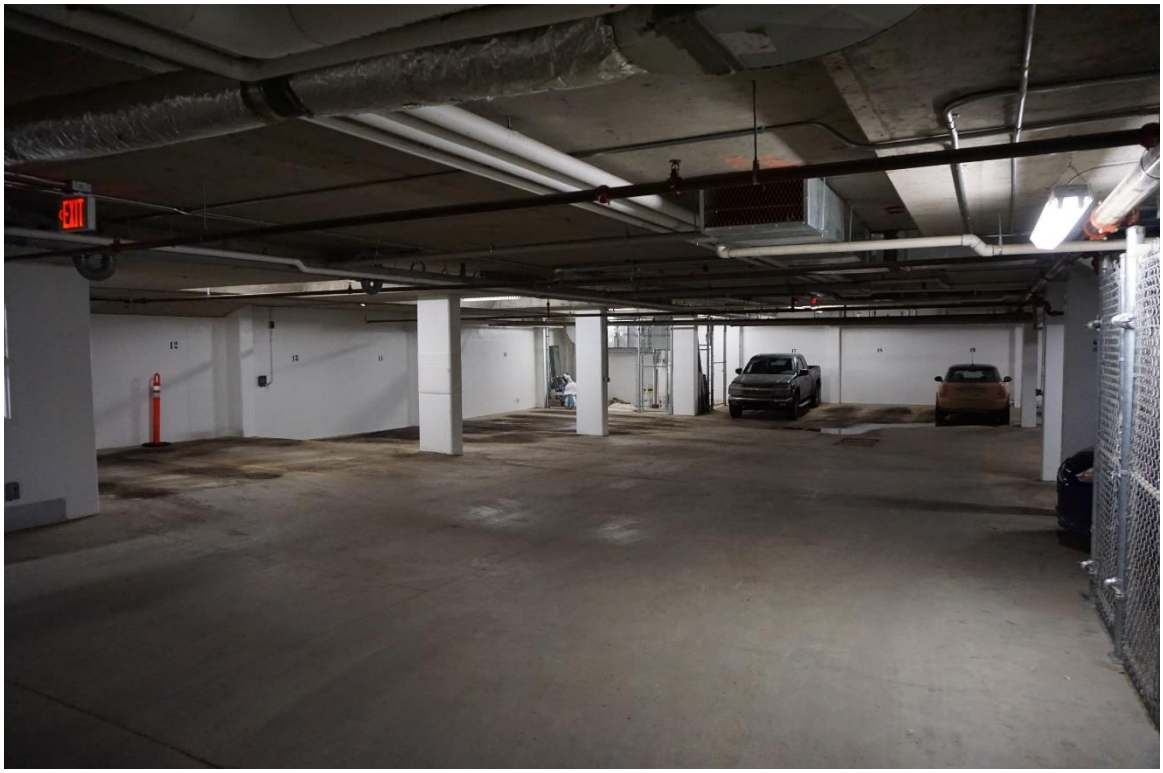


Figure 5 - Parking garage overview.

4.5.1.02 - SUBSTRUCTURE - PARKING GARAGE FLOOR SLAB

Parking Garage Floor Slab		
Physical Description	The parking garage floor slab is cast in place concrete of unknown thickness (no structural drawings provided). It is assumed to be 100mm thick and reinforced with either metal mesh or rebar. There is no coating and it is not clear if there has been any sealer applied.	
Potential Deterioration	Concrete slabs can deteriorate due to several factors: Differential soil settlement or movement caused by weight induced soil settlement, improper compaction of fill, or by excessive drying or excessive moisture accumulation in the soil. Improper curing due to rapid drying of fresh concrete. This issue is demonstrated by visible hair line fracturing or crack on the surface and eventual spalling. Cracking due to heaving or settling substrate Corrosion of reinforcing materials within the concrete caused by chemical attack (soil or surface conditions - salts, acids, sulfates, alkali, etc.) or excessive moisture penetration which results in an expansion of the reinforcing material and potentially excessive compressive/tensile forces on the concrete causing the concrete to break and fall away from the main body. Chemical reaction of the surface concrete to salts, acids, sulfates, and alkali resulting in spalling and loss of surface material. For a good article regarding parking garage preventative maintenance, please see the following **footnote**.	
Condition Analysis	The slab is new and in good condition. Some minor settlement cracking of the slab was noted during our visit. Our first visit was at the tail end of winter/early spring. As such, we noted significant salt staining on the slab in the parking stalls and around the nearby columns. Over time, this condition will inevitably work to deteriorate the surface of the stalls, laneway, and columns resulting in the requirement for expensive repairs. We recommend exploring options to protect the slab and 1 foot up the walls and columns.	
Type of Reserve Allocation	A placeholder allocation is provided to surface patch and fill cracks as required. Once a surface protection product is applied, or at the direction of the board, this section can be expanded to include replacement of or installation of a surface coating.	
Life Cycle Analysis/Cost Estimate	Year of Acquisition Normal Life Span (repair cycle) Effective Age Remaining Life Span Estimated Year of Work Expenditure Type Expenditure Estimate	2016 10 years 2 years 8 years 2026,2036 Repair Contingency $5,250

Figure 6 - Note the white salt staining on the slab.

Figure 7 - Minor settlement cracking.

4.5.2.01 - SUPERSTRUCTURE - STEEL POSTS, BEAMS, CANOPIES - CANOPY PAINT

Steel Posts, Beams, Canopies - Canopy Paint		
Physical Description	The building is equipped with painted square tube steel signage canopies.	
Potential Deterioration	Rusting is the most prominent issue with these steel components.	
Condition Analysis	While these components are new, the paint has deteriorated before its time. The condition during our visit in March was at end of life. During our second visit, we noted these components had been repainted (likely just top coated). However, the finish coat is already showing deterioration and will likely need attention next spring.	
Type of Reserve Allocation	A repair contingency has been provided for painting exterior canopy framing to mitigate rusting.	
Life Cycle Analysis/Cost Estimate	Year of Acquisition	2016
	Normal Life Span (repair cycle)	10 years
	Effective Age	9 years
	Remaining Life Span	1 years
	Estimated Year of Work	2019,2029,2039
	Expenditure Type	Repair Contingency
	Expenditure Estimate	$3,190

Figure 8 - Example steel signage canopy.

Figure 9 - Condition during our first visit. Top coating over this steel will not yield good results. Proper preparation must be done.

4.5.2.02 - SUPERSTRUCTURE - FRAMING, ABOVE GRADE FLOORS, & ROOF STRUCTURE

Framing, Above Grade Floors, & Roof Structure		
Physical Description	There are many superstructure components including various wall & floor types and the roof structure. This section excludes all sheathing and insulation as these items are handled in their associated sections (exterior walls, roofing, etc.). The basic construction of the walls and partitions is either wood or metal framing members. Floors are either reinforced concrete slab or wood engineered joist construction. The roof is engineered wood joist construction for the flat roof or wood sheathing for the sloped roof.	
Potential Deterioration	Metal and wood products can deteriorate in the presence of moisture and heat. If moisture is allowed to persist, the deterioration can be extraordinarily quick. Generally, this deterioration is limited to the sheathing, but sometimes it can affect the framing, or structural members as well. Wood can also warp, twist, or bow as it dries or absorbs moisture causing gypsum panels or non-flexible exterior finishes such as stucco to bulge or crack.	
Condition Analysis	The condition of the superstructure could not be seen directly as it is covered on both the exterior and interior. There were no obvious secondary signs of structural distress in the areas we viewed.	
Type of Reserve Allocation	The superstructure is anticipated to last the lifespan of the building; however, a nominal repair contingency has been provided every 25 years to replace damaged wood or metal framing and above grade concrete as required.	
Life Cycle Analysis/Cost Estimate	Year of Acquisition	2016
	Normal Life Span (repair cycle)	25 years
	Effective Age	2 years
	Remaining Life Span	23 years
	Estimated Year of Work	2041
	Expenditure Type	Repair Contingency
	Expenditure Estimate	$10,000

4.5.3.01 - EXTERIOR WALLS - BALCONY RAILINGS - GLASS

Balcony Railings - Glass		
Physical Description	The balcony & terrace railings are constructed of glass, framed with pre-finished aluminum rails. Frosted glass privacy barriers have been used between units and on the terrace.	
Potential Deterioration	Aluminum railings are strong, durable products. They are finished with a powder coating during manufacturing. This coating will not peel, flake, crack, or rust. Powder coated aluminum products can be painted; however, it is not recommended by the manufacturer as it is difficult to properly prepare the surface to accept site-applied paint and the life of the paint is short. This component can fade over time from UV and is subject to scratching. The screws that affix the railings together and to the building can become stressed through expansion & contraction cycles and through wind & weight forces. Glass is subject to scratching & etching and can be broken by impact.	
Condition Analysis	This was a new installation within the last two years. No deficiencies were noted, with the exception of a missing glass panel on a 2nd floor, west facing unit.	
Type of Reserve Allocation	An allocation has been made for the complete replacement of the balcony & terrace railings at the end of the estimated service life.	
Life Cycle Analysis/Cost Estimate	Year of Acquisition	2016
	Normal Life Span	25 years
	Effective Age	2 years
	Remaining Life Span	23 years
	Estimated Year of Work	2041
	Expenditure Type	Replacement
	Expenditure Estimate	$79,100

Figure 10 - Glass balcony railings and privacy glass between units.

4.5.3.02 - EXTERIOR WALLS - BRICK

Brick		
Physical Description	Brick has been used as one of the exterior wall components.	
Potential Deterioration	Precipitation and wind can cause erosion and efflorescence and the bricks & mortar can chip, break or be moved out of position by differential settlement and impact.	
Condition Analysis	This was a new installation within the last two years. Some staining was noted on the brick wall located on the west stairwell and at least one hole was noted by the sign bracket on the front of the building. It is recommended that all holes where water can enter be plugged.	
Type of Reserve Allocation	Properly installed, bricks can last the life of the building. A repair contingency has been provided every 25 years for repair or replacement of portions of the brick and mortar.	
Life Cycle Analysis/Cost Estimate	Year of Acquisition	2016
	Normal Life Span (repair cycle)	25 years
	Effective Age	2 years
	Remaining Life Span	23 years
	Estimated Year of Work	2041
	Expenditure Type	Repair Contingency
	Expenditure Estimate	$14,800

Figure 11 - Example of brick exterior walls.

Figure 12 - Some efflorescence on the bricks on the west side stairwell.

Figure 13 - Close-up of the hole by the sign bracket.

4.5.3.03 - EXTERIOR WALLS - CAULKING

Caulking		
Physical Description	Caulking is a flexible material that provides a water-resistant seal of the gaps between dissimilar materials. There is caulking around the store front window frames and the service room doors.	
Potential Deterioration	Sealants fail over time with exposure to weather extremes and UV. Organic sealants fail sooner than silicone sealants.	
Condition Analysis	This was a new installation in the last two years. No deficiencies were noted.	
Type of Reserve Allocation	An allocation is made for the removal, surface preparation, and application of new caulk at the end of the estimated service life.	
Life Cycle Analysis/Cost Estimate	Year of Acquisition Normal Life Span Effective Age Remaining Life Span Estimated Year of Work Expenditure Type Expenditure Estimate	2016 12 years 2 years 10 years 2028,2040 Replacement $2,600

4.5.3.04 - EXTERIOR WALLS - DOORS - BALCONY

Doors - Balcony		
Physical Description	There are two styles of balcony doors in the building; a custom, aluminum, 4-panel, sliding door on the south facing 4th floor units and an aluminum garden door with an IGU on all other residential suites.	
Potential Deterioration	Balcony doors are affected by weather damage such as UV rays and oxidation as well as by wear and tear, misuse and vandalism. The seals in insulating glass units (IGUs) can fail over time leading to foggy glass and loss of insulating ability.	
Condition Analysis	This was a new installation within the last two years. Balcony doors were only viewed in two units. No deficiencies were noted.	
Type of Reserve Allocation	An allocation has been made for the complete replacement of the balcony doors at the end of the estimated service life. No provision has been made for hardware replacements on individual unit doors as the by-laws identify these items as a unit owner responsibility.	
Life Cycle Analysis/Cost Estimate	Year of Acquisition Normal Life Span Effective Age Remaining Life Span Estimated Year of Work Expenditure Type Expenditure Estimate	2016 35 years 2 years 33 years Beyond study Replacement $34,300

Figure 14 - Sliding glass balcony door.

Figure 15 - Garden balcony door.

4.5.3.05 - EXTERIOR WALLS - DOORS - METAL

Doors - Metal		
Physical Description	There are three different types of metal doors in the building; hollow core full panel doors, hollow core full panel doors with vision lites, and a louvered metal door on the gas room. In addition, the garbage room door has a bottom louver for air exchange. These doors are equipped with a variety of hardware such as hinges, closers, handles, locks/deadbolts, panic hardware, kick plates, blocker plates, thresholds, weather-stripping, etc.	
Potential Deterioration	Exterior doors are affected by environmental factors such as UV exposure, weather, and humidity changes. Failure modes include damaged or shrinking seals and weather-stripping, warping of the door slab, and building structural shifts. Doors and frames are also subject to scratching and denting. Mechanical parts such as hinges, latches, and panic hardware can fail through wear and tear.	
Condition Analysis	This was a new installation within the last year. No deficiencies were noted with the exception of the gas room door, which is starting to rust.	
Type of Reserve Allocation	An allocation has been made for repair or replacement of items that are likely to fail or require repair and for painting of the doors and frames. No provision has been made for hardware replacements on individual unit doors as the by-laws identify these items as a unit owner responsibility.	
Life Cycle Analysis/Cost Estimate	Year of Acquisition Normal Life Span (repair cycle) Effective Age Remaining Life Span Estimated Year of Work Expenditure Type Expenditure Estimate	2016 10 years 2 years 8 years 2026,2036 Repair Contingency $4,900

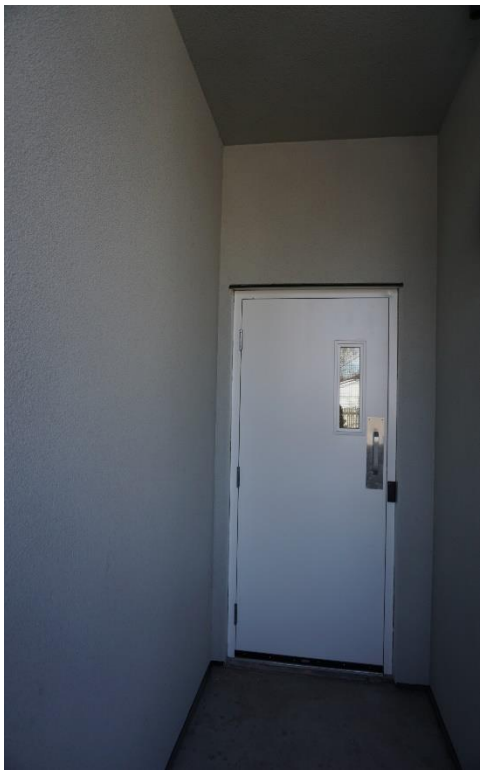


Figure 16 - Example of an exterior, painted, hollow core metal door with vision lite.

Figure 17 - Louvered metal gas room door.

4.5.3.06 - EXTERIOR WALLS - DOORS - OVERHEAD

Doors - Overhead		
Physical Description	The parkade is serviced by an insulated metal overhead door with an electric operator.	
Potential Deterioration	An overhead door can fade over time from UV and is subject to scratching, denting and creasing from impact. The overhead door has a factory applied baked on finish, so painting is not required as the coating will not peel, flake, crack, or rust. The operator is subject to mechanical wear & tear over repeated open/close cycles.	
Condition Analysis	This was a new installation within the last two years. No deficiencies were noted.	
Type of Reserve Allocation	An allocation has been made for the replacement of the overhead door (with all associated door components) and the door operator at the end of the estimated service life.	
Life Cycle Analysis/Cost Estimate	Year of Acquisition	2016
	Normal Life Span	25 years
	Effective Age	2 years
	Remaining Life Span	23 years
	Estimated Year of Work	2041
	Expenditure Type	Replacement
	Expenditure Estimate	$6,800

Figure 18 - Overhead door to the parkade.

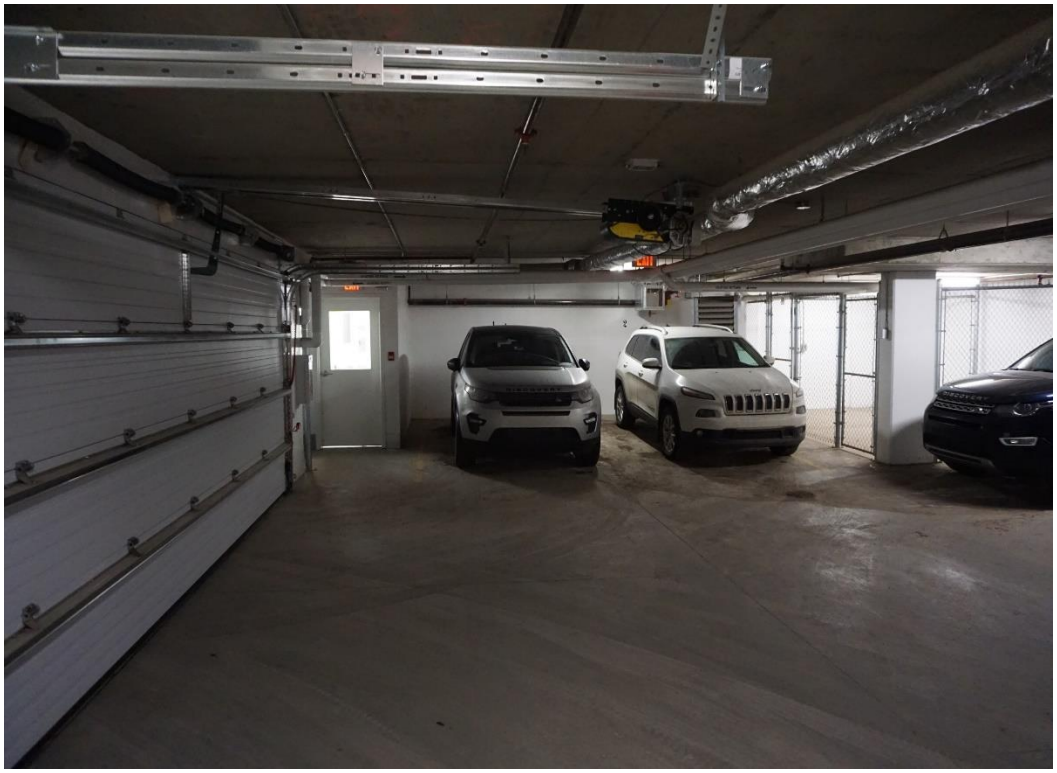


Figure 19 - Interior view of the parkade overhead door and door opener mounted on the ceiling.

4.5.3.07 - EXTERIOR WALLS - DOORS - ROLLING SERVICE

Doors - Rolling Service		
Physical Description	The garbage room has two steel rolling service doors with steel frames.	
Potential Deterioration	A steel rolling service door can rust and fade over time from weather and UV exposure and is subject to scratching and denting from impact.	
Condition Analysis	This was a new installation within the last two years. No deficiencies were noted.	
Type of Reserve Allocation	An allocation has been made for the replacement of the rolling service doors & metal frames at the end of the estimated service life.	
Life Cycle Analysis/Cost Estimate	Year of Acquisition	2016
	Normal Life Span	35 years
	Effective Age	2 years
	Remaining Life Span	33 years
	Estimated Year of Work	Beyond study
	Expenditure Type	Replacement
	Expenditure Estimate	$9,200

Figure 20 - Rolling service doors to the garbage room.

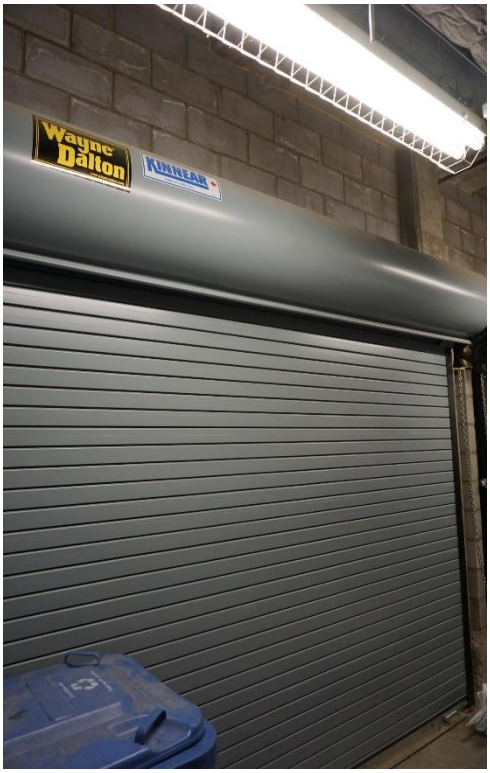


Figure 21 - Interior view of the garbage room doors.

4.5.3.08 - EXTERIOR WALLS - DOORS - STOREFRONT

Doors - Storefront		
Physical Description	The building has 15 aluminum framed glass doors on ground level. Double doors are located at the front entrance, front entrance vestibule, and the west & north daycare entrances. Single doors are located on the commercial units and on the 2nd floor terrace access. These doors are equipped with a variety of hardware such as hinges, door closers, pull handles, locks/deadbolts, panic hardware, thresholds, weather-stripping, etc. In particular, the front entrance and vestibule doors are outfit with automatic door openers.	
Potential Deterioration	Storefront doors are heavily used building components; they experience many open-close cycles each year and are exposed to weather extremes and rough handling. Mechanical parts such as hinges, latches, and panic hardware can fail through wear and tear. Electrical components such as automatic door operators are subject to temperature extremes and current surges. The seals in insulating glass units (IGUs) can fail over time. Door frames can become tired looking with wear and tear, but otherwise are quite resilient.	
Condition Analysis	This was a new installation within the last year. No deficiencies were noted.	
Type of Reserve Allocation	It is difficult to predict the precise time that a complete door replacement will be required. However, it is easy to predict that various component parts will fail or require repair after the building goes into operation. An allocation is made for repair or replacement of items that are likely to fail or require repair. No provision has been made for hardware replacements on individual unit doors as the by-laws identify these items as a unit owner responsibility.	
Life Cycle Analysis/Cost Estimate	Year of Acquisition Normal Life Span (repair cycle) Effective Age Remaining Life Span Estimated Year of Work Expenditure Type Expenditure Estimate	2016 15 years 2 years 13 years 2031 Repair Contingency $9,000

Figure 22 - Double and single storefront doors.

4.5.3.09 - EXTERIOR WALLS - EIFS - "STUCCO"

EIFS - "Stucco"		
Physical Description	The building is substantially clad with an exterior insulation and finish system (EIFS).	
Potential Deterioration	The primary issues with EIFS are improper installation, impact damage (equipment, birds, vandalism), building movement causing cracking or buckling, delamination of the lamina or the insulation, and water penetration causing secondary damage. Improper installation often leads to the other issues (except impact), but the other issues can occur even with proper installation. If installed correctly, modern EIFS systems use some type of moisture drainage system to help remove moisture that gets behind the outer layers. EIFS installation requirements are beyond the scope of a reserve fund study. We refer the reader to the "EIFS Practice Manual" authored by the EIFS Council of Canada for specifics or retain a stucco expert for evaluation.	
Condition Analysis	The EIFS was installed in 2016 and appears to be in good condition. There appears to be two bird holes on the east elevation. We recommend that these holes be repaired to prevent water intrusion behind the system. We did not see any visible signs of problematic water damage at this time.	
Type of Reserve Allocation	Given the variety of issues that can occur with EIFS and the variation in severity of those issues, it is difficult to predict a life expectancy for the entire system. Therefore, a repair contingency is provided every 5 years to repair impact damage, such as that caused by birds, and cracks due to other causes such as structural movement or settlement. It is important that any required repairs be undertaken immediately and not to wait for the 5-year cycle provided in this report. This cycle time is for analysis purposes.	
Life Cycle Analysis/Cost Estimate	Year of Acquisition	2016
	Normal Life Span (repair cycle)	5 years
	Effective Age	2 years
	Remaining Life Span	3 years
	Estimated Year of Work	2021,2026,2031,2036,2041
	Expenditure Type	Repair Contingency
	Expenditure Estimate	$5,000

Figure 23 - EFIS on the east elevation.

Figure 24 - Close-up of the bird hole.

4.5.3.10 - EXTERIOR WALLS - METAL CLADDING PANELS

Metal Cladding Panels		
Physical Description	The exterior finish also includes factory-finished metal panels.	
Potential Deterioration	These panels are a life of a building product and degrade primarily due to UV exposure or exposure to corrosives. However, they can also scratch or dent due to equipment bumps or rubs, people rubbing against the panels with protrusions such as tools or keys, severe hail, or vandalism. Regular cleaning to extend the life of the panels is recommended.	
Condition Analysis	This component was a new installation within the last year. No deficiencies were noted.	
Type of Reserve Allocation	It is difficult to predict a life expectancy for these panels. Therefore, a modest repair contingency is provided every 10 years.	
Life Cycle Analysis/Cost Estimate	Year of Acquisition Normal Life Span (repair cycle) Effective Age Remaining Life Span Estimated Year of Work Expenditure Type Expenditure Estimate	2016 10 years 2 years 8 years 2026,2036 Repair Contingency $3,000

Figure 25 - Factory-finished metal panels.

4.5.3.11 - EXTERIOR WALLS - WINDOWS

Windows		
Physical Description	The project has a combination of fixed, casement, and awning windows of varying sizes. The frames are vinyl on the interior & vinyl clad in metal on the exterior with IGU's.	
Potential Deterioration	In an insulating glass unit (IGU) window, the most significant issue for deterioration is seal failure due to the construction method and subsequent exposure to temperature differentials (repeated expansion-contraction cycles) leading to moisture infiltration of the unit, condensation and staining on the interior of the glazing panels, and a loss of thermal performance. Loss of thermal performance can have secondary effects such as discomfort of the occupant and condensation on window surfaces if interior humidity levels rise too high for the outside temperature – potentially resulting in wood frame and drywall damage. Another effect is higher energy bills, but this is likely to be a minimal impact. Metal frames are durable but can scratch or dent and will fade over time from UV exposure. The interior vinyl jambs are impervious to moisture and will not require any refinishing.	
Condition Analysis	This was a new installation within the last two years. No deficiencies were noted.	
Type of Reserve Allocation	An allocation has been made for the complete replacement of the windows and frames at the end of the estimated service life. No provision has been included for window screens, hardware or weather-stripping as these components are the responsibility of the unit owner in accordance with the by-laws.	
Life Cycle Analysis/Cost Estimate	Year of Acquisition Normal Life Span Effective Age Remaining Life Span Estimated Year of Work Expenditure Type Expenditure Estimate	2016 35 years 2 years 33 years Beyond study Replacement $141,500

Figure 26 - Example of a combination fixed & casement window.

4.5.3.12 - EXTERIOR WALLS - WINDOWS - CURTAIN WALL

Windows - Curtain Wall		
Physical Description	A curtain wall window system is located on the west side of the building servicing the stairwell. A curtain wall is a non-load-bearing exterior wall system consisting of vertical and horizontal metal framing members and glass (IGU's) that hangs from the floor slab (like a curtain) and spans multiple floors.	
Potential Deterioration	Aluminum frames are durable but can scratch or dent and will fade over time from UV exposure. In an insulating glass unit (IGU) window, the most significant issue for deterioration is seal failure due to the construction method and subsequent exposure to temperature differentials (repeated expansion-contraction cycles) leading to moisture infiltration of the unit, condensation and staining on the interior of the glazing panels, and a loss of thermal performance. Loss of thermal performance can have secondary effects such as discomfort of the occupant and condensation on window surfaces if interior humidity levels rise too high for the outside temperature – potentially resulting in wood frame and drywall damage. Another effect is higher energy bills, but this is likely to be a minimal impact. Curtain wall systems tend to have a longer life than storefront systems as they have stronger frames and given their anchoring system are better able to accommodate movement caused by thermal and wind stresses and building settlement.	
Condition Analysis	This was a new installation within the last two years. No deficiencies were noted.	
Type of Reserve Allocation	An allocation has been made for the complete replacement of the curtain wall window system at the end of the estimated service life.	
Life Cycle Analysis/Cost Estimate	Year of Acquisition	2016
	Normal Life Span	45 years
	Effective Age	2 years
	Remaining Life Span	43 years
	Estimated Year of Work	Beyond study
	Expenditure Type	Replacement
	Expenditure Estimate	$16,100

Figure 27 - Curtain wall window system in the west stairwell.

4.5.3.13 - EXTERIOR WALLS - WINDOWS - STOREFRONT

Windows - Storefront		
Physical Description	Storefront windows are found on the main floor of the building. These windows consist of perimeter and intermediate aluminum framing with fixed glazing (IGU) that is inserted in a building facade opening.	
Potential Deterioration	Aluminum frames are durable but can scratch or dent and will fade over time from UV exposure. In an insulating glass unit (IGU) window, the most significant issue for deterioration is seal failure due to the construction method and subsequent exposure to temperature differentials (repeated expansion-contraction cycles) leading to moisture infiltration of the unit, condensation and staining on the interior of the glazing panels, and a loss of thermal performance. Loss of thermal performance can have secondary effects such as discomfort of the occupant and condensation on window surfaces if interior humidity levels rise too high for the outside temperature – potentially resulting in wood frame and drywall damage. Another effect is higher energy bills, but this is likely to be a minimal impact.	
Condition Analysis	This was a new installation within the last two years. No deficiencies were noted.	
Type of Reserve Allocation	An allocation has been made for the complete replacement of the storefront window system at the end of the estimated service life.	
Life Cycle Analysis/Cost Estimate	Year of Acquisition Normal Life Span Effective Age Remaining Life Span Estimated Year of Work Expenditure Type Expenditure Estimate	2016 35 years 2 years 33 years Beyond study Replacement $79,400

Figure 28 - Storefront window system on the main floor.

4.5.4.01 - ROOF ASSEMBLY - BALCONY MEMBRANE

Balcony Membrane		
Physical Description	There are twelve balconies covered with a vinyl water proof membrane. This water proofing system comes complete with metal flashing.	
Potential Deterioration	Vinyl is reasonably durable but is susceptible to UV degradation, abrasion, and puncture. Manufacturers add UV stabilizers or screens to prolong the life of the product. Sharp objects should be kept clear and furniture should be lifted not dragged. Any punctures should be repaired promptly.	
Condition Analysis	The vinyl areas were installed in 2016 and are in good condition. No issues were noticed or reported.	
Type of Reserve Allocation	An allocation is provided for the complete replacement of the vinyl membrane system including removal and disposal of the existing material at the end of the service life.	
Life Cycle Analysis/Cost Estimate	Year of Acquisition	2016
	Normal Life Span	20 years
	Effective Age	2 years
	Remaining Life Span	18 years
	Estimated Year of Work	2036
	Expenditure Type	Replacement
	Expenditure Estimate	$21,410

Figure 29 - Typical balcony vinyl water proofing membrane.

4.5.4.02 - ROOF ASSEMBLY - INVERTED ROOFS - TERRACE & UPPER BALCONY

Inverted Roofs - Terrace & Upper Balcony		
Physical Description	The terrace and the fourth-floor balconies are covered with an inverted roof consisting of two ply SBS membrane, covered by drainage mat, rigid insulation, and protection board (terrace only), adjustable pedestals, and decking material. The terrace also supports cementitious block planters.	
Potential Deterioration	Inverted roofs are inherently better protected than standard two ply flat roof systems. The water protection membrane is protected from temperature extremes and UV exposure. They are also protected from puncture and abrasion damage when properly installed. The ballast protects the membrane from hail damage. However, all materials wear out eventually and need to be replaced. Bitumen products are no different and eventually dry and shrink thereby allowing moisture to penetrate the barrier. Also, there is a potential for blisters to form between the roof deck and the membrane if interior moisture is not managed properly.	
Condition Analysis	As this is an inverted roof, it was not possible to view the membrane. The roof is only a couple of years old and is expected to be in very good condition. No reports of leaks or other issues where presented to the planners during our initial site inspection or during any conversations with the board or the manager.	
Type of Reserve Allocation	An allocation is provided for the removal & disposal of the existing membranes and protection board, removal of the terrace planters, removal of the ballast system (decking and pedestals), repair of a percentage of the roof insulation and sheathing (where applicable), the installation of a new two-ply SBS membrane complete with flashings, replacement of a percentage of the decking material and pedestals, and reinstallation of the planters on the terrace at the end of the estimated service life.	
Life Cycle Analysis/Cost Estimate	Year of Acquisition Normal Life Span Effective Age Remaining Life Span Estimated Year of Work Expenditure Type Expenditure Estimate	2016 50 years 2 years 48 years Beyond study Replacement $132,900

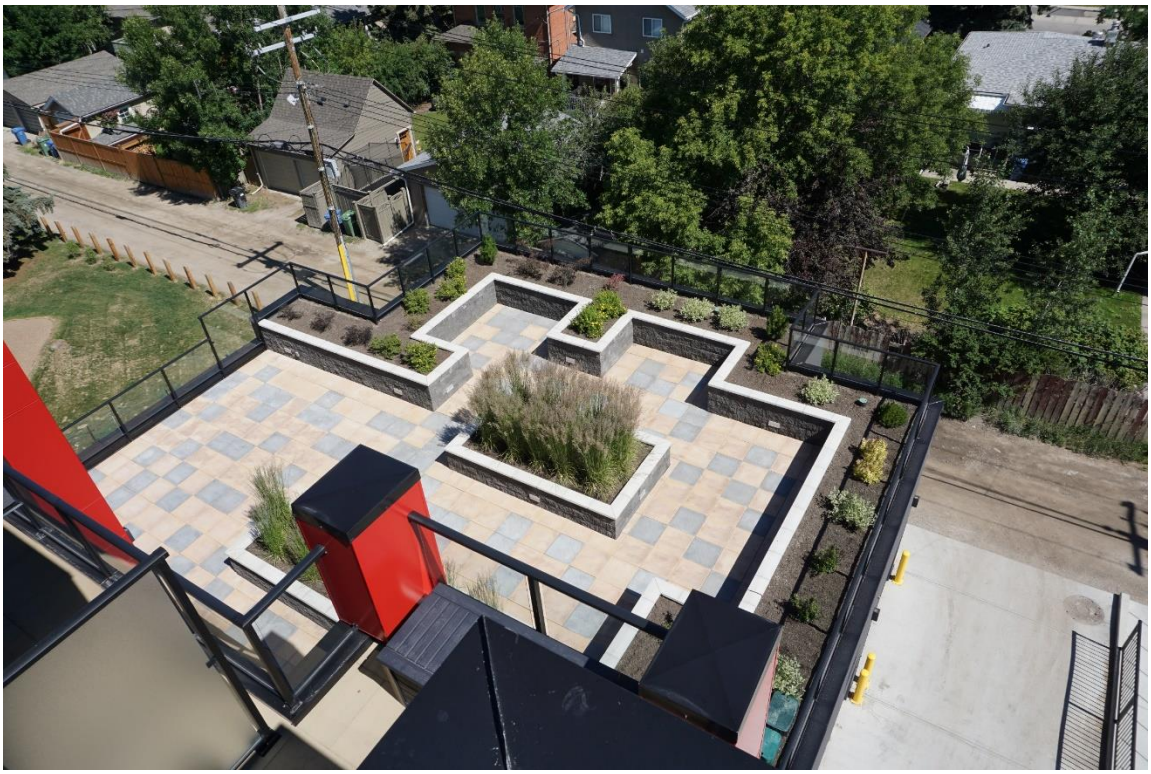


Figure 30 - View of the 2nd floor terrace.

Figure 31 - Typical roof covering on the 4th floor decks.

4.5.4.03 - ROOF ASSEMBLY - MBM TORCHED ROOFS - LOW SLOPE SBS

MBM Torched Roofs - Low Slope SBS		
Physical Description	Some of the building roofs are covered with a standard application of a two ply SBS modified bitumen membrane over a protection board and sloped ridged insulation.	
Potential Deterioration	There are several causes of failure with this type of roof. Extreme temperature changes and differentials in expansion rates of the various connecting materials is one cause. UV degradation is another major cause. As a roof ages due to UV exposure, it becomes dry and brittle and loses its ability to expand and contract to the same degree as when it was new. As a result, the roofing material begins to separate from the flashings (at edge and in the field). Subsequently, cracks open and water infiltrates. Another potential issue is with trapped moisture. This could be due to the presence of moisture during installation (a light rain) or due to vapor migration from the interior of the building. The vapor/moisture can cause blisters as the pressure builds during heating resulting in stretching of the membrane. Repeated stretching (heating) and shrinking (cooling) cycles can cause failures of the blister as can stepping on them. Puncture (dropping items on the roof) or abrasion (walking on the roof) can damage or shorten the life of the membrane.	
Condition Analysis	The roof is only a couple of years old and appeared to be in very good condition with no signs of premature wear. There was some standing water on the roof near the drains. It was approaching 48 hours since the last rain. It is likely the water would have evaporated by the next day. Typically, there should be no standing water on the roof 48-72 hours after a rain event. We found a nail on the roof, but it had not penetrated the membrane. It is recommended to remove all debris from the roof regularly to ensure no premature degradation of the membrane and to reduce the likelihood of puncture damage. Check after each maintenance event. It is recommended to have the roofs inspected on a regular basis to catch issues early when they are less costly to repair. A roof inspector will typically check the seams, upturns, and flashings, among other items, to identify potential leak areas. Check your warranty details before ordering repairs.	
Type of Reserve Allocation	An allocation is provided for the removal & disposal of the existing membranes and protection board, repair of a percentage of the roof insulation and sheathing, the installation of a new two-ply SBS membrane complete with flashings at the end of the estimated service life.	
Life Cycle Analysis/Cost Estimate	Year of Acquisition	2016
	Normal Life Span	30 years
	Effective Age	2 years
	Remaining Life Span	28 years
	Estimated Year of Work	Beyond study
	Expenditure Type	Replacement
	Expenditure Estimate	$82,300

Figure 32 - Roof over 4th floor. Standing water present approaching the 48 hour mark.

4.5.4.04 - ROOF ASSEMBLY - PLAZA/PODIUM MEMBRANE

Plaza/Podium Membrane		
Physical Description	Some sections of the parking garage ceiling/roof protrude past the building footprint forming a plaza. The exact water proofing method has not been determined as it is not specified in the documentation provided. If an admixture such as Kyrton's KIM was used, then the water proofing is considered permanent and it is possible no reserve is required. However, since we are unsure about the technology used, we provide a reserve estimate for a flexible applied membrane.	
Potential Deterioration	All applied roofing membranes wear and fail over time, even if they are protected by insulation and hardscaping. They tend to dry and shrink or crack. Building movement can also strain the membrane.	
Condition Analysis	None of the parking garage water proofing membrane was visible during the site visit. There were no reports of leaking in these areas from the board of the manager.	
Type of Reserve Allocation	An allocation is provided for the removal & disposal of the existing concrete overburden, insulation & membranes, and for the installation of a new membrane with insulation and new concerte overlay at the end of the estimated service life.	
Life Cycle Analysis/Cost Estimate	Year of Acquisition	2016
	Normal Life Span	40 years
	Effective Age	2 years
	Remaining Life Span	38 years
	Estimated Year of Work	Beyond study
	Expenditure Type	Replacement
	Expenditure Estimate	$84,500

4.5.5.01 - ELECTRICAL SYSTEMS - EXTERIOR LIGHTING & OTHER ELECTRICAL COMPONENTS

Exterior Lighting & Other Electrical Components		
Physical Description	The building has several types of exterior commercial grade lighting fixtures including; wall mounted LED down and up/down fixtures, recessed LED pot lights, security lighting, wall mounted fluorescent lights, and pathway lighting on the rooftop garden with photocell operation. There are also a number of exterior weatherproof electrical outlets.	
Potential Deterioration	Moisture, wind, UV, and extreme temperature swings all have an impact and can erode finishes & seals, stress electrical components and contacts, and affect the structural elements such as the aluminum or steel cases. Run time also deteriorates the LED lamps and drivers.	
Condition Analysis	This was a new installation within the last two years. No deficiencies were noted.	
Type of Reserve Allocation	An allocation has been made for the complete replacement of these components at the end of their estimated service life. LED lamps are rated for very high hours (up to 100,000 hours in some cases). We have de-rated claimed expected life due to historical overstatements of performance from manufacturers. Funding provision has not been included for the exterior lighting and electrical outlets on the Privacy Areas as the repair or replacement of those components is considered a unit owner responsibility in accordance with the By-laws.	
Life Cycle Analysis/Cost Estimate	Year of Acquisition Normal Life Span Effective Age Remaining Life Span Estimated Year of Work Expenditure Type Expenditure Estimate	2016 17 years 2 years 15 years 2033 Replacement $33,200

Figure 33 - Wall mounted LED down and up/down light fixtures.

Figure 34 - Recessed LED pot lights at the front entrance.

Figure 35 - Wall mounted fluorescent lighting on the parkade ramp.

4.5.5.02 - ELECTRICAL SYSTEMS - INTERCOM & ACCESS CONTROL

Intercom & Access Control		
Physical Description	The building is equipped with a Kantech KT-300 intercom and an 8-door card access system.	
Potential Deterioration	Physical wear and tear, weather exposure, electrical component failure, and technological obsolescence are all deterioration factors.	
Condition Analysis	These components were newly installed within the last two years. No deficiencies were noted.	
Type of Reserve Allocation	A provision is made for the complete replacement of these components at the end of their estimated service life.	
Life Cycle Analysis/Cost Estimate	Year of Acquisition	2016
	Normal Life Span	15 years
	Effective Age	2 years
	Remaining Life Span	13 years
	Estimated Year of Work	2031
	Expenditure Type	Replacement
	Expenditure Estimate	$11,800

Figure 36 - Intercom system and access card reader.

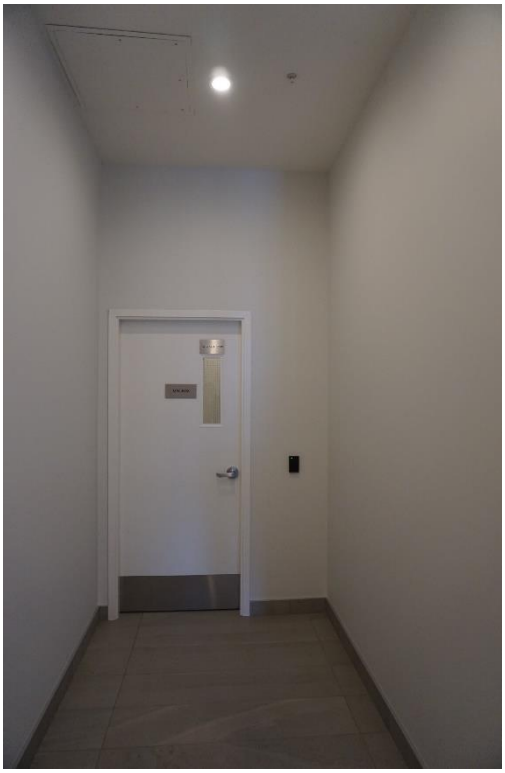


Figure 37 - Access card reader on the mail room door.

4.5.5.03 - ELECTRICAL SYSTEMS - INTERIOR LIGHTING & OTHER ELECTRICAL COMPONENTS

Interior Lighting & Other Electrical Components		
Physical Description	The building has several types of interior commercial grade lighting fixtures including; wall mounted LED wall sconces, recessed LED pot lights, pendant lighting, and wall or ceiling mounted fluorescent lights. There are also a number of light switches, electrical outlets, and electric baseboard heaters.	
Potential Deterioration	For interior applications, the primary factors that can deteriorate the components are moisture, excessive heat, and power cycling. Generally, power cycling LED units reduces service life as does a high operating temperature.	
Condition Analysis	This was a new installation within the last two years. No deficiencies were noted.	
Type of Reserve Allocation	An allocation has been made for the complete replacement of these components at the end of their estimated service life.	
Life Cycle Analysis/Cost Estimate	Year of Acquisition Normal Life Span Effective Age Remaining Life Span Estimated Year of Work Expenditure Type Expenditure Estimate	2016 25 years 2 years 23 years 2041 Replacement $60,800

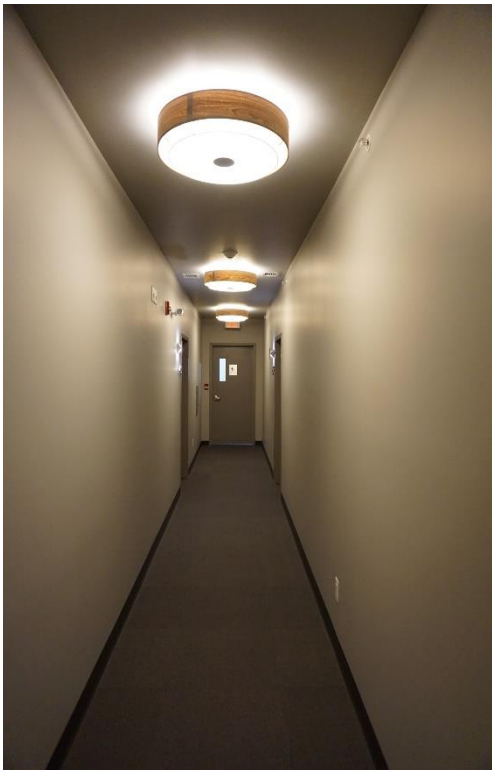


Figure 38 - Typical ceiling mounted pendant fixtures and wall mounted sconces beside the suite numbers.

Figure 39 - Pendant, wall sconce and recessed pot lights in the main lobby.

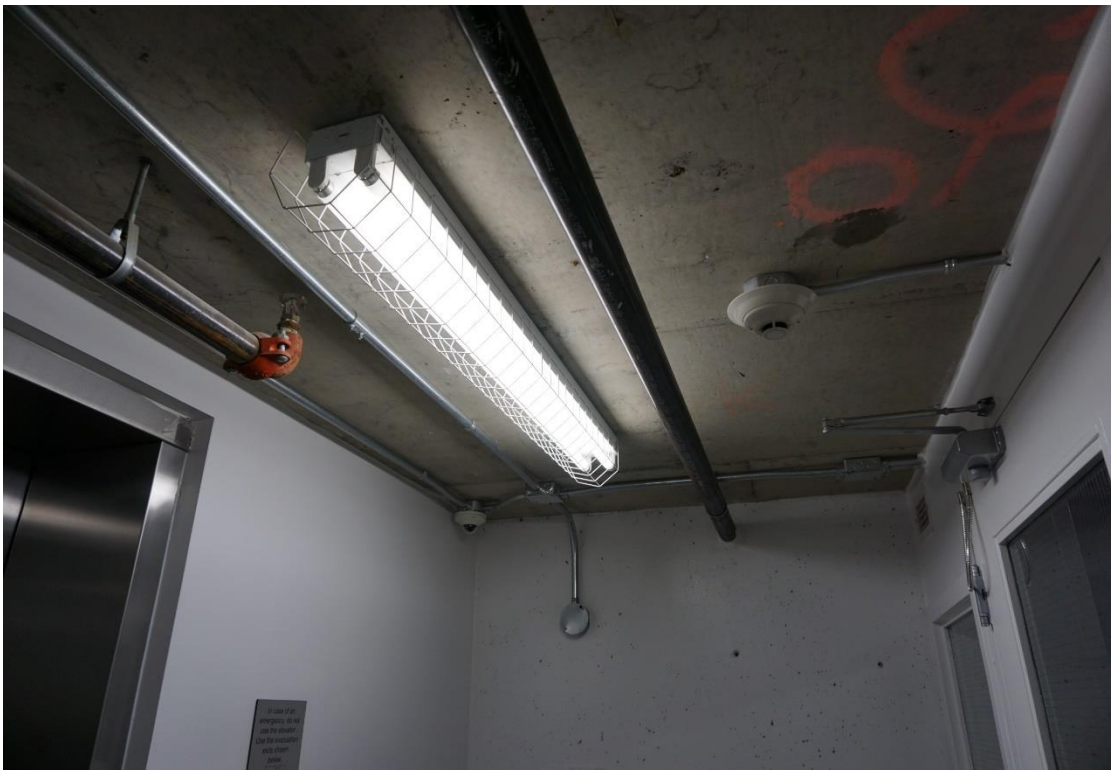


Figure 40 - Ceiling mounted fluorescent light fixture with metal cage in the parkade.

4.5.5.04 - ELECTRICAL SYSTEMS - POWER DISTRIBUTION

Power Distribution		
Physical Description	There are a number of components that make up the building's electrical system including, the main disconnect panel, meter center with disconnects, house breaker panels, as well as wiring and conduits.	
Potential Deterioration	Many of the items are robust given their location. Some components are susceptible to excessive heat (breakers, transformers); while other components are susceptible to excess wear from repeated use (disconnect switches and fuse clips for example). Circuit breakers are also prone to obsolescence. Therefore, attention should be paid to the end of life announcements from the manufacturer so there is an opportunity to purchase spare breakers before they are no longer available. New panelboards can be quite expensive (up to $7500). Wiring, in building and underground, and conduit is expected to last indefinitely.	
Condition Analysis	These components were installed within the last two years. No deficiencies were noted.	
Type of Reserve Allocation	An allocation is made for a partial replacement of some of the more expensive, and more likely to fail or partially fail, items such as the main disconnect switch, and some panelboard breakers. No funding provision has been made for in-suite breaker panels as they are the responsibility of the unit owner to repair or replace in accordance with the By-laws.	
Life Cycle Analysis/Cost Estimate	Year of Acquisition	2016
	Normal Life Span (repair cycle)	25 years
	Effective Age	2 years
	Remaining Life Span	23 years
	Estimated Year of Work	2041
	Expenditure Type	Repair Contingency
	Expenditure Estimate	$26,600

Figure 41 - Main distribution panel with disconnects.

Figure 42 - Meter centre.

Figure 43 - Main house panel.

4.5.5.05 - ELECTRICAL SYSTEMS - SECURITY CAMERA SYSTEM

Security Camera System		
Physical Description	The building is equipped with a security camera system consisting of seven cameras and a 16-channel NVR (network video recorder).	
Potential Deterioration	Electronic components deteriorate and fail with age. They are also subject to technological obsolescence as the performance of electronics improves quickly.	
Condition Analysis	These components were newly installed within the last two years. No deficiencies were noted.	
Type of Reserve Allocation	An allocation has been made for the complete replacement of these components at the end of their estimated service life.	
Life Cycle Analysis/Cost Estimate	Year of Acquisition	2016
	Normal Life Span	10 years
	Effective Age	2 years
	Remaining Life Span	8 years
	Estimated Year of Work	2026,2036
	Expenditure Type	Replacement
	Expenditure Estimate	$6,500

Figure 44 - Security camera system in a locked cabinet.

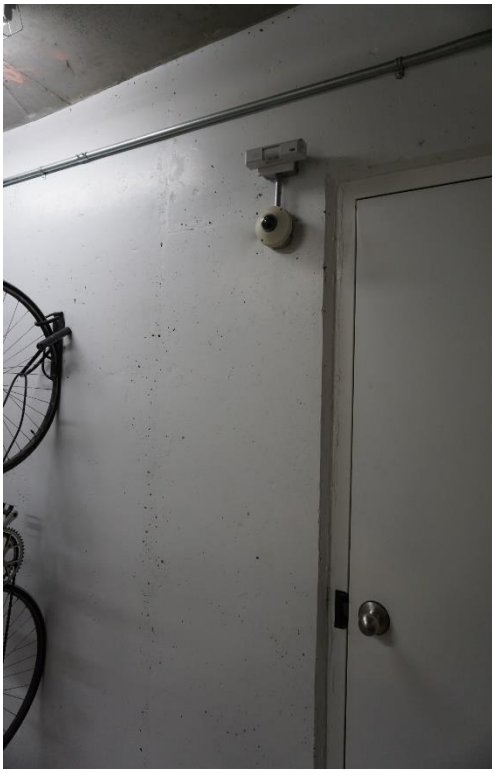


Figure 45 - Example of a security camera.

4.5.6.01 - MECHANICAL SYSTEMS - BACKFLOW DEVICES

Backflow Devices		
Physical Description	Backflow prevention devices help protect the public safety by preventing potable water contamination. This section discusses the building backflow devices that are connected to domestic water system, the irrigation water system, the boiler feed system and the fire sprinkler system.	
Potential Deterioration	The working components of a backflow prevention device (seal rings, O-rings, check springs, seats, and poppet assemblies) can fail due to mechanical wear and tear and blockage by sediment or debris in the water. Testing revels the need for repair and several factors determine whether a repair can be done or if replacement is the best option. Generally, a back-flow device can be repaired as the typical wear items are as above. However, mineral deposits may damage metal parts, or parts may no longer be available, so replacement is either more economical or necessary.	
Condition Analysis	This was a new installation within the last two years. No deficiencies were noted. The backflow devices are currently inspected annually and maintained by Reggin Technical Services Ltd.	
Type of Reserve Allocation	An allocation has been made for the complete replacement of the backflow prevention devices at the end of the estimated service life.	
Life Cycle Analysis/Cost Estimate	Year of Acquisition Normal Life Span Effective Age Remaining Life Span Estimated Year of Work Expenditure Type Expenditure Estimate	2016 25 years 2 years 23 years 2041 Replacement $6,900

Figure 46 - Two domestic water system backflow prevention devices.

Figure 47 - Irrigation system backflow prevention device.

4.5.6.02 - MECHANICAL SYSTEMS - BOILER

Boiler		
Physical Description	The building is heated by two RBI Futera II, 1,000,000 BTU (1,000 MBH), gas-fired, high efficiency condensing boilers. In addition, an RBI Futera II, 500,000 BTU (500 MBH), gas-fired, high efficiency condensing boiler services the commercial units.	
Potential Deterioration	The most common cause of boiler deterioration is oxygen and minerals in the water that lead to the deterioration of the metal boiler components. In addition, heat produced by a boiler can cause damage to the components over time. Poor maintenance and cleaning programs can reduce a boiler's lifespan.	
Condition Analysis	This was a new installation within the last two years. No deficiencies were noted.	
Type of Reserve Allocation	An allocation has been made for the complete replacement of the boilers (including associated valves, fittings & controllers) at the end of the estimated service life.	
Life Cycle Analysis/Cost Estimate	Year of Acquisition	2016
	Normal Life Span	25 years
	Effective Age	2 years
	Remaining Life Span	23 years
	Estimated Year of Work	2041
	Expenditure Type	Replacement
	Expenditure Estimate	$95,700

Figure 48 - One of two 1000 MBH heating boilers.

Figure 49 - 500 MBH boiler servicing the commercial units.

4.5.6.03 - MECHANICAL SYSTEMS - CHEMICAL FEED SYSTEM

Chemical Feed System		
Physical Description	The heating system includes a chemical feed system consisting of a glycol mix tank & pump, chemical pot feeders & micron filters. The glycol mix tank & pump stores and mixes the glycol for the heating system. The pot feeder is used to introduce water treatment chemicals into the closed loop circulating system. The micron filter protects against debris by filtering suspended particles in the water mixture.	
Potential Deterioration	The working components of the chemical feed system can fail due to mechanical and electrical wear and tear, blockage by sediment or debris and chemical corrosion.	
Condition Analysis	This was a new installation within the last two years. No deficiencies were noted.	
Type of Reserve Allocation	An allocation has been made for the complete replacement of the various components of the chemical feed system at the end of the estimated service life.	
Life Cycle Analysis/Cost Estimate	Year of Acquisition	2016
	Normal Life Span	15 years
	Effective Age	2 years
	Remaining Life Span	13 years
	Estimated Year of Work	2031
	Expenditure Type	Replacement
	Expenditure Estimate	$5,400

Figure 50 - Chemical mix tank (clear tank with green top) and the domestic hot water expansion tank (small cream-colored tank).

Figure 51 - Micron filter and chemical pot feeder.

4.5.6.04 - MECHANICAL SYSTEMS - DOMESTIC HOT WATER CIRCULATION SYSTEM

Domestic Hot Water Circulation System		
Physical Description	Copper piping distributes hot water for domestic use throughout the building.	
Potential Deterioration	This piping is vulnerable to erosion caused by excessive flow velocity or corrosion caused by aggressive water chemistry. The most frequently affected areas are bends, elbows, and tees. Over time, piping can thin and develop leaks.	
Condition Analysis	This was a new installation within the last two years. The domestic hot water recirculation lines were inaccessible for visual inspection as they are either wrapped in insulation or located behind walls or ceilings.	
Type of Reserve Allocation	A contingency for repair or partial replacement of the domestic hot water recirculation lines, insulation, and associated drywall repairs has been included every 20 years.	
Life Cycle Analysis/Cost Estimate	Year of Acquisition	2016
	Normal Life Span (repair cycle)	20 years
	Effective Age	2 years
	Remaining Life Span	18 years
	Estimated Year of Work	2036
	Expenditure Type	Repair Contingency
	Expenditure Estimate	$22,500

4.5.6.05 - MECHANICAL SYSTEMS - DOMESTIC HOT WATER EXPANSION TANK

Domestic Hot Water Expansion Tank		
Physical Description	The domestic hot water system includes an expansion tank. An expansion tank will reduce the pressure on the hot water tank that is created when water is heated and expands.	
Potential Deterioration	The diaphragm in the expansion tank can fail through wear and tear and improper pressure balance. The tank can also start rusting and begin to leak.	
Condition Analysis	This was a new installation within the last two years. No deficiencies were noted.	
Type of Reserve Allocation	An allocation has been made for the complete replacement of the expansion tank at the end of its estimated service life.	
Life Cycle Analysis/Cost Estimate	Year of Acquisition	2016
	Normal Life Span	12 years
	Effective Age	2 years
	Remaining Life Span	10 years
	Estimated Year of Work	2028,2040
	Expenditure Type	Replacement
	Expenditure Estimate	$500

4.5.6.06 - MECHANICAL SYSTEMS - DOMESTIC HOT WATER HEATER

Domestic Hot Water Heater		
Physical Description	Domestic hot water is provided by two Bradford White, 75-gallon, gas fired hot water heaters and circulated through the building by a recirculation pump.	
Potential Deterioration	Sediment in the water, high heat, and pressure over a period of time will cause the tank liner to crack. Once the liner has been compromised, water comes in contact with the steel tank and it will begin to rust and leak. Recirculation pumps can fail through mechanical wear and tear and are vulnerable to corrosion.	
Condition Analysis	This was a new installation within the last two years. No deficiencies were noted.	
Type of Reserve Allocation	An allocation has been made for the complete replacement of the domestic hot water tanks and the recirculation pump at the end of the estimated service life.	
Life Cycle Analysis/Cost Estimate	Year of Acquisition Normal Life Span Effective Age Remaining Life Span Estimated Year of Work Expenditure Type Expenditure Estimate	2016 12 years 2 years 10 years 2028,2040 Replacement $25,600

Figure 52 - Bradford White domestic hot water tanks.

Figure 53 - Domestic hot water recirculation pump (P-1) and insulated hot and cold-water lines.

4.5.6.07 - MECHANICAL SYSTEMS - EXHAUST FANS - PARKADE

Exhaust Fans - Parkade		
Physical Description	The parkade exhaust fan and controls are located in the caged area adjacent to stalls 16 & 17. The exhaust fan draws contaminated air from the parkade and discharges it outside the building. It is interlocked with the parkade make-up air unit. There are also three parkade transfer fans located in stall 2, stall 9, and in the storage room.	
Potential Deterioration	Exhaust fans can fail through both mechanical and electrical wear and tear.	
Condition Analysis	This was a new installation within the last two years. During the first inspection it was noted that the exhaust fan was covered with condensation.	
Type of Reserve Allocation	An allocation has been made for the complete replacement of the exhaust fans & controls at the end of the estimated service life.	
Life Cycle Analysis/Cost Estimate	Year of Acquisition Normal Life Span Effective Age Remaining Life Span Estimated Year of Work Expenditure Type Expenditure Estimate	2016 25 years 2 years 23 years 2041 Replacement $21,500

Figure 54 - Parkade exhaust fan.

Figure 55 - Parkade exhaust fan controls.

Figure 56 - Condensation on the underside of the parkade exhaust fan.

Figure 57 - One of three parkade transfer fans.

4.5.6.08 - MECHANICAL SYSTEMS - HEATING SYSTEM EXPANSION TANK & AIR SEPARATOR

Heating System Expansion Tank & Air Separator		
Physical Description	The heating system is equipped with one expansion tank & air separator on the residential boilers and one expansion tank & air separator on the commercial boiler. An expansion tank will reduce the pressure that is created when water is heated and expands. An air separator will remove air bubbles from the heating water before it reaches the pumps to eliminate or reduce cavitation.	
Potential Deterioration	The diaphragm in the expansion tank can fail through wear and tear and improper pressure balance. The tank can also start rusting and begin to leak. The working components of an air separator can fail due to mechanical wear and tear and blockage by sediment or debris in the water. The separator is also subject to scale and corrosion over time.	
Condition Analysis	This was a new installation within the last two years. No deficiencies were noted.	
Type of Reserve Allocation	An allocation has been made for the complete replacement of the expansion tanks and air separators at the end of the estimated service life.	
Life Cycle Analysis/Cost Estimate	Year of Acquisition	2016
	Normal Life Span	18 years
	Effective Age	2 years
	Remaining Life Span	16 years
	Estimated Year of Work	2034
	Expenditure Type	Replacement
	Expenditure Estimate	$13,100

Figure 58 - Expansion tank for the residential boilers (red tank).

Figure 59 - Expansion tank for the commercial boiler.

4.5.6.09 - MECHANICAL SYSTEMS - HEATERS - CABINET FORCED FLOW

Heaters - Cabinet Forced Flow		
Physical Description	There are five, force flow, hydronic, cabinet unit heaters servicing the front and rear entrances.	
Potential Deterioration	If the boiler water is not properly treated the radiator piping can deteriorate and leaks can occur. The cabinets themselves can also be damaged by impact.	
Condition Analysis	This was a new installation within the last two years. No deficiencies were noted.	
Type of Reserve Allocation	An allocation has been made for complete replacement of the cabinet unit heaters at the end of the estimated service life.	
Life Cycle Analysis/Cost Estimate	Year of Acquisition	2016
	Normal Life Span	20 years
	Effective Age	2 years
	Remaining Life Span	18 years
	Estimated Year of Work	2036
	Expenditure Type	Replacement
	Expenditure Estimate	$23,100

Figure 60 - Force flow heater in the front entrance vestibule.

4.5.6.10 - MECHANICAL SYSTEMS - HEATERS - UNIT

Heaters - Unit		
Physical Description	There are four ceiling suspended, hydronic unit heaters; three in the parkade and one in the rooftop mechanical room.	
Potential Deterioration	Unit heaters can fail through both mechanical and electrical wear and tear.	
Condition Analysis	This was a new installation within the last two years. No deficiencies were noted.	
Type of Reserve Allocation	An allocation has been made for the complete replacement of the unit heaters at the end of the estimated service life.	
Life Cycle Analysis/Cost Estimate	Year of Acquisition	2016
	Normal Life Span	13 years
	Effective Age	2 years
	Remaining Life Span	11 years
	Estimated Year of Work	2029,2042
	Expenditure Type	Replacement
	Expenditure Estimate	$21,900

Figure 61 - Hydronic unit heater in the parkade.

4.5.6.11 - MECHANICAL SYSTEMS - HEATING CIRCULATION SYSTEM

Heating Circulation System		
Physical Description	The heating circulation system includes the water supply & return piping, the circulating pumps & controls and the zone valves servicing the various radiation units. Each boiler has two pumps that move heated water from the boilers, through steel supply piping, to the various radiation units and back to the boilers through steel return piping. The zone valve on each radiation unit controls the flow of water to the equipment based on instructions from the thermostat.	
Potential Deterioration	Circulation pumps & zone valves can fail through mechanical wear and tear and are vulnerable to corrosion. Heating supply and return piping has a long life (approximately 30 years) but can be affected by flow-accelerated corrosion and by aggressive water chemistry if not properly maintained. In addition to these more predictable type of failures, these components are also subject to freeze up. Mechanical room temperature monitoring and notification is important.	
Condition Analysis	This was a new installation within the last two years. The heating supply and return piping was inaccessible for visual inspection as they were either wrapped in insulation or located behind walls or ceilings. Of the components that could be viewed, no deficiencies were noted.	
Type of Reserve Allocation	An allocation has been made for the complete replacement of the circulation pumps & controllers and the zone valves at the end of the estimated service life. This component also includes a contingency for repair or partial replacement of supply and return piping, insulation, and associated drywall repairs. In accordance with the By-laws the thermostats and the baseboard perimeter radiation units within each suite are a unit owner responsibility.	
Life Cycle Analysis/Cost Estimate	Year of Acquisition Normal Life Span (repair cycle) Effective Age Remaining Life Span Estimated Year of Work Expenditure Type Expenditure Estimate	2016 15 years 2 years 13 years 2031 Repair Contingency $34,200

Figure 62 - Boiler recirculating pump (P-3).

Figure 63 - Insulated hot water supply and return lines.

4.5.6.12 - MECHANICAL SYSTEMS - MAKEUP AIR UNIT - HALLWAYS

Makeup Air Unit - Hallways		
Physical Description	The hallways are serviced by a 320,000 BTU Engineered Air makeup air unit (MUA) located in the rooftop mechanical room. The unit brings in outdoor air, filters it, heats or cools it as necessary and distributes it throughout the building. A MUA unit ensures fresh air is brought into the building to improve indoor air quality. It works in conjunction with the exhaust system to maintain positive pressure in the building so that outside doors open easily, so that odors in the common areas are minimized and back drafting of the products of combustion are eliminated.	
Potential Deterioration	Make-up air units are made up of mechanical and electrical components (air filters, supply fans and heating & cooling coils) and are; therefore, susceptible to both mechanical and electrical failures caused by corrosion, wear and tear and inadequate maintenance.	
Condition Analysis	This was a new installation within the last two years. No deficiencies were noted.	
Type of Reserve Allocation	An allocation has been made for the complete replacement of the makeup air unit at the end of the estimated service life.	
Life Cycle Analysis/Cost Estimate	Year of Acquisition Normal Life Span Effective Age Remaining Life Span Estimated Year of Work Expenditure Type Expenditure Estimate	2016 20 years 2 years 18 years 2036 Replacement $42,000

Figure 64 - Engineered Air hallway make-up air unit (MUA).

4.5.6.13 - MECHANICAL SYSTEMS - MUA CONDENSING UNIT - HALLWAYS

MUA Condensing Unit - Hallways		
Physical Description	A York condensing unit provides the cooled air for the hallway makeup air unit.	
Potential Deterioration	Condensing units are made up of mechanical and electrical components (compressor, fan, filters, and condenser coils) and are; therefore, susceptible to both mechanical and electrical failures caused by wear and tear and inadequate maintenance.	
Condition Analysis	This was a new installation within the last two years. No deficiencies were noted.	
Type of Reserve Allocation	An allocation has been made for the complete replacement of the condensing unit at the end of the estimated service life.	
Life Cycle Analysis/Cost Estimate	Year of Acquisition	2016
	Normal Life Span	20 years
	Effective Age	2 years
	Remaining Life Span	18 years
	Estimated Year of Work	2036
	Expenditure Type	Replacement
	Expenditure Estimate	$21,000

Figure 65 - Hallway MUA condensing unit

4.5.6.14 - MECHANICAL SYSTEMS - MAKEUP AIR UNIT - PARKADE

Makeup Air Unit - Parkade		
Physical Description	The parkade is serviced by an Engineered Air makeup air unit (MUA) suspended from the ceiling of the garbage room. This unit brings in outdoor air, filters & heats it as necessary, and distributes it throughout the parkade, offsetting air exhausted by the CO-monitor controlled exhaust fan.	
Potential Deterioration	Make-up air units are made up of mechanical and electrical components (air filters, supply fans and heating & cooling coils) and are; therefore, susceptible to both mechanical and electrical failures caused by corrosion, wear and tear and inadequate maintenance.	
Condition Analysis	This was a new installation within the last two years. No deficiencies were noted.	
Type of Reserve Allocation	An allocation has been made for the complete replacement of the makeup air unit at the end of the estimated service life.	
Life Cycle Analysis/Cost Estimate	Year of Acquisition	2016
	Normal Life Span	30 years
	Effective Age	2 years
	Remaining Life Span	28 years
	Estimated Year of Work	Beyond study
	Expenditure Type	Replacement
	Expenditure Estimate	$21,000

Figure 66 - Parkade make-up air unit (MUA).

4.5.6.15 - MECHANICAL SYSTEMS - PLUMBING SYSTEM COMPONENTS

Plumbing System Components		
Physical Description	Plumbing system components include; the domestic cold-water supply lines, hose bibbs, service sink, sanitary drain lines & floor drains, and storm drain lines servicing the roof drains.	
Potential Deterioration	Plumbing system components can fail due to wear and tear, misuse, blockages and freeze-ups.	
Condition Analysis	This was a new installation within the last two years. Most of the components were inaccessible for visual inspection as they were either wrapped in insulation or located behind walls or ceilings. Of the components that could be viewed, no deficiencies were noted.	
Type of Reserve Allocation	A contingency for repair or partial replacement of the plumbing system components has been included every 15 years.	
Life Cycle Analysis/Cost Estimate	Year of Acquisition Normal Life Span (repair cycle) Effective Age Remaining Life Span Estimated Year of Work Expenditure Type Expenditure Estimate	2016 15 years 2 years 13 years 2031 Repair Contingency $10,200

Figure 67 - Insulated domestic cold-water lines.

Figure 68 - Frost-free hose bibb.

Figure 69 - Service sink and faucet.

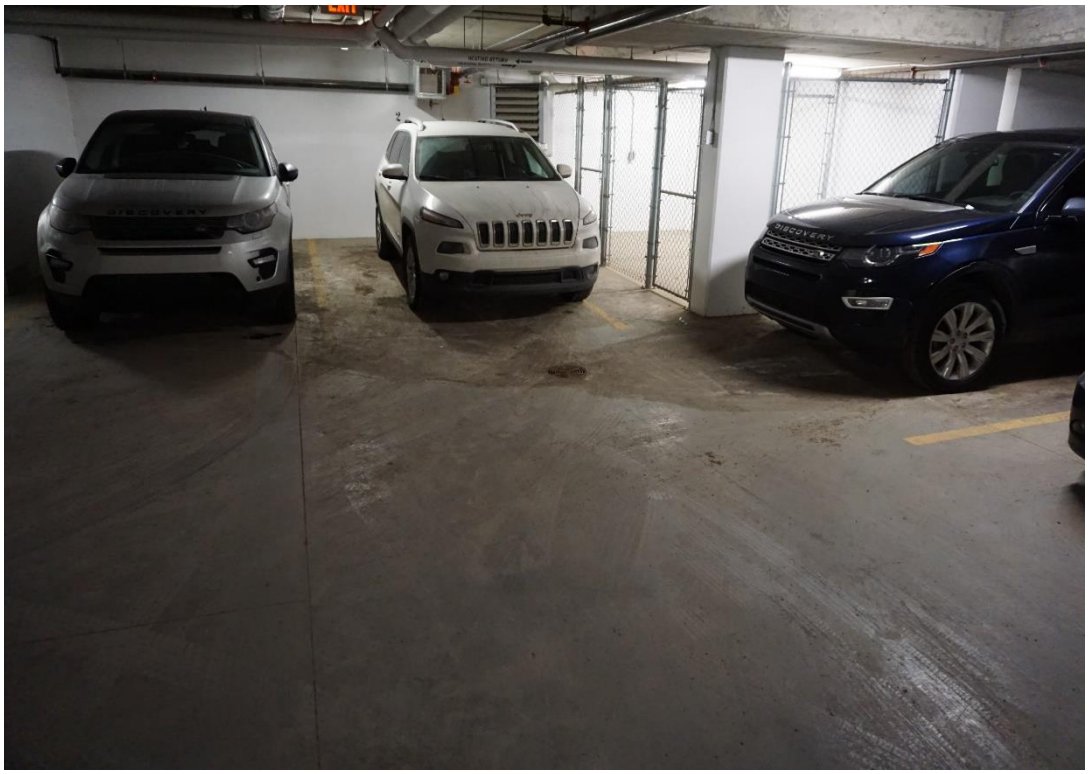


Figure 70 - Parkade floor drain.

4.5.6.16 - MECHANICAL SYSTEMS - SNOW MELT SYSTEM - HYDRONIC

Snow Melt System - Hydronic		
Physical Description	The ramp is serviced by a hydronic snow melt system that is operated by a control board located in the caged area adjacent to the parkade entrance. In a hydronic system, hot water & glycol are circulated through tubing installed under the surface of the ramp.	
Potential Deterioration	The system controller, like other electric components, can degrade over time through regular wear and tear and voltage fluctuations. The heat exchanger, expansion tank, glycol feed tank, and circulation pumps can fail through mechanical wear and tear and are vulnerable to corrosion. The tubing embedded in the concrete can break or leak due to settlement or shifting ground. Failure of the glycol system can lead burst piping due to freeze-up.	
Condition Analysis	The snow melt system was not tested however it was a new installation within the last two years and no operational issues were reported.	
Type of Reserve Allocation	An allocation has been made for the complete replacement of the control, heating and circulating portion of the snow melt system and a contingency has been included for repairs to the embedded tubing. Although the numerous components that make up the snow melt system have varying estimated service lives, an average estimated service life of 25 years has been used.	
Life Cycle Analysis/Cost Estimate	Year of Acquisition Normal Life Span Effective Age Remaining Life Span Estimated Year of Work Expenditure Type Expenditure Estimate	2016 25 years 2 years 23 years 2041 Replacement $25,100

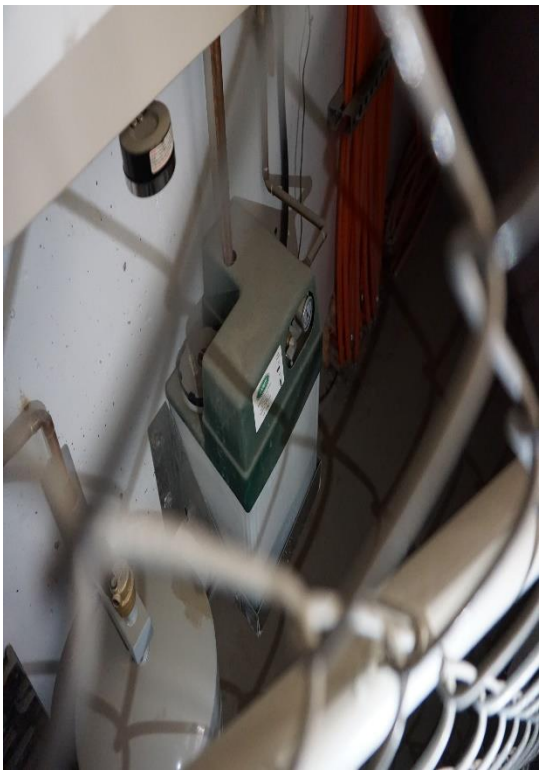


Figure 71 - Snow melt system controller.

4.5.6.17 - MECHANICAL SYSTEMS - SUMP PUMPS

Sump Pumps		
Physical Description	The mechanical plans show eight submersible sump pumps, servicing the sanitary system, weeping tile system, storm system, and storm water retention system. In addition, an elevator sump system provides protection in the elevator pit. If water levels in the elevator pit rise, the controller turns on the pump. The water is pumped into the sanitary system and any oil is retained in the elevator sump pit.	
Potential Deterioration	The working components of a sump pump can fail due to mechanical and electrical wear and tear and blockage by sediment or debris in the water.	
Condition Analysis	Although the sump pumps could not be viewed, the sump pumps and controller systems were a new installation within the last two years. No deficiencies were noted.	
Type of Reserve Allocation	An allocation has been made for the complete replacement of the sump pump systems at the end of the estimated service life.	
Life Cycle Analysis/Cost Estimate	Year of Acquisition	2016
	Normal Life Span	10 years
	Effective Age	2 years
	Remaining Life Span	8 years
	Estimated Year of Work	2026,2036
	Expenditure Type	Replacement
	Expenditure Estimate	$34,100

Figure 72 - Sump cage with three basin covers. The sump pumps are located at the bottom of the basins.

Figure 73 - Controller for the elevator sump pump.

4.5.7.01 - LIFE SAFETY SYSTEMS - CARBON MONOXIDE DETECTOR

Carbon Monoxide Detector		
Physical Description	The parking garage is serviced by two carbon monoxide/nitrogen dioxide detectors. When CO or NO2 levels rise from the bi-products of vehicular combustion, the CO/NO2 detector will signal the parkade exhaust fan to remove the contaminated air. The parkade MUA unit will then bring in fresh outside air to maintain pressurization in the parkade.	
Potential Deterioration	Dust, dirt and other contaminates can negatively affect the operation of a CO/NO2 detector. Like other electronic components, a CO monitor will degrade over time through voltage fluctuations and regular wear and tear. The manufacturer recommends testing and calibration a minimum of twice per year.	
Condition Analysis	The operation of the CO/NO2 detectors were not tested; however, they were newly installed within the last two years.	
Type of Reserve Allocation	An allocation has been made for the complete replacement of the CO/NO2 detectors at the end of the estimated service life.	
Life Cycle Analysis/Cost Estimate	Year of Acquisition	2016
	Normal Life Span	10 years
	Effective Age	2 years
	Remaining Life Span	8 years
	Estimated Year of Work	2026,2036
	Expenditure Type	Replacement
	Expenditure Estimate	$1,700

Figure 74 - CO/NO2 detector on the wall of stall 13.

4.5.7.02 - LIFE SAFETY SYSTEMS - FIRE ALARM - 10 YEAR COMPONENTS

Fire Alarm - 10 Year Components		
Physical Description	The building is equipped with a fire alarm system, including; a fire alarm panel, pull stations, smoke/heat detectors, horns & strobes, exit signs, emergency lighting, and fire extinguishers. 10-year components include smoke/heat detectors, exit signs, and emergency lighting.	
Potential Deterioration	Electronic components can degrade over time through regular wear and tear and voltage fluctuations. In particular; dust, dirt and other contaminates can negatively affect the operation of smoke & heat detectors. These components are also subject to technological obsolescence and changes in building and safety codes.	
Condition Analysis	This was a new installation within the last two years. No deficiencies were noted. The system was last inspected in January 2018 by Jas Electrical Contractors Inc.	
Type of Reserve Allocation	An allocation has been made for the complete replacement of the smoke/heat detectors, exit signs, and emergency lighting at the end of the estimated service life.	
Life Cycle Analysis/Cost Estimate	Year of Acquisition Normal Life Span Effective Age Remaining Life Span Estimated Year of Work Expenditure Type Expenditure Estimate	2016 10 years 2 years 8 years 2026,2036 Replacement $41,200

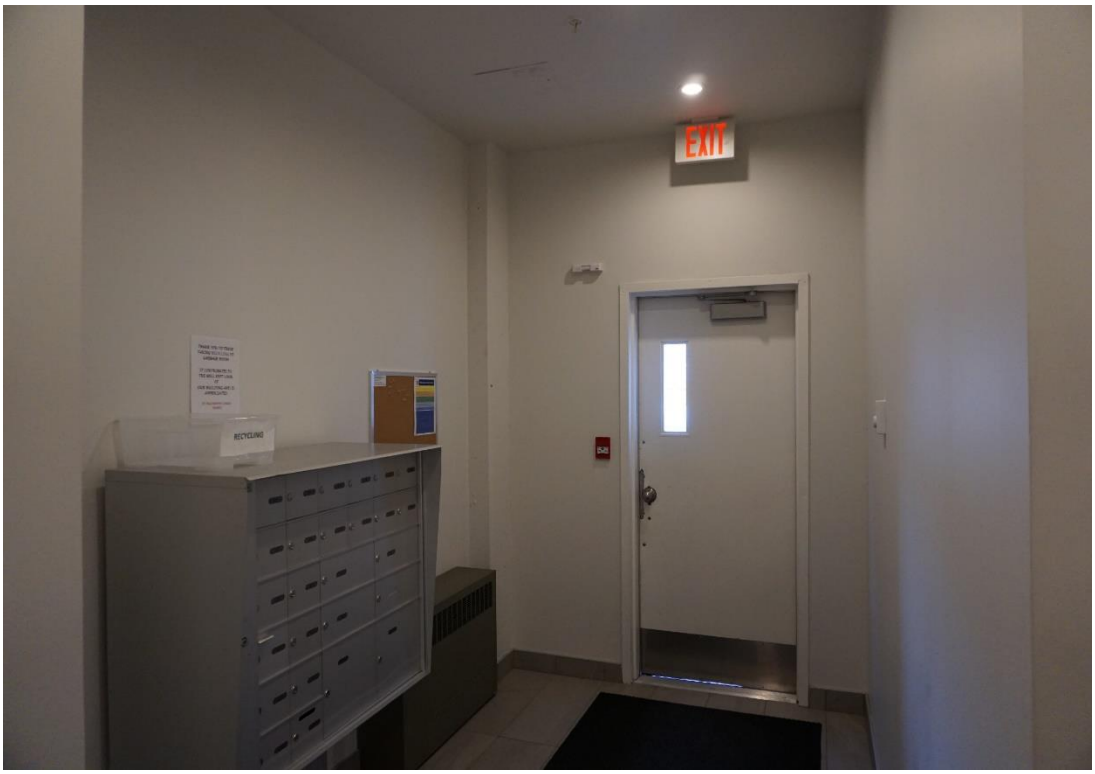


Figure 75 - Exit sign and pull station.

Figure 76 - Emergency lighting battery pack unit.

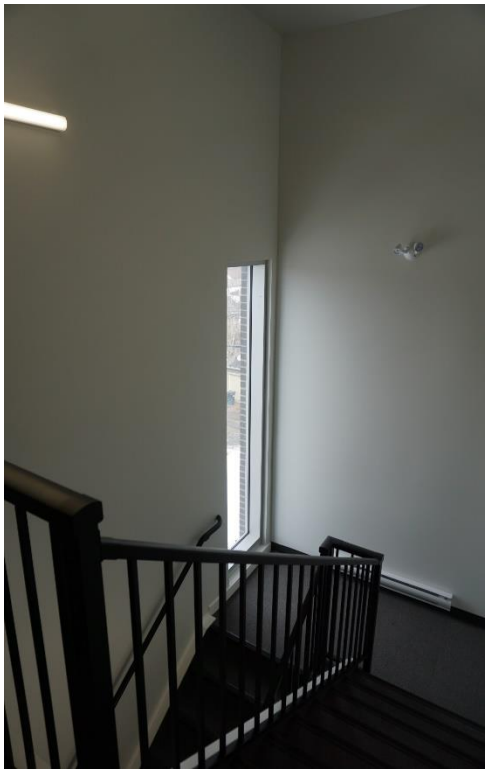


Figure 77 - Emergency light remote head.

4.5.7.03 - LIFE SAFETY SYSTEMS - FIRE ALARM - 15 YEAR COMPONENTS

Fire Alarm - 15 Year Components		
Physical Description	The building is equipped with a fire alarm system, including; a fire alarm panel with a remote annunciator, pull stations, smoke/heat detectors, horns & strobes, exit signs, emergency lighting, and fire extinguishers. 15-year components include the fire alarm panel & annunciator, pull stations, horns, strobes, and fire extinguishers.	
Potential Deterioration	Electronic components can degrade over time through regular wear & tear and voltage fluctuations. In particular; fire extinguishers can corrode or leak. These components are also subject to technological obsolescence and changes in building and safety codes.	
Condition Analysis	This was a new installation within the last two years. No deficiencies were noted. The system was last inspected in January 2018 by Jas Electrical Contractors Inc.	
Type of Reserve Allocation	An allocation has been made for the complete replacement of the fire alarm panel, pull stations, horns, strobes, and fire extinguishers at the end of the estimated service life.	
Life Cycle Analysis/Cost Estimate	Year of Acquisition Normal Life Span Effective Age Remaining Life Span Estimated Year of Work Expenditure Type Expenditure Estimate	2016 15 years 2 years 13 years 2031 Replacement $27,200

Figure 78 - Fire alarm panel.

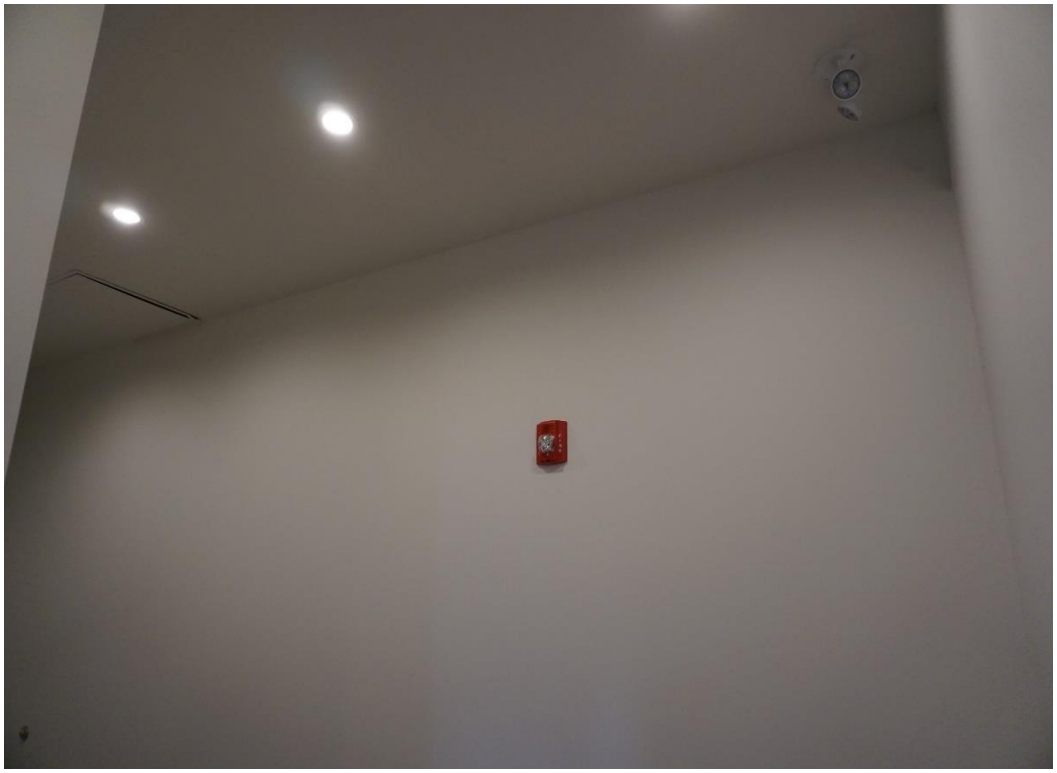


Figure 79 - Horn/strobe unit.

Figure 80 - Fire extinguisher.

4.5.7.04 - LIFE SAFETY SYSTEMS - FIRE SPRINKLERS

Fire Sprinklers		
Physical Description	The building is protected by a wet pipe fire sprinkler system. The sprinkler tree is located in the parkade water room. From the sprinkler tree, a series of pipes of decreasing diameter lead to each of the sprinkler heads. The balcony sprinkler heads are dry heads (that small section of piping is filled with air not water) in order to protect them from freeze up. Glycol loops service the overhang on the parkade ramp and the garbage room. The addition of glycol prevents the water in this portion of the sprinkler lines from freezing. A fire department Siamese connection is located on the south side of the building.	
Potential Deterioration	Wet sprinkler systems are subject to corrosion of the pipe and heads caused by sediment & debris in the water and air that might be trapped in the pipes.	
Condition Analysis	This was a new installation within the last two years. The system was last inspected in January 2018 by Jas Electrical Contractors Inc. and several deficiencies were noted.	
Type of Reserve Allocation	This component includes a contingency for repair or partial replacement of the fire sprinkler system components every 15 years. The estimated costs of the 2018 deficiencies have not been included in this study.	
Life Cycle Analysis/Cost Estimate	Year of Acquisition Normal Life Span (repair cycle) Effective Age Remaining Life Span Estimated Year of Work Expenditure Type Expenditure Estimate	2016 15 years 2 years 13 years 2031 Repair Contingency $6,000

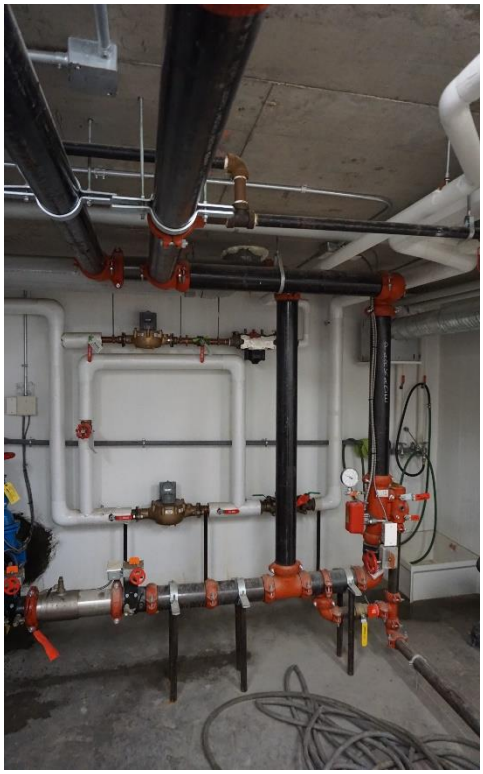


Figure 81 - Fire sprinkler tree.

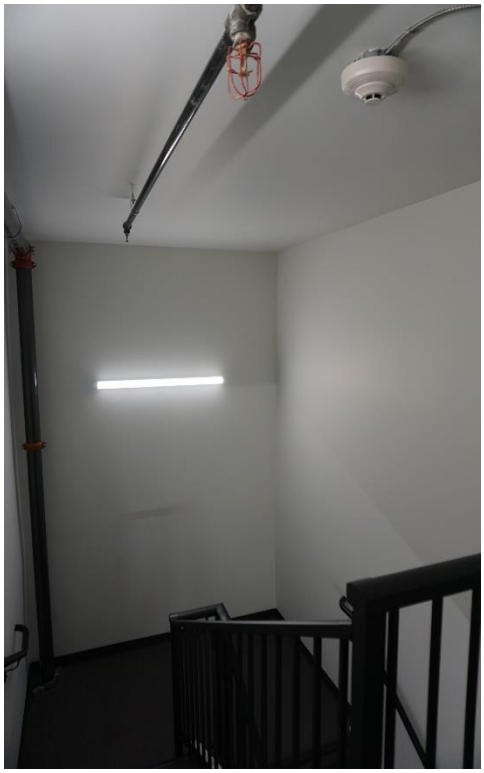


Figure 82 - Fire sprinkler riser, piping, and heads.

Figure 83 - Exterior fire sprinkler piping and heads on a glycol loop.

4.5.8.01 - CONVEYANCING SYSTEMS - CAB RENOVATIONS

Cab Renovations		
Physical Description	The elevator cab finishes include; a panel ceiling with pot lights, tile flooring, wood grain laminate walls, stainless trim and handrails.	
Potential Deterioration	Over time, the elevator cab interior becomes worn due to use and abuse and begins to look tired. The lifespan of the components varies, with the tile flooring and stainless steel, lasting longer than the panel ceiling and wall finishes. Corporation's often make their replacement decisions based on changing aesthetic trends rather than on an end of life timeframe.	
Condition Analysis	This component was a new installation within the last two years. No deficiencies were noted.	
Type of Reserve Allocation	An allocation has been made for an upgrade of the elevator cab (wall & ceiling panels, lighting, flooring, trim, and railings) based on an aesthetic upgrade of the common areas. This allocation also provisions for design, project management & inspection services. Changing the cab interior components involves changing the weight of the cab. This will necessitate engineering calculations and elevation adjustments after the installation.	
Life Cycle Analysis/Cost Estimate	Year of Acquisition Normal Life Span Effective Age Remaining Life Span Estimated Year of Work Expenditure Type Expenditure Estimate	2016 25 years 2 years 23 years 2041 Replacement $15,100

Figure 84 - Partial view of the cab interior.

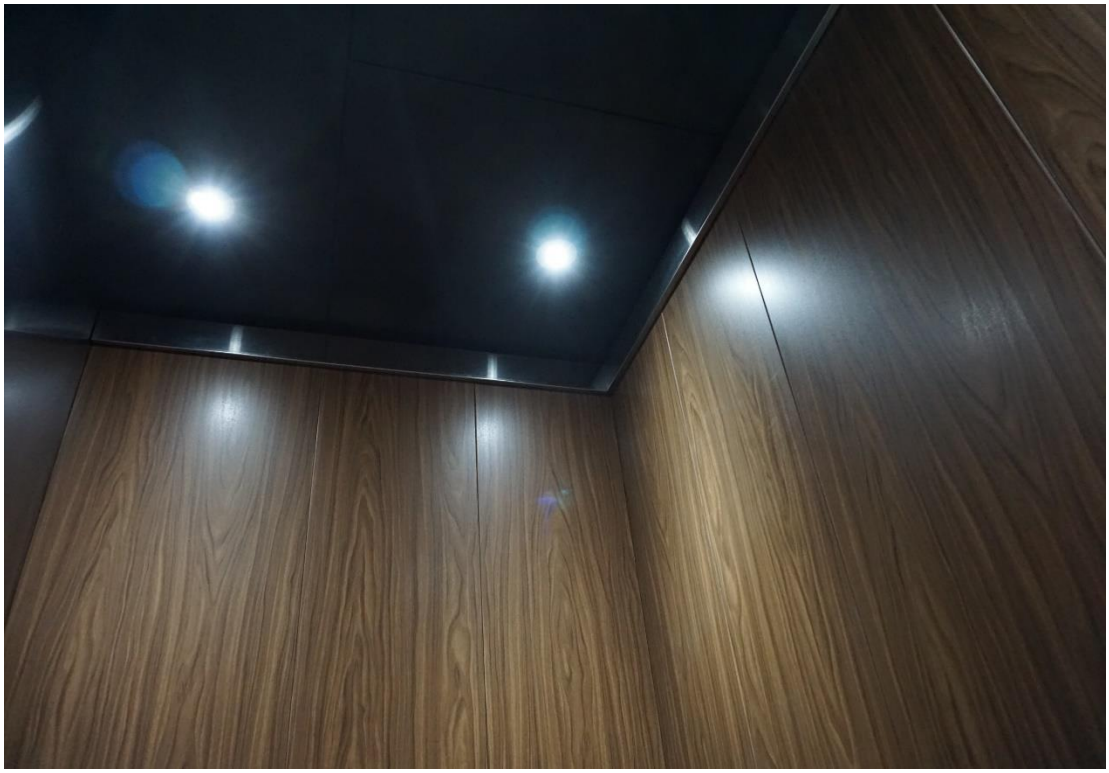


Figure 85 - Cab walls, ceiling and pot lights.

4.5.8.02 - CONVEYANCING SYSTEMS - ELEVATOR MODERNIZATION

Elevator Modernization		
Physical Description	This building is equipped with an OTIS machine room-less, traction elevator with a load capacity of 2500 pounds, a speed of 200 feet/minute and 5 stops.	
Potential Deterioration	Elevators are complicated devices with stringent safety rules. As such, regular maintenance is required to ensure the safe operation of the system. The building has entered into a 5-year elevator preventive maintenance service program. The maintenance includes "inspection, lubrication, and minor adjustment" of various parts. Repair or replacement of a limited number of parts is provided under certain circumstances. Obsolescence of parts is probably the biggest driver for the need to modernize the elevator system.	
Condition Analysis	This was a new installation within the last two years. No deficiencies were noted.	
Type of Reserve Allocation	An allocation has been made for a substantial modernization of the elevator system at the end of the estimated service life. This allocation includes the engineering design and project management component.	
Life Cycle Analysis/Cost Estimate	Year of Acquisition Normal Life Span Effective Age Remaining Life Span Estimated Year of Work Expenditure Type Expenditure Estimate	2016 25 years 2 years 23 years 2041 Replacement $134,500

Figure 86 - Elevator in the main lobby.

4.5.9.01 - INTERIOR IMPROVEMENTS - CARPET TILE

Carpet Tile		
Physical Description	Level loop carpet tile was installed in the common area hallways and stairwell landings and matching roll carpeting was used on the stairs. Carpet tiles are bordered with rubber baseboard and the stairs have rubber nosing.	
Potential Deterioration	Foot traffic causes repeated compression and friction that wears the carpet fibers. Dirt and debris accumulation in the carpet increases the deterioration of the fibers. Regular vacuuming and steam cleaning is critical to maintain carpet life.	
Condition Analysis	This was a new installation within the last two years. No deficiencies were noted.	
Type of Reserve Allocation	An allocation has been made for the complete replacement of the carpet, baseboard and nosing at the end of the estimated service life.	
Life Cycle Analysis/Cost Estimate	Year of Acquisition	2016
	Normal Life Span	12 years
	Effective Age	2 years
	Remaining Life Span	10 years
	Estimated Year of Work	2028,2040
	Expenditure Type	Replacement
	Expenditure Estimate	$22,600

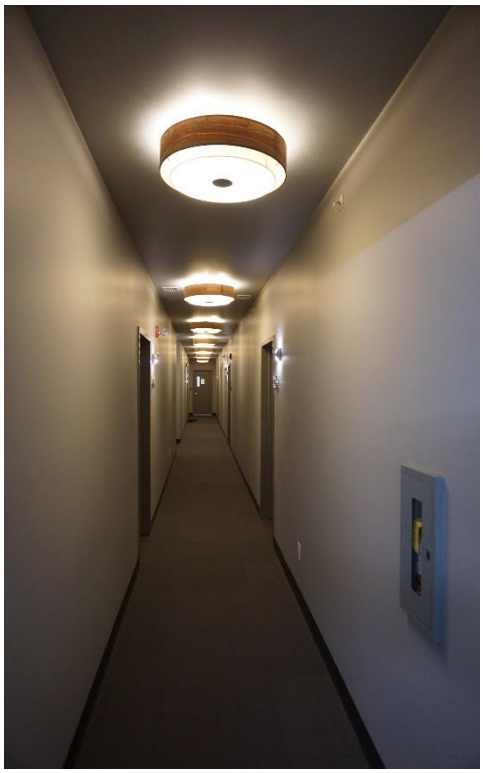


Figure 87 - Hallway carpet tile and rubber baseboard.

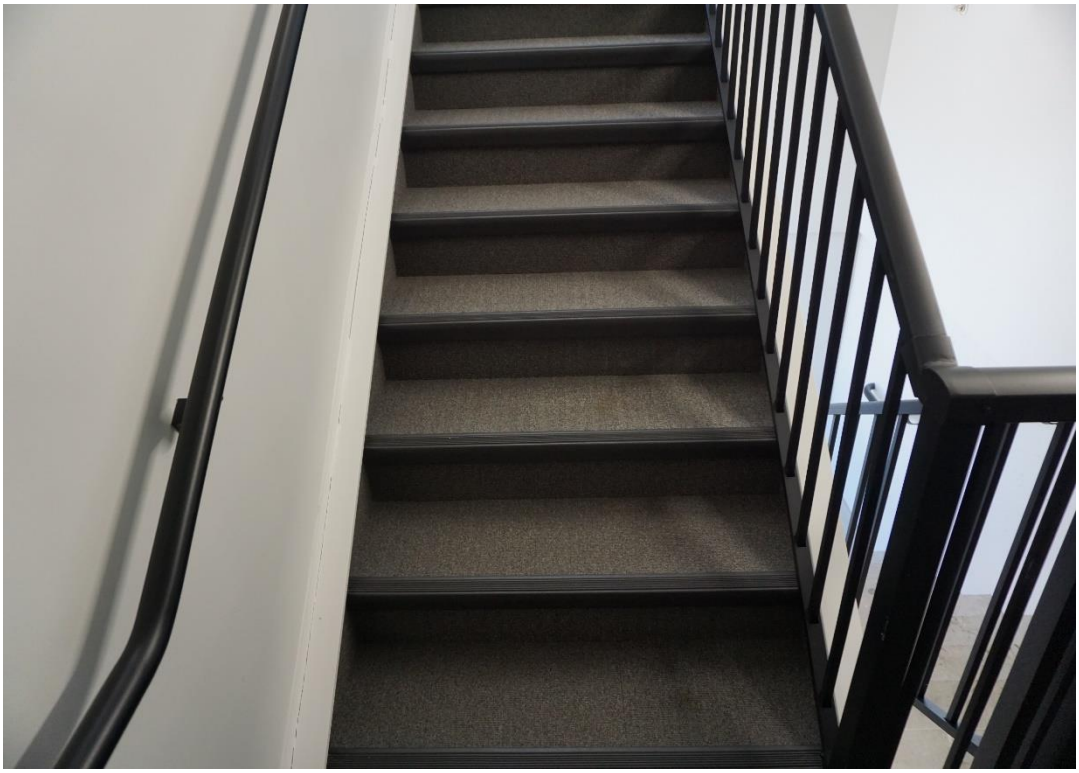


Figure 88 - Stairwell carpet and rubber nosing.

4.5.9.02 - INTERIOR IMPROVEMENTS - DOORS

Doors		
Physical Description	The interior common area doors are painted, hollow metal with pressed steel frames. Some have vision lites or borrowed lights (glass panels). Door hardware might include: hinges, closers, kick plates, blocker plates, thresholds, locksets, levered handles, and panic hardware. The unit doors are constructed of painted, solid core wood with pressed steel frames in accordance with the architectural plans.	
Potential Deterioration	Interior doors and hardware deteriorate through wear and tear, misuse and vandalism.	
Condition Analysis	This was a new installation within the last two years. No deficiencies were noted.	
Type of Reserve Allocation	This component includes a contingency for repair or partial replacement of the doors, frames and hardware every 10 years. No funding provisions have been made for unit door hardware as this is a unit owner responsibility in accordance with the By-laws.	
Life Cycle Analysis/Cost Estimate	Year of Acquisition Normal Life Span (repair cycle) Effective Age Remaining Life Span Estimated Year of Work Expenditure Type Expenditure Estimate	2016 10 years 2 years 8 years 2026,2036 Repair Contingency $10,700

Figure 89 - Example of a common area hollow core metal door with a vision lite.

Figure 90 - Example of a unit door.

4.5.9.03 - INTERIOR IMPROVEMENTS - DRYWALL

Drywall		
Physical Description	The walls and ceilings in the lobby, hallways and stairwells (from the 2nd floor up) are constructed of fire rated gypsum board. The drywall in these areas is taped, mudded, sanded and painted. The penthouse mechanical room is also constructed with fire rated gypsum board on the walls however the drywall is taped and mud finished only.	
Potential Deterioration	Drywall can be damaged by moisture and impact. Fastener pops may be seen if the framing dries and shrinks after the drywall has been installed.	
Condition Analysis	This was a new installation within the last two years. Some cracking was noted.	
Type of Reserve Allocation	This component includes a contingency for repair or partial replacement of the wall and ceiling drywall every 7 years and coincides with the common area painting cycle.	
Life Cycle Analysis/Cost Estimate	Year of Acquisition Normal Life Span (repair cycle) Effective Age Remaining Life Span Estimated Year of Work Expenditure Type Expenditure Estimate	2016 7 years 2 years 5 years 2023,2030,2037 Repair Contingency $4,600

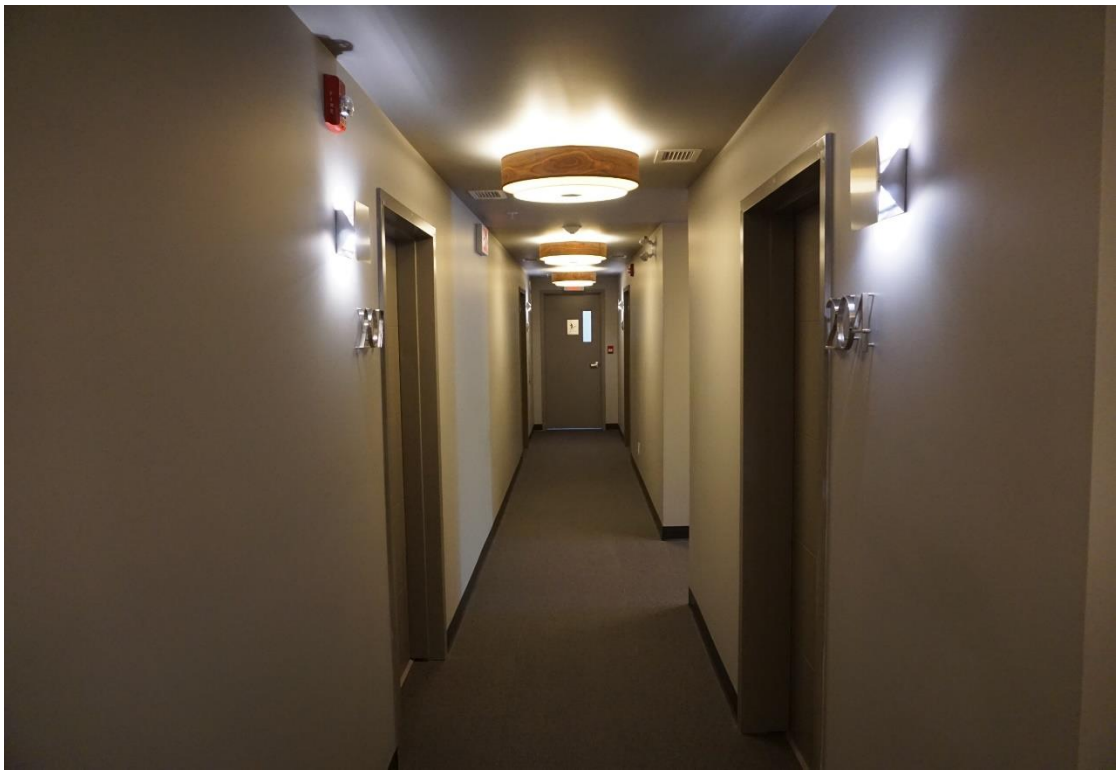


Figure 91 - Drywall ceilings and walls in the hallway.

Figure 92 - Drywall in the stairwell.

4.5.9.04 - INTERIOR IMPROVEMENTS - FLOOR TILE

Floor Tile		
Physical Description	Earth tone, 12" x 48", ceramic or porcelain tiles were used in the main floor lobby areas and in the parkade elevator vestibule.	
Potential Deterioration	Ceramic/porcelain tiles can last the life of the building, but Corporation's often make their replacement decisions based on changing aesthetic trends rather than on an end of life timeframe.	
Condition Analysis	This was a new installation within the last two years. No deficiencies were noted.	
Type of Reserve Allocation	An allocation has been made for the complete replacement of the floor tiles based on an aesthetic upgrade of the common areas.	
Life Cycle Analysis/Cost Estimate	Year of Acquisition	2016
	Normal Life Span	30 years
	Effective Age	2 years
	Remaining Life Span	28 years
	Estimated Year of Work	Beyond study
	Expenditure Type	Replacement
	Expenditure Estimate	$14,200

Figure 93 - Ceramic tile and base in the front entrance vestibule and lobby.

4.5.9.05 - INTERIOR IMPROVEMENTS - LOBBY FURNITURE & DECORATION

Lobby Furniture & Decoration		
Physical Description	The lobby is decorated with two leather stools, a wood coffee table, dried floral arrangements, a mirror and artwork.	
Potential Deterioration	Furniture and artwork can deteriorate through normal wear and tear, misuse and vandalism. These components are also subject to theft. Corporation's often make their replacement decisions based on changing aesthetic trends rather than on an end of life timeframe.	
Condition Analysis	This was a new installation within the last two years. No deficiencies were noted.	
Type of Reserve Allocation	An allocation has been made for the complete replacement of the lobby furniture and artwork based on an aesthetic upgrade of the common areas.	
Life Cycle Analysis/Cost Estimate	Year of Acquisition Normal Life Span Effective Age Remaining Life Span Estimated Year of Work Expenditure Type Expenditure Estimate	2016 15 years 2 years 13 years 2031 Replacement $2,000

Figure 94 - Lobby furniture and decoration.

4.5.9.06 - INTERIOR IMPROVEMENTS - MAILBOX

Mailbox		
Physical Description	A 26-unit, aluminum, front load mailbox is located at the rear entrance.	
Potential Deterioration	Normal wear and tear on the box hinges can lead to deterioration of the mailbox. It can also be scratched and dented by impact.	
Condition Analysis	This was a new installation within the last two years. No deficiencies were noted.	
Type of Reserve Allocation	An allocation has been made for the complete replacement of the mailbox at the end of the estimated service life. Each unit owner is responsible for their mailbox key and lock.	
Life Cycle Analysis/Cost Estimate	Year of Acquisition Normal Life Span Effective Age Remaining Life Span Estimated Year of Work Expenditure Type Expenditure Estimate	2016 30 years 2 years 28 years Beyond study Replacement $4,000

Figure 95 - Front load mailbox.

4.5.9.07 - INTERIOR IMPROVEMENTS - MISCELLANEOUS

Miscellaneous		
Physical Description	There are several chain-link fenced areas in the parkade along with chain-link storage lockers and bicycle racks.	
Potential Deterioration	Under indoor conditions these components are long lasting but can be damaged by impact and vandalism.	
Condition Analysis	This was a new installation within the last two years. No deficiencies were noted.	
Type of Reserve Allocation	This component includes a contingency for repair or partial replacement of the chain-link fencing & gates and the bicycle racks every 15 years.	
Life Cycle Analysis/Cost Estimate	Year of Acquisition	2016
	Normal Life Span (repair cycle)	15 years
	Effective Age	2 years
	Remaining Life Span	13 years
	Estimated Year of Work	2031
	Expenditure Type	Repair Contingency
	Expenditure Estimate	$2,400

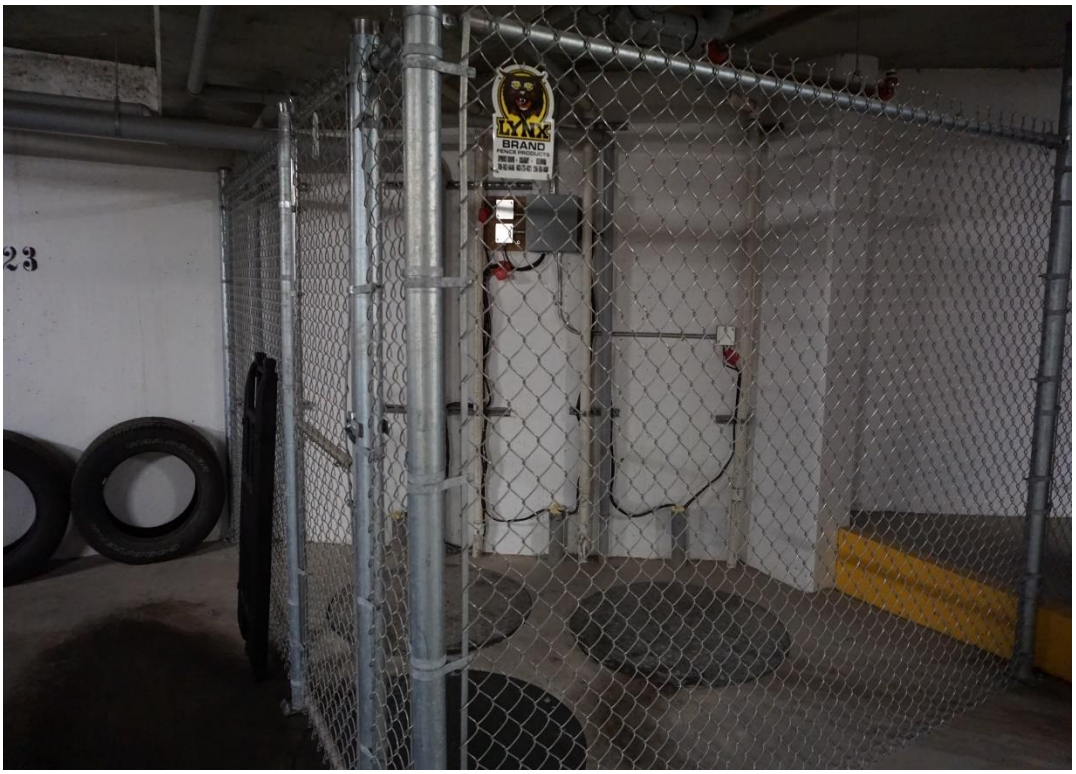


Figure 96 - Chain-link service area in the parkade.

Figure 97 - Wall mounted bike racks.

4.5.9.08 - INTERIOR IMPROVEMENTS - PAINTING - STAIRWELLS & CEILINGS - 15 YEAR CYCLE

Painting - Stairwells & Ceilings - 15 Year Cycle		
Physical Description	Interior components that require painting include ceilings and stairwell walls.	
Potential Deterioration	Paint can fail because of inadequate surface preparation or poor installation, water damage and deterioration through wear and tear, misuse and vandalism. Ceilings, in particular, can become discolored due to accumulation of pollutants.	
Condition Analysis	This was a new installation within the last two years. No deficiencies were noted.	
Type of Reserve Allocation	This component includes preparation and painting of the ceilings and the stairwell walls on a 15-year cycle.	
Life Cycle Analysis/Cost Estimate	Year of Acquisition	2016
	Normal Life Span	15 years
	Effective Age	2 years
	Remaining Life Span	13 years
	Estimated Year of Work	2031
	Expenditure Type	Replacement
	Expenditure Estimate	$16,100

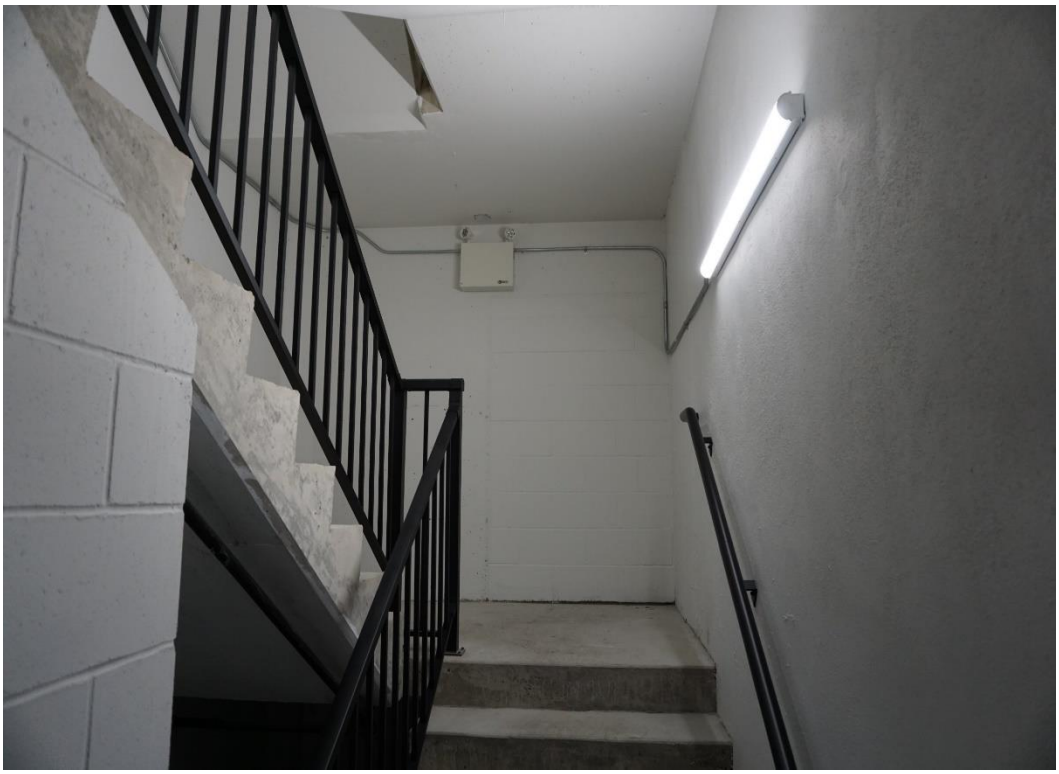


Figure 98 - Painted walls and ceiling in the stairwell.

4.5.9.09 - INTERIOR IMPROVEMENTS - PAINTING - INTERIOR COMPONENTS - 7 YEAR CYCLE

Painting - Interior Components - 7 Year Cycle		
Physical Description	There are a number of interior components that require painting; including: walls, doors, and frames.	
Potential Deterioration	Paint can fail because of inadequate surface preparation or poor installation, water damage and deterioration through wear and tear, misuse and vandalism.	
Condition Analysis	This was a new installation within the last two years. No deficiencies were noted.	
Type of Reserve Allocation	This component includes preparation and painting of walls, doors and frames on a 7-year cycle.	
Life Cycle Analysis/Cost Estimate	Year of Acquisition	2016
	Normal Life Span	7 years
	Effective Age	2 years
	Remaining Life Span	5 years
	Estimated Year of Work	2023,2030,2037
	Expenditure Type	Replacement
	Expenditure Estimate	$24,400

Figure 99 - Painted surfaces including wall, ceiling, door & frame.

4.5.9.10 - INTERIOR IMPROVEMENTS - PAINTING - PARKADE

Painting - Parkade		
Physical Description	The concrete walls and columns in the parkade are painted.	
Potential Deterioration	Paint on concrete can fail because of inadequate surface preparation or poor installation, water damage and deterioration through wear and tear, misuse and vandalism. Parkade walls are also subject to discoloration due to accumulation of pollutants.	
Condition Analysis	This was a new installation within the last two years. No deficiencies were noted.	
Type of Reserve Allocation	This component includes preparation and painting of the parkade walls & columns on a 20-year cycle.	
Life Cycle Analysis/Cost Estimate	Year of Acquisition	2016
	Normal Life Span	20 years
	Effective Age	2 years
	Remaining Life Span	18 years
	Estimated Year of Work	2036
	Expenditure Type	Replacement
	Expenditure Estimate	$11,100

Figure 100 - Painted walls and columns in the parkade.

4.5.9.11 - INTERIOR IMPROVEMENTS - SIGNAGE

Signage		
Physical Description	The building has various sized aluminum-panel informational signage and each residential unit is identified by floating metal unit numbers.	
Potential Deterioration	Informational signage and unit numbers have a long life in an interior environment. They can; however, be scratched, defaced or damaged by impact.	
Condition Analysis	This was a new installation within the last two years. No deficiencies were noted.	
Type of Reserve Allocation	An allocation has been made for the complete replacement of the informational and unit signage based on an aesthetic upgrade of the common areas.	
Life Cycle Analysis/Cost Estimate	Year of Acquisition	2016
	Normal Life Span	30 years
	Effective Age	2 years
	Remaining Life Span	28 years
	Estimated Year of Work	Beyond study
	Expenditure Type	Replacement
	Expenditure Estimate	$8,300

Figure 101 - Example of the informational signage.

Figure 102 - Floating unit address signage.

4.5.9.12 - INTERIOR IMPROVEMENTS - STAIRWELL RAILINGS

Stairwell Railings		
Physical Description	The stairwells are serviced by aluminum guard rails, bannisters and wall mounted handrails.	
Potential Deterioration	Aluminum railings are very strong, durable products. They are finished with a powder coating during manufacturing. This coating will not peel, flake, crack, or rust. Powder coated aluminum products can be painted; however, it is not recommended by the manufacturer as it is difficult to properly prepare the surface to accept site-applied paint and the life of the paint is short. They are subject to damage by impact and scratching from vandalism or moving of furniture and other materials through the stairwells.	
Condition Analysis	This was a new installation within the last two years. No deficiencies were noted.	
Type of Reserve Allocation	An allocation has been made for the complete replacement of the aluminum stairwell railings at the end of the estimated service life.	
Life Cycle Analysis/Cost Estimate	Year of Acquisition	2016
	Normal Life Span	50 years
	Effective Age	2 years
	Remaining Life Span	48 years
	Estimated Year of Work	Beyond study
	Expenditure Type	Replacement
	Expenditure Estimate	$46,000

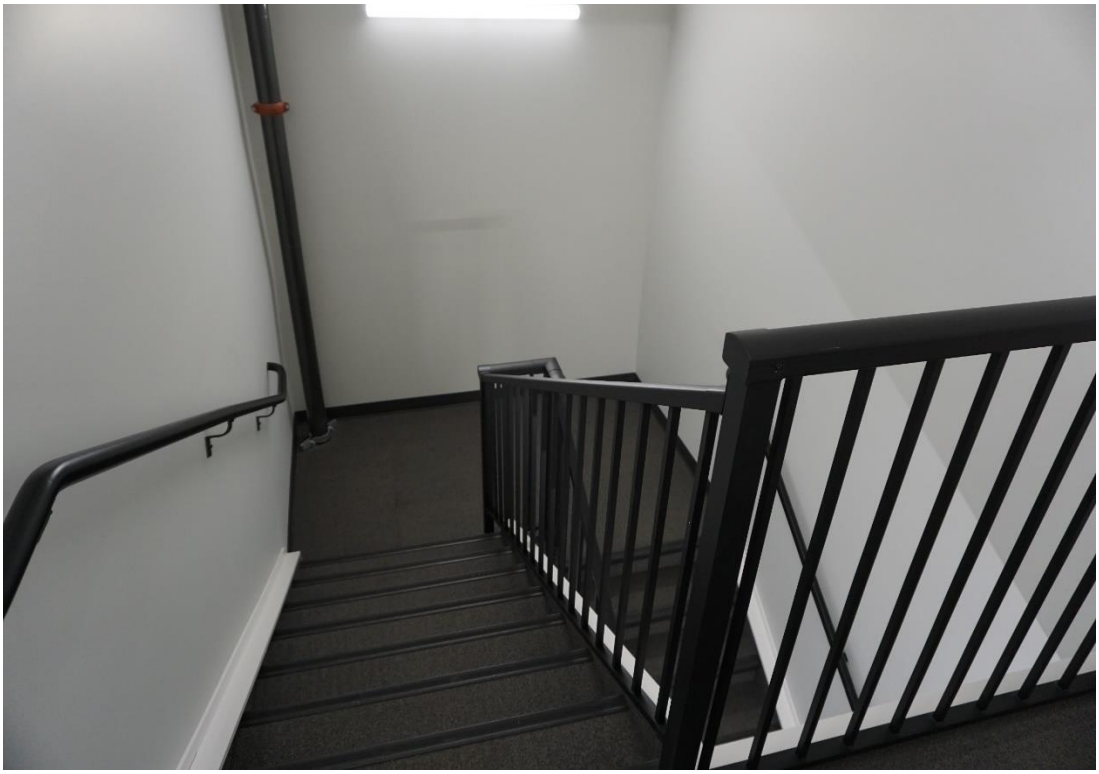


Figure 103 - Stairwell railing and bannister.

4.5.10.01 - SITE IMPROVEMENTS - CONCRETE - SIDEWALKS, PADS & RAMP

Concrete - Sidewalks, Pads & Ramp		
Physical Description	Exterior concrete components include a portion of the front sidewalk, walkways & stairs on the north and west sides, loading area, parkade ramp, equipment pads, and a jersey barrier. A portion of the sidewalk at the front of the building and the sidewalk on the west side of the building have been excluded as those areas are outside of the property line.	
Potential Deterioration	Concrete can fail for several reasons: incompatible constituent chemistry, incompatible chemistry of the surrounding terrain, too much moisture in initial concrete, overworking concrete during finishing (same as too much moisture), short drying times, improper base preparation, inadequate reinforcement, inadequate cured strength specification, and premature loading of the concrete are just some of the common contributors to the premature failure of concrete. Once the concrete's surface has been broken, it is susceptible to water penetration through cracks in the slab and through improper drainage where sidewalks or stairs abut to a building. Water penetrates through these areas and expands during freezing weather. Expanding ice can often exceed the tensile strength of the concrete. While most deicing salts do not chemically react with the concrete, the use of deicing salts can exacerbate a failed concrete problem by increasing the pressure exerted by the salt ice. Deicing salts can also accelerate reinforcing steel corrosion which can crack or spall the concrete depending on the steel's location. Concrete can also be damaged by tree roots and impact by exceeding the concrete's tensile strength.	
Condition Analysis	This was a new installation within the last two years. No deficiencies were noted.	
Type of Reserve Allocation	Complete replacement of these components is not typically required; however, a contingency for repair or partial replacement has been included every 20 years.	
Life Cycle Analysis/Cost Estimate	Year of Acquisition Normal Life Span (repair cycle) Effective Age Remaining Life Span Estimated Year of Work Expenditure Type Expenditure Estimate	2016 20 years 2 years 18 years 2036 Repair Contingency $5,900

Figure 104 - Concrete elements including the parkade ramp, loading area and jersey barrier. Also shows the retaining wall.

Figure 105 - Concrete walkway and stairs.

4.5.10.02 - SITE IMPROVEMENTS - IRRIGATION

Irrigation		
Physical Description	An irrigation system services the raised terrace planter. A typical irrigation system is made up of a controller (the brains of the system), valves (which open and close allowing water to flow or stop flowing through the underground pipes) and sprinklers (that distribute water to specific areas).	
Potential Deterioration	The main cause of damage to the underground portion of the system is frozen and split lines and fittings due improper maintenance for the winter. Irrigation heads can be damaged by landscape maintenance equipment and by foot traffic. Controllers are typically affected by mechanical wear and tear. Electrical connections can become corroded.	
Condition Analysis	The operation of the irrigation system was not tested but no deficiencies or concerns were identified by the Board or manager.	
Type of Reserve Allocation	The underground PVC piping can last 60 plus years if properly installed and maintained. Controllers have a life of approximately 15 years and irrigation heads have a life of approximately 10 years if they are not physically damaged. Complete replacement of the system is not typically required; however, a contingency for repair or partial replacement has been included every 5 years.	
Life Cycle Analysis/Cost Estimate	Year of Acquisition	2016
	Normal Life Span (repair cycle)	5 years
	Effective Age	2 years
	Remaining Life Span	3 years
	Estimated Year of Work	2021,2026,2031,2036,2041
	Expenditure Type	Repair Contingency
	Expenditure Estimate	$300

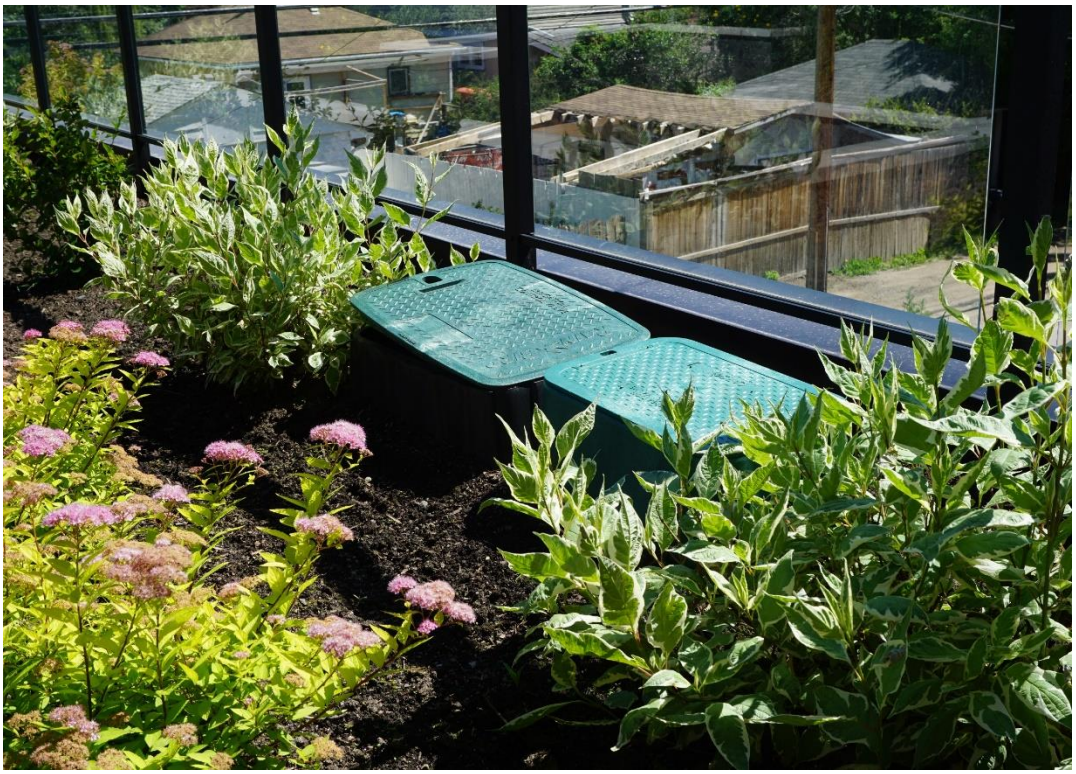


Figure 106 - Irrigation valve boxes.

Figure 107 - Irrigation controller located in the parkade water room.

4.5.10.03 - SITE IMPROVEMENTS - LANDSCAPING

Landscaping		
Physical Description	A terrace garden containing raised cementitious block planters with a variety of shrubs and grasses is located on the 2nd floor of the building. There is also a graveled area on the east side of the building, separating it from the neighboring building.	
Potential Deterioration	Landscaping can be damaged by extreme weather conditions, poor drainage, lack of water, improper maintenance and pests.	
Condition Analysis	This was a new installation within the last two years. No deficiencies were noted.	
Type of Reserve Allocation	Complete replacement of these components is not typically required; however, a contingency for repair or partial replacement of shrubs & grasses and gravel has been included every 5 years. Funding for the replacement of the cementitious block planters has been included in Roof Assembly - Inverted Roofs - Terrace & Upper Balcony	
Life Cycle Analysis/Cost Estimate	Year of Acquisition Normal Life Span (repair cycle) Effective Age Remaining Life Span Estimated Year of Work Expenditure Type Expenditure Estimate	2016 5 years 2 years 3 years 2021,2026,2031,2036,2041 Repair Contingency $700

Figure 108 - Shrubs in the raised terrace planters.

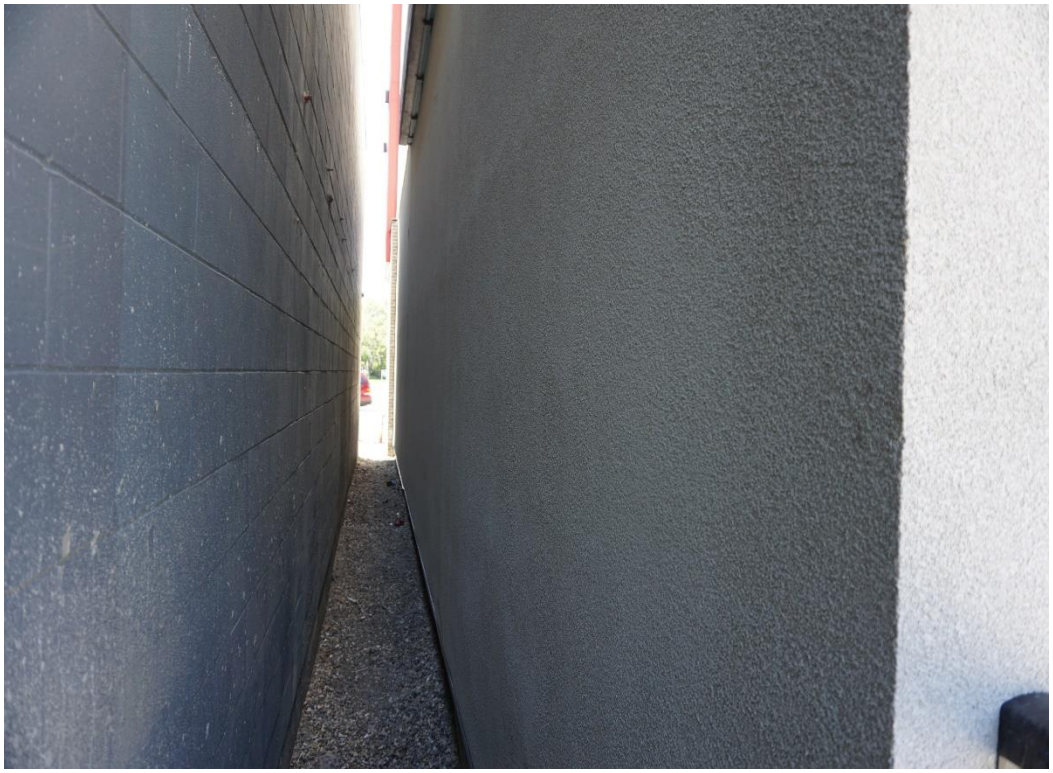


Figure 109 - Gravel area on the east side of the building.

4.5.10.04 - SITE IMPROVEMENTS - METAL BOLLARDS

Metal Bollards		
Physical Description	The mechanical equipment and doors in the garbage/loading area and the transformer, all located at the rear of the building, are protected by concrete-filled metal bollards.	
Potential Deterioration	Precipitation and UV will fade and corrode the metal components over time. These bollards are also subject to abrasion and impact damage.	
Condition Analysis	This was a new installation in within the last two years. No deficiencies were noted.	
Type of Reserve Allocation	A contingency for repair, partial replacement and re-painting of the metal bollards has been included every 10 years.	
Life Cycle Analysis/Cost Estimate	Year of Acquisition	2016
	Normal Life Span (repair cycle)	10 years
	Effective Age	2 years
	Remaining Life Span	8 years
	Estimated Year of Work	2026,2036
	Expenditure Type	Repair Contingency
	Expenditure Estimate	$1,300

Figure 110 - Metal bollards at the rear of the building.

4.5.10.05 - SITE IMPROVEMENTS - RAILINGS

Railings		
Physical Description	Railings include the pre-finished aluminum guard rail on both sides of the parkade ramp, stairwell railings on the west-side exterior stairs and a wall-mounted handrail on the exterior stairs leading to the commercial units at the rear of the building.	
Potential Deterioration	Aluminum railings are durable products. They are finished with a powder coating during manufacturing. This coating will not peel, flake, crack, or rust. Powder coated aluminum products can be painted; however, it is not recommended by the manufacturer as it is difficult to properly prepare the surface to accept site-applied paint and the life of the paint is short. This component can fade over time from UV and is subject to scratching and damage from impact.	
Condition Analysis	This was a new installation within the last two years. No deficiencies were noted other than the impact damage to the guard rail on the east side of the parkade ramp.	
Type of Reserve Allocation	An allocation has been made for the complete replacement of the guard railings, stair railings and handrails, at the end of the estimated service life. No funds have been included to replace the damaged guard rail as this would be considered an operating expense.	
Life Cycle Analysis/Cost Estimate	Year of Acquisition Normal Life Span Effective Age Remaining Life Span Estimated Year of Work Expenditure Type Expenditure Estimate	2016 40 years 2 years 38 years Beyond study Replacement $10,500

Figure 111 - Guard rail on the parkade ramp.

4.5.10.06 - SITE IMPROVEMENTS - RETAINING WALLS - CONCRETE

Retaining Walls - Concrete		
Physical Description	Concrete retaining walls border the sides of the parkade entrance ramp.	
Potential Deterioration	Concrete can deteriorate due a number of common factors: Differential soil settlement/movement. This settlement/movement can be caused by improper fill compaction (if filled), weak areas under the footings, excessive drying of some types of soil, or excessive moisture accumulation in some types of soil. Excessive lateral pressures. Concrete walls are very strong vertically but are less strong laterally. Walls can crack or bow due to frost pressure or hydrostatic pressure. Both situations are water related causes. Improper curing due to rapid drying of fresh concrete. This issue is demonstrated by visible hair line fracturing or crack on the surface and eventual spalling. Corrosion of reinforcing materials within the concrete. Chemical attack (soil conditions) - salts, acids, sulfates, alkali, etc. Parkade ramp retaining walls are also susceptible to impact damage from vehicles.	
Condition Analysis	This was a new installation within the last two years. Some vertical and horizontal cracking was noted on the retaining walls. Although it appears that patching repairs were undertaken there is still evidence of some active leaking through the east side retaining wall.	
Type of Reserve Allocation	These structural concrete components are anticipated to last the lifespan of the building. A contingency for repair or partial replacement has been included every 20 years along with a provision for some professional consulting services.	
Life Cycle Analysis/Cost Estimate	Year of Acquisition	2016
	Normal Life Span (repair cycle)	20 years
	Effective Age	18 years
	Remaining Life Span	2 years
	Estimated Year of Work	2020,2040
	Expenditure Type	Repair Contingency
	Expenditure Estimate	$4,200

Figure 112 - Concrete retaining wall on the east side of the parkade entrance ramp. Shows some vertical cracking and active leaking.

Figure 113 - Concrete retaining wall on the west side of the parkade entrance ramp. Shows long horizontal crack.

4.5.11.01 - SITE SERVICES - UNDERGROUND SERVICES

Underground Services	
Physical Description	Typical underground services include; electrical supply, low voltage wiring supply, domestic water supply, sanitary drainage, storm water drainage and natural gas supply. A pad mounted distribution transformer is located on the north west corner of the property. High voltage underground wiring runs from the transformer and terminates in the main floor electrical room. Low voltage telephony and cable wiring is similarly routed. The domestic water supply enters the parkade water room from 9th Avenue and the sanitary system exits in the same vicinity. The storm water system utilizes a concrete storm water retention tank located in the parkade storage room, which connects to the city system in the alley. The building has a buried natural gas supply line running to the gas room on the south east corner.
Potential Deterioration	The underground service wiring is durable and would likely only fail due to mechanical disruption. All apparatus to and including the distribution transformer is the responsibility of Enmax. Small wires, such as used for telephony service, can break with repeated thermal cycling and manipulation during installs or service calls. Cable wiring is generally very robust. All apparatus to and including the distribution panel is the responsibility of the service provider unless changes are being made to the building. Domestic water supply lines are generally robust. However, pipes can burst due to pipe wall failure (quality control or bends), pipe shear from soil movement, and freezing during prolonged cold periods. As sanitary and storm sewers age, cracks can appear, joints can separate, and tree roots can penetrate. Also, shifting ground can shear pipes. Generally, the natural gas service provider will determine the requirement for repair or replacement and undertake the work at their cost, however, the Corporation will typically be responsible for repair of site improvements.
Condition Analysis	Although the underground services were not visible for inspection, the installation was new in the last two years and no problems were reported nor expected other than the suspected leak from the storm water retention tank, which was previously discussed in Substructure – Footings, Columns, Walls.
Type of Reserve Allocation	Predicting the timing and scope of a failure is difficult; therefore, a nominal allocation has been provided every 20 years to accommodate technical investigation and inspections as well as a limited scope of excavation & repair.

Underground Services		
Life Cycle Analysis/Cost Estimate	Year of Acquisition	2016
	Normal Life Span (repair cycle)	20 years
	Effective Age	2 years
	Remaining Life Span	18 years
	Estimated Year of Work	2036
	Expenditure Type	Repair Contingency
	Expenditure Estimate	$10,000

4.5.12.01 - PROFESSIONAL SERVICES - RESERVE FUND STUDY

Reserve Fund Study		
Physical Description	In accordance with the Condominium Property Act a reserve fund study is required every 5 years.	
Potential Deterioration	N/A	
Condition Analysis	This study was completed in 2018.	
Type of Reserve Allocation	Provides for completion of a new reserve fund study every 5 years.	
Life Cycle Analysis/Cost Estimate	Year of Acquisition	2018
	Normal Life Span	5 years
	Effective Age	0 years
	Remaining Life Span	5 years
	Estimated Year of Work	2023,2028,2033,2038,2043
	Expenditure Type	Replacement
	Expenditure Estimate	$2,500

5 RESERVE FUND FUNDING OPTIONS

REIC identifies two ***major*** funding methodologies used to generate the cash flows required for the reserve fund. The first funding methodology is the "Full Funding (User Pay)" method. This methodology offers infinite options to reach a fully funded state. The second methodology is the "Critical Year (Minimum Balance)" method. This methodology does not attempt to achieve a fully funded state. These methodologies offer several options to develop an adequate funding plan. However, REIC only recommends the full funding option.

5.1 FULL FUNDING (USER PAY)

There are many possible Full Funding (User Pay) models. The most aggressive, most fair, and least risky in terms of a critical reserve fund shortfall, is the Benchmark Funding Model.

5.1.1 THE BENCHMARK FUNDING MODEL (BENCHMARK MODEL)

The benchmark is a calculation of the ***optimal*** reserve fund balance for each year of the study period. It represents the fully collected depreciation[8] and ensures the availability of funds to meet the future expected expenditures with minimal risk of special assessment. The benchmark funding requirements are prepared without regard to the current financial position of the corporation or the current reserve fund contributions by unit owners. On a graph, the benchmark funding requirements looks something like the figure below.

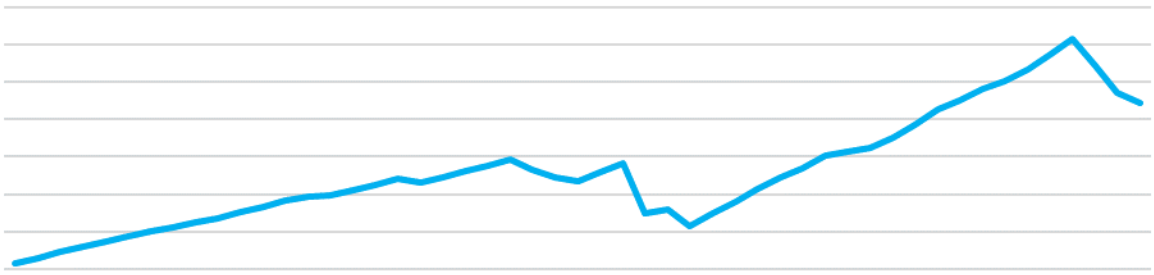


Figure 114 - Example of a Benchmark Funding Curve

To fully fund the reserve account, deposits should be made such that the account balance matches the benchmark values.

If the reserve was funded to follow the benchmark, there would be only small annual funding adjustments throughout the study period.

Sometimes, the adjustments are not so small on a percentage basis because some reserve components re-set during the study. In other words, the component has depreciated to zero, is replaced, and saving for it starts again but with a new, usually higher, future replacement cost.

Generally, the reserve fund balance is compared to the benchmark values and it is either higher or lower (rarely does it match exactly). When the reserve fund account is less than the benchmark, then the fund is considered to have a deficit, or ***shortfall***. When the account is greater than the benchmark, then the account is in surplus. Typically, when attempting to fully fund the reserve account, it will fluctuate above and below the benchmark. When the reserve fund balance deviates too far above the benchmark, the fund is over funded, and owners are paying more than their share for current depreciation. When the fund balance deviates too far below the benchmark, the fund is underfunded, and owners are not paying their share of current depreciation. The goal is to be as close as possible to the benchmark values in any given year.

The benchmark analysis has been developed by REIC as a guide for the board of directors and their property managers, to ensure that the reserve fund is neither under-funded nor over-funded.

5.1.2 MODERATE FUNDING MODEL (MODERATE MODEL)

While the benchmark funding model is the best model to de-risk the potential for special assessments, it is not the only way to get to a fully funded reserve fund. A planner will often use a more moderate funding approach, or a moderate funding model, to ease the initial burden of catching up. REIC recommends 25 years for Alberta corporations, and we usually use this recommendation. Other time frames are possible, and each has its pros & cons. Generally, this approach yields a soft-start to the funding schedule.

The caveat to this approach is that there is little buffer in the early years of the fund, contribution increases are steep, and there is a risk, although slight, of one or more special assessments along the way. This funding model relies on owners further down the time line to make up the reserve fund shortfall accumulated early on. In other words, there is unfunded depreciation in the early years and owners who leave (sell) during this period are not paying their share of the "consumed" components.

A risk analysis is prudent when using this model.

- **Small Buffer:** A small buffer in the early years for a new property presents a minimal risk as major component replacement is far into the future, and technology may improve during this study period such that future costs for large components are lower than predicted. For older properties, a lower buffer implies a greater special assessment risk, as older components can fail sooner than predicted.

- **Real Rate of Return:** The real rate of return (investment return minus inflation rate) may improve or it may degrade over time. The higher this rate, the more help the fund gets from the investment pool. When the real return is negative, the fund loses ground to inflation every year.

- **Steep Increases:** While the increases start off gradually in nominal assessment terms, if not in percentage terms, they become steep over time. The annual assessments at the backend of the plan may be difficult depending on economic conditions.

5.2 CRITICAL YEAR (MINIMUM BALANCE)

The critical year (minimum balance) method attempts to capitalize the reserve fund at a level less than fully funded while still having sufficient funds to meet the expenditures in critical years (years with large expenditures or low balances). This method sets a minimum balance for the reserve account to provide a small buffer against early or unforeseen component replacement or repair. This amount is generally set to match up with critical items such as boilers or roofs that really cannot be delayed until a more convenient time.

A project's expenditure profile is often lumpy or spikey. On a graph, it looks something like the figure below. Critical years might be identified as three or four of the largest expenditures which leave the account balance critically low.

The biggest issue with this approach is there is unfunded depreciation throughout the life of the project, and the owners in possession of units at the time of a major replacement may be required to make up that underfunding (special assessment). This could occur if the timing of a large expenditure occurs sooner than the study's estimate or if the cost of the expenditure is higher than expected.

It is prudent to do a risk analysis when using this model; see the points outlined above in the moderate model.

The following figure is an example of a sample corporation's expenditure profile.

Figure 115 - Typical Expenditure Profile

6 RESERVE FUND ANALYSIS RESULTS

We present three funding options which model the reserve requirements and assessment stream based on the benchmark, the moderate, and the critical year (minimum balance) models. We present these models as adequate to fund the reserve. ***The board can choose from among these models or define some other funding scheme to fund the reserve.***

6.1 BENCHMARK FUNDING MODEL - 25 & 50 YEAR VIEWS

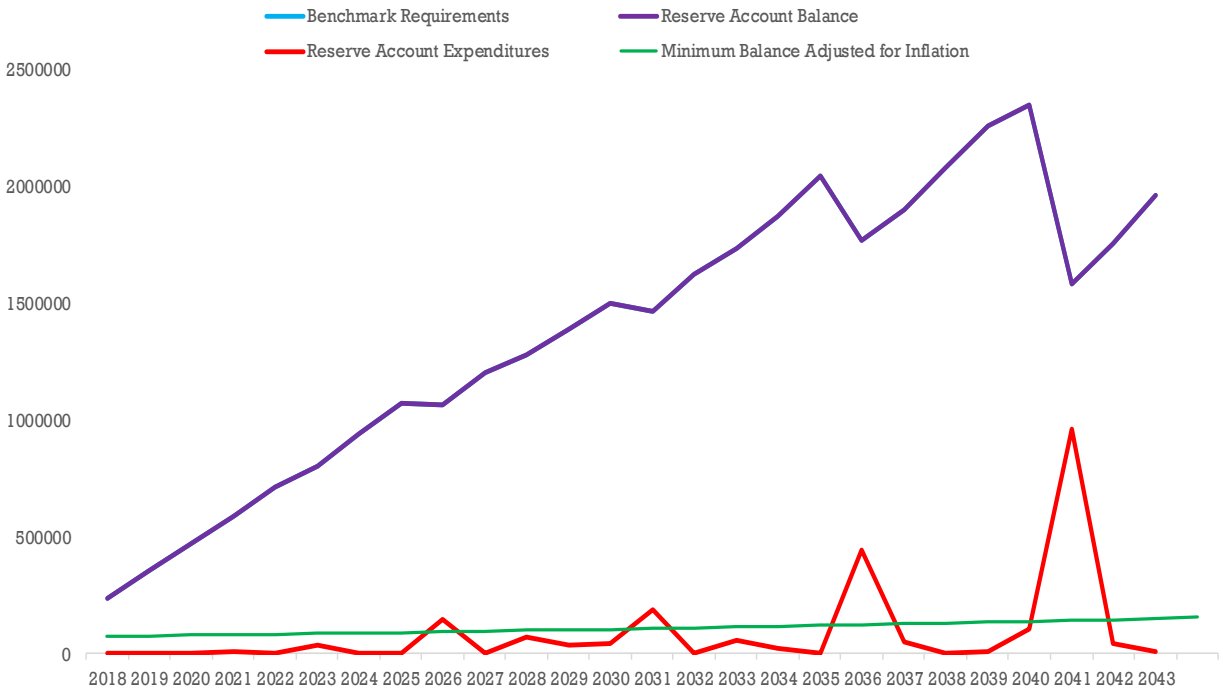
The benchmark funding model is the first of the two full funding options presented. The following graphs depict the 25-year & 50-year view of the benchmark analysis for the property. As explained earlier, the benchmark is the level of funding required to fully fund the property's future reserve expenditures from the beginning of the study period. The light blue lines depict the benchmark values. The purple lines are the property's reserve account balance and follow the blue lines almost exactly (in this model). The green lines represent the inflation adjusted minimum balance, and the red lines show the property's anticipated expenditures.

The minimum balance for this property is set to $75,000. It is adjusted for inflation each year, subsequently, it rises geometrically. This is done because the minimum balance would otherwise quickly become meaningless as the cost of components rise with inflation.

6.1.1 GRAPH OF THE 25 YEAR BENCHMARK RESERVE ACCOUNT BALANCE

For the first 25 years of the study, the benchmark funding and expenditure profiles are shown in the following figure. The graph presents the ideal funding profile. Note: The reserve account balance matches the benchmark requirements exactly. See the 50-year graph to better understand why the balance is so high in year 25.

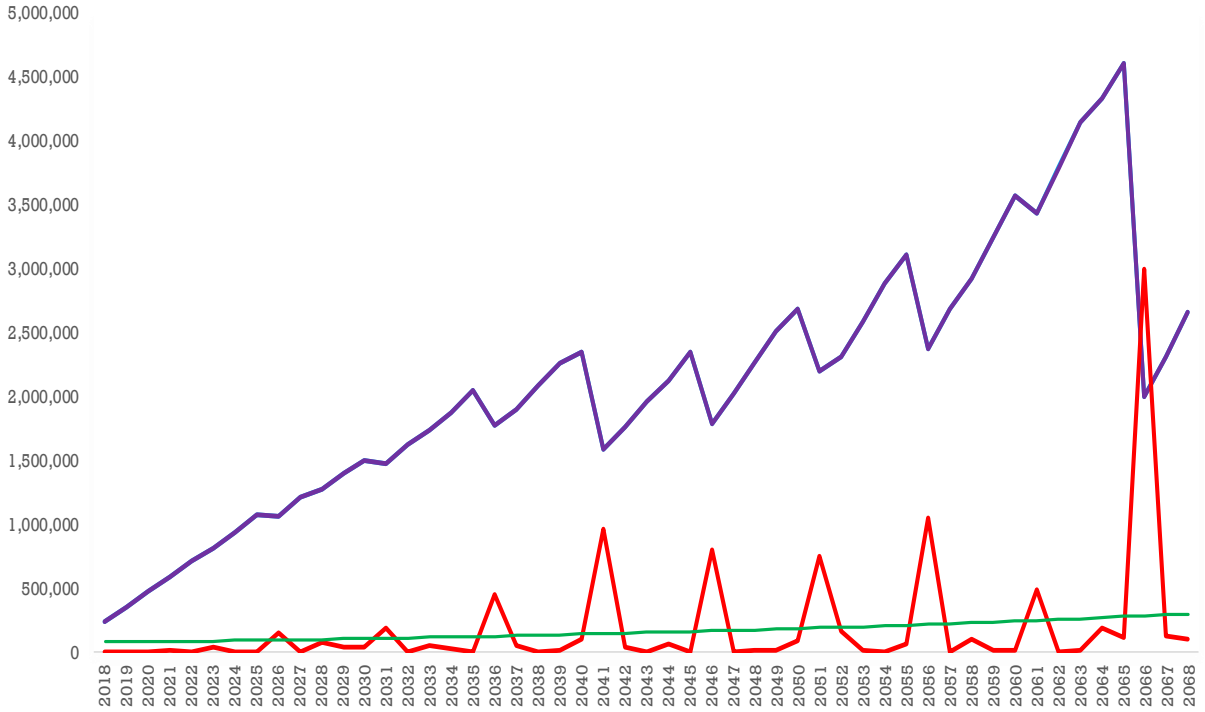
Figure 116 - 25 Year View of the Benchmark Funding Model



6.1.2 GRAPH OF 50 YEAR BENCHMARK RESERVE ACCOUNT BALANCE

The 50-year graph below shows the expenditure profile past the 25-year period of the study and is provided for insight only. The largest expenditure can be seen in 2066 (year 48). This expenditure has a dramatic impact on the account balance, but the account remains well above the minimum balance and can still accommodate early or unexpected expenditures.

Figure 117 - 50 Year View of the Benchmark Funding Model



6.1.3 BENCHMARK CONTRIBUTION SCHEDULE

The benchmark contribution schedule below shows the ***annual contributions*** required to meet the benchmark funding level. Additionally, it may show that a ***special assessment*** is required in the current year to catch up to the reserve fund requirement in the current year. The benchmark demonstrates that fully funding from the start can be burdensome. However, the benchmark annual contributions are often lower than the other options from about the middle of the study period onward. It also shows that once fully funded, relatively minor annual increases are required to maintain full funding if the annual contribution schedule is followed. Where larger increases are shown, it represents a re-set of some reserve components; they've reached their end of life and have been replaced or repaired. A new annual savings amount for that component has been calculated, accounting for inflation, and added to the annual reserve requirement.

Table 5 - Benchmark Funding Model Contribution Schedule - 25 Year View

	Year Ending Aug 31	Opening Balance	Recommended Annual Contribution	Special Assessment	Estimated Inflation Adjusted Expenditures	Estimated Investment Income	Percentage Increase in Recommended Annual Contributions	Closing Balance
0	2018	-	114,820	121,620	-	-		236,440
1	2019	236,440	114,820	-	3,280	4,490	0.0%	352,470
2	2020	352,470	114,920	-	4,440	6,700	0.1%	469,650
3	2021	469,650	115,060	-	6,540	8,920	0.1%	587,090
4	2022	587,090	115,240	-	-	11,150	0.2%	713,480
5	2023	713,480	115,240	-	36,190	13,560	0.0%	806,090
6	2024	806,090	116,300	-	-	15,320	0.9%	937,710
7	2025	937,710	116,300	-	-	17,820	0.0%	1,071,830
8	2026	1,071,830	116,300	-	143,090	20,360	0.0%	1,065,400
9	2027	1,065,400	120,480	-	-	20,240	3.6%	1,206,120
10	2028	1,206,120	120,480	-	70,940	22,920	0.0%	1,278,580
11	2029	1,278,580	122,560	-	34,010	24,290	1.7%	1,391,420
12	2030	1,391,420	123,560	-	40,420	26,440	0.8%	1,501,000
13	2031	1,501,000	124,710	-	186,690	28,520	0.9%	1,467,540
14	2032	1,467,540	130,280	-	-	27,880	4.5%	1,625,700
15	2033	1,625,700	130,280	-	54,050	30,890	0.0%	1,732,820
16	2034	1,732,820	131,910	-	20,380	32,920	1.3%	1,877,270
17	2035	1,877,270	132,530	-	-	35,670	0.5%	2,045,470
18	2036	2,045,470	132,530	-	446,810	38,860	0.0%	1,770,050
19	2037	1,770,050	145,960	-	49,050	33,630	10.1%	1,900,590
20	2038	1,900,590	147,370	-	4,380	36,110	1.0%	2,079,690
21	2039	2,079,690	147,490	-	5,710	39,510	0.1%	2,260,980
22	2040	2,260,980	147,660	-	101,940	42,960	0.1%	2,349,660
23	2041	2,349,660	150,680	-	958,710	44,640	2.0%	1,586,270
24	2042	1,586,270	180,800	-	42,500	30,140	20.0%	1,754,710
25	2043	1,754,710	182,060	-	5,030	33,340	0.7%	1,965,080

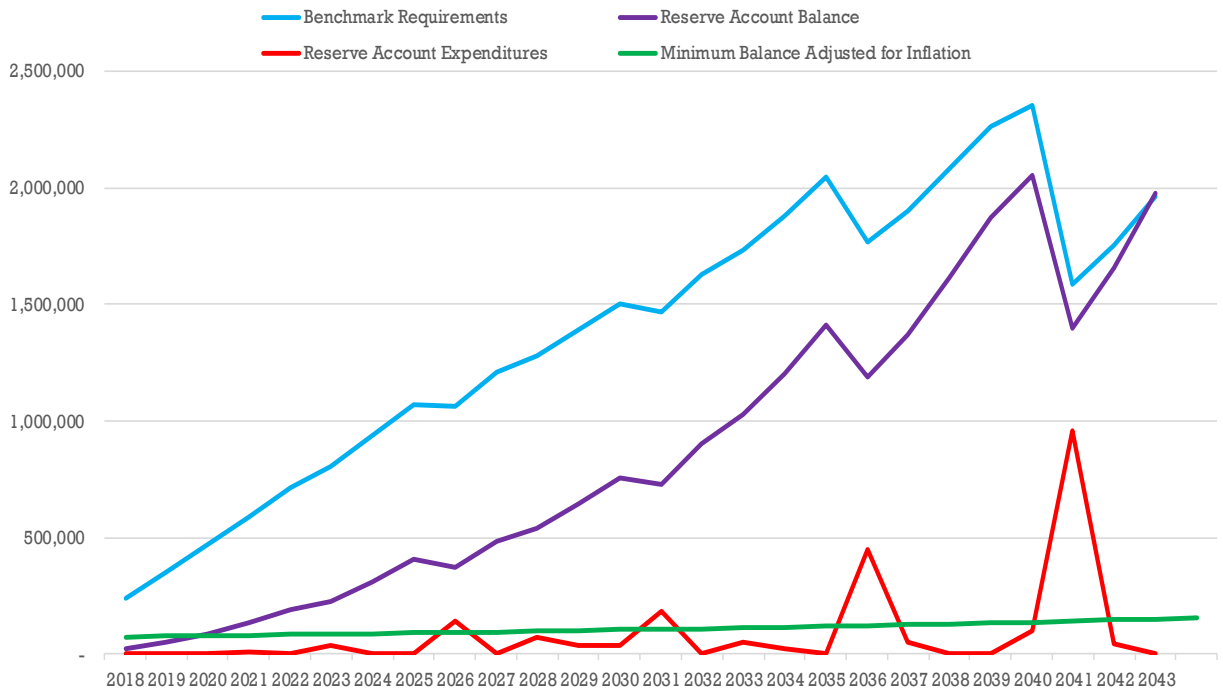
6.2 MODERATE FUNDING MODEL - 25 & 50 YEAR VIEWS

The second full funding option presented is the moderate funding model. This option softens the funding requirement in the early years but imposes higher (than the benchmark model) assessments in later years. There are a multitude of models available here; it is rather subjective as to which one we present. We try to balance the immediate impact on current owners with fairness over the long term to all owners. We feel the model presented here does balance those considerations.

6.2.1 GRAPH OF THE 25 YEAR MODERATE FUNDING MODEL RESERVE ACCOUNT BALANCE

For the first 25 years of the study, the moderate funding and expenditure profiles are shown in the following figure. During this period, the actual reserve account balance is marginally in shortfall for the entire time. The reserve account achieves fully funded status at the end of the study period in year 25, however, the account stays well above the inflation adjusted minimum balance.

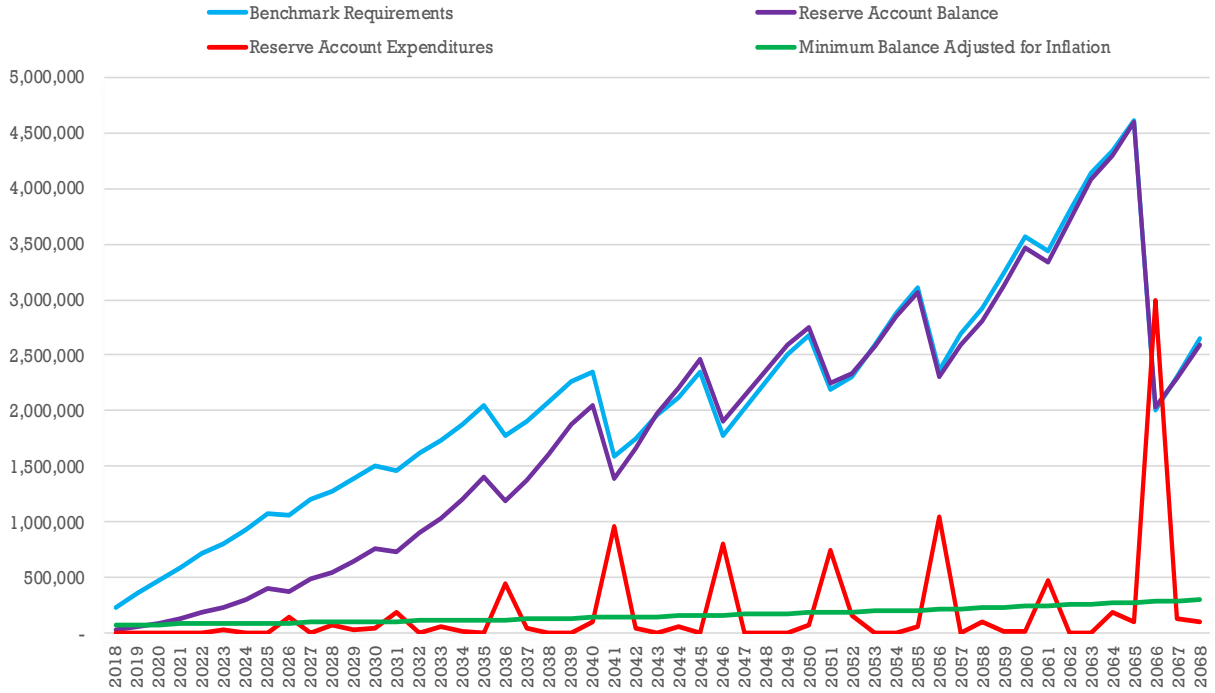
Figure 118 - 25 Year View of the Moderate Funding Model



6.2.2 GRAPH OF THE 50 YEAR MODERATE FUNDING MODEL RESERVE ACCOUNT BALANCE

The 50-year graph below shows the expenditure profile past the 25-year period of the study and is provided for insight only. After the reserve account reaches the benchmark value in year 25, it remains substantially at the benchmark thereafter.

Figure 119 - 50 Year View of the Moderate Funding Model



6.2.3 MODERATE FUNDING MODEL CONTRIBUTION SCHEDULE

The moderate funding contribution schedule below gives the contribution schedule and percentage increases for the 25-year study period for the moderate funding model. As can be seen from the table, annual contributions start off a significantly lower than the benchmark funding model. However, they quickly grow and surpass the benchmark by year 11 and are substantially higher by year 25. Thereafter, adjustments would be made to bring the annual assessments in line with the benchmark values.

Table 6 - Moderate Funding Model Contribution Schedule - 25 Year View

	Year Ending Aug 31	Opening Balance	Recommended Annual Contribution	Special Assessment	Estimated Inflation Adjusted Expenditures	Estimated Investment Income	Percentage Increase in Recommended Annual Contributions	Closing Balance
0	2018	-	25,000	-	-	-		25,000
1	2019	25,000	31,500	-	3,280	480	26.0%	53,700
2	2020	53,700	39,060	-	4,440	1,020	24.0%	89,340
3	2021	89,340	47,650	-	6,540	1,700	22.0%	132,150
4	2022	132,150	57,180	-	-	2,510	20.0%	191,840
5	2023	191,840	67,470	-	36,190	3,640	18.0%	226,760
6	2024	226,760	78,270	-	-	4,310	16.0%	309,340
7	2025	309,340	89,230	-	-	5,880	14.0%	404,450
8	2026	404,450	99,940	-	143,090	7,680	12.0%	368,980
9	2027	368,980	109,930	-	-	7,010	10.0%	485,920
10	2028	485,920	118,720	-	70,940	9,230	8.0%	542,930
11	2029	542,930	128,220	-	34,010	10,320	8.0%	647,460
12	2030	647,460	137,200	-	40,420	12,300	7.0%	756,540
13	2031	756,540	146,800	-	186,690	14,370	7.0%	731,020
14	2032	731,020	155,610	-	-	13,890	6.0%	900,520
15	2033	900,520	164,950	-	54,050	17,110	6.0%	1,028,530
16	2034	1,028,530	174,850	-	20,380	19,540	6.0%	1,202,540
17	2035	1,202,540	185,340	-	-	22,850	6.0%	1,410,730
18	2036	1,410,730	196,460	-	446,810	26,800	6.0%	1,187,180
19	2037	1,187,180	208,250	-	49,050	22,560	6.0%	1,368,940
20	2038	1,368,940	220,750	-	4,380	26,010	6.0%	1,611,320
21	2039	1,611,320	234,000	-	5,710	30,620	6.0%	1,870,230
22	2040	1,870,230	248,040	-	101,940	35,530	6.0%	2,051,860
23	2041	2,051,860	262,920	-	958,710	38,990	6.0%	1,395,060
24	2042	1,395,060	278,700	-	42,500	26,510	6.0%	1,657,770
25	2043	1,657,770	295,420	-	5,030	31,500	6.0%	1,979,660

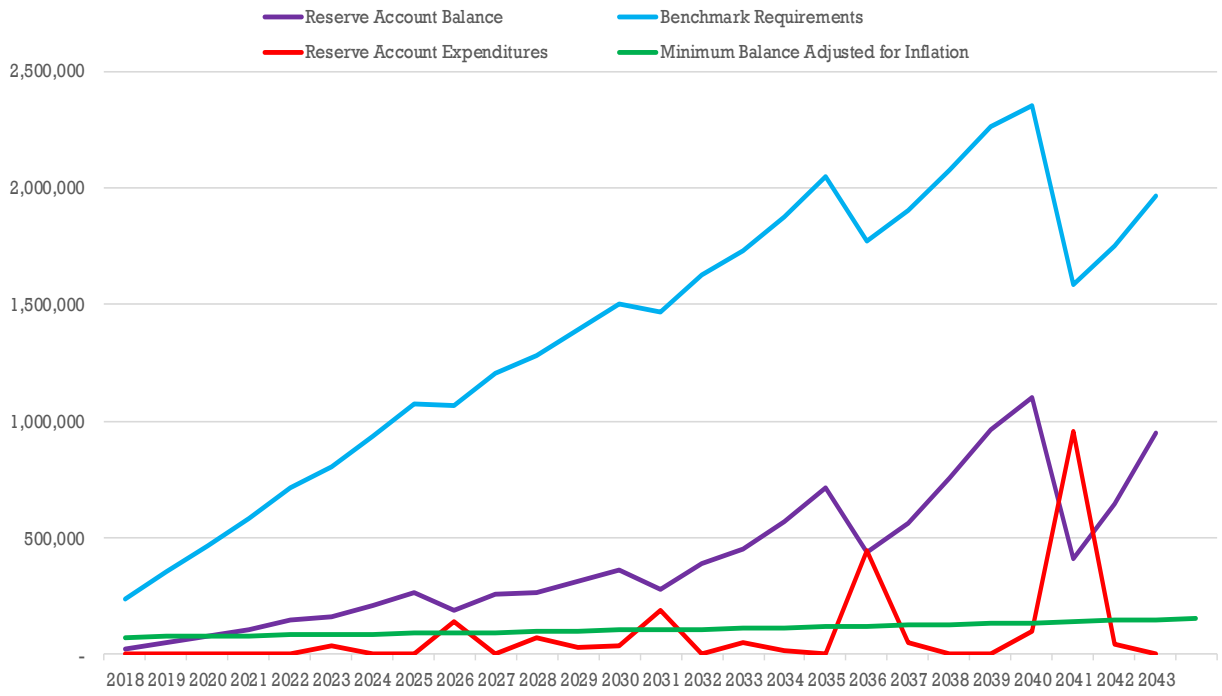
6.3 CRITICAL YEAR (MINIMUM BALANCE) FUNDING MODEL - 25 & 50 YEAR VIEWS

The third option presented is the critical year (minimum balance) model. It can be challenging to find an assessment schedule which can handle the spikey nature of the expenditure stream and not require a special assessment. The difference between the blue and purple lines in the following two graphs represents the uncollected depreciation and the special assessment risk that is carried by the owners. This is not necessarily bad. Most home owners fund all repairs and replacements by special assessment (out of pocket). It is important that the board understand a special assessment risk is present if this funding model is chosen. There may also be an impact on unit values if the funding shortfall is substantial. We consider the critical year model presented in this report to be a minimum adequate funding strategy. Funding lower than these levels is likely to lead to a special assessment in the future.

6.3.1 GRAPH OF THE 25 YEAR CRITICAL YEAR FUNDING MODEL RESERVE ACCOUNT BALANCE

For the first 25 years of the study, the critical year funding and expenditure profiles are shown in the following figure. In this model, the reserve account does provide funds to meet the predicted expenditures and remain above the inflation adjusted minimum balance. However, there is a substantial reserve account shortfall throughout the study period. Any significant deviation of a major expense from the predicted timeframe is likely to result in a special assessment to cover the shortfall. Naturally, this model will require adjustments every 5 years to account for deviations from the predictions and to ensure adequate funding is available to the corporation.

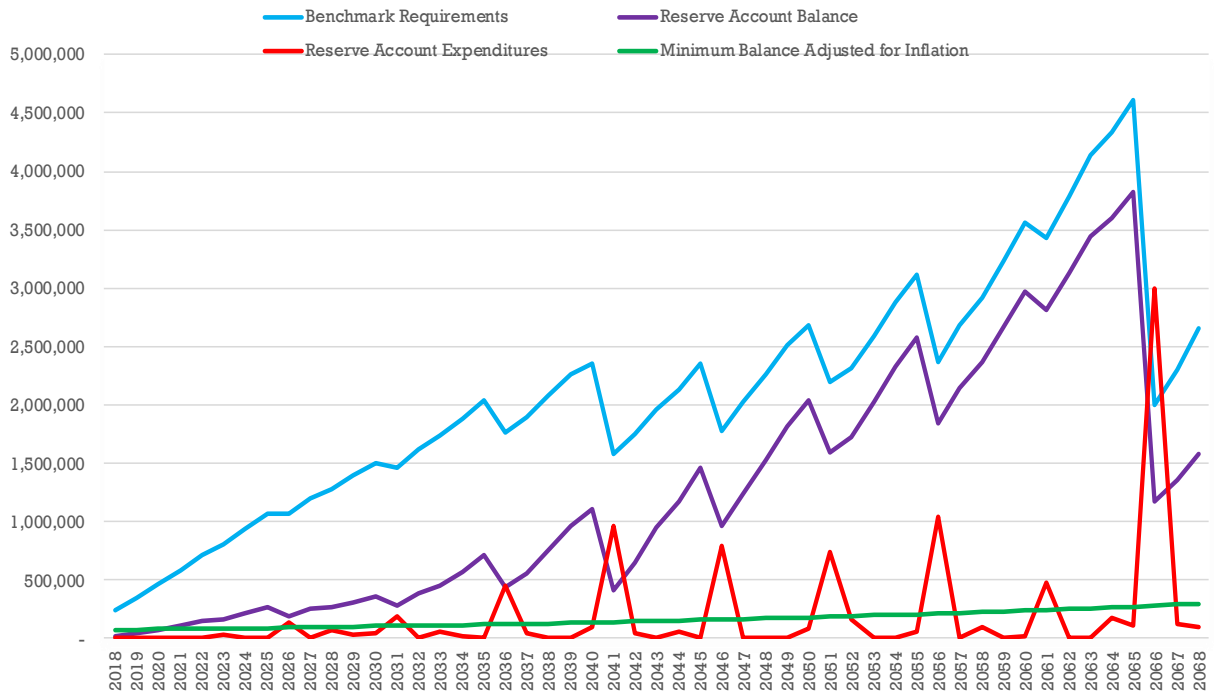
Figure 120 - 25 Year View of the Critical Year Funding Model



6.3.2 GRAPH OF THE 50 YEAR CRITICAL YEAR FUNDING MODEL RESERVE ACCOUNT BALANCE

The 50-year graph below shows the expenditure profile past the 25-year period of the study and is provided for insight only. The reserve account balance rises and falls in conjunction with the expenditure spikes. The large spike in year 2066 is the result of a coincidence of expenditures in that year. It draws down the account substantially. But manages to remain above the inflation adjusted minimum balance. Even in this model, the reserve account drifts toward the benchmark in an effort to fund that large expenditure spike and prepare for the next major expenditure spike.

Figure 121 - 50 Year View of the Critical Year Funding Model



6.3.3 CRITICAL YEAR FUNDING MODEL CONTRIBUTION SCHEDULE

The critical year funding contribution schedule below gives the contribution schedule and percentage increases for the 25-year study period for the critical year funding model. Here again, annual contributions start off lower than the benchmark funding model but by year 17, they surpass the benchmark contributions and remain higher for the rest of the study period.

Table 7 - Critical Year Funding Model Contribution Schedule - 25 Year View

	Year Ending Aug 31	Opening Balance	Recommended Annual Contribution	Special Assessment	Estimated Inflation Adjusted Expenditures	Estimated Investment Income	Percentage Increase in Recommended Annual Contributions	Closing Balance
0	2018	-	25,000	-	-	-		25,000
1	2019	25,000	28,000	-	3,280	480	12.0%	50,200
2	2020	50,200	31,360	-	4,440	950	12.0%	78,070
3	2021	78,070	35,120	-	6,540	1,480	12.0%	108,130
4	2022	108,130	39,330	-	-	2,050	12.0%	149,510
5	2023	149,510	44,050	-	36,190	2,840	12.0%	160,210
6	2024	160,210	48,460	-	-	3,040	10.0%	211,710
7	2025	211,710	53,310	-	-	4,020	10.0%	269,040
8	2026	269,040	58,640	-	143,090	5,110	10.0%	189,700
9	2027	189,700	64,500	-	-	3,600	10.0%	257,800
10	2028	257,800	70,950	-	70,940	4,900	10.0%	262,710
11	2029	262,710	78,050	-	34,010	4,990	10.0%	311,740
12	2030	311,740	85,860	-	40,420	5,920	10.0%	363,100
13	2031	363,100	94,450	-	186,690	6,900	10.0%	277,760
14	2032	277,760	103,900	-	-	5,280	10.0%	386,940
15	2033	386,940	114,290	-	54,050	7,350	10.0%	454,530
16	2034	454,530	125,720	-	20,380	8,640	10.0%	568,510
17	2035	568,510	138,290	-	-	10,800	10.0%	717,600
18	2036	717,600	152,120	-	446,810	13,630	10.0%	436,540
19	2037	436,540	167,330	-	49,050	8,290	10.0%	563,110
20	2038	563,110	184,060	-	4,380	10,700	10.0%	753,490
21	2039	753,490	202,470	-	5,710	14,320	10.0%	964,570
22	2040	964,570	222,720	-	101,940	18,330	10.0%	1,103,680
23	2041	1,103,680	244,990	-	958,710	20,970	10.0%	410,930
24	2042	410,930	269,490	-	42,500	7,810	10.0%	645,730
25	2043	645,730	296,440	-	5,030	12,270	10.0%	949,410

6.4 CONCLUSION - FUNDING MODELS

In conclusion, the various funding options have their respective pros & cons.

The benchmark model typically requires a large initial increase in yearly assessments, and it requires that level to be maintained throughout the study period. However, the assessments do not increase much during the period, and special assessment risk is very low.

Both moderate & critical year funding models opt for a softer start to the funding scheme but ramp up over the period, resulting in final assessments that are higher, in some cases much higher, than the final values in the benchmark model. Both models carry an elevated risk of special assessments compared to the benchmark model, but the risk is higher in the critical year model.

The following charts help to visually demonstrate the relative strength (compared to the benchmark) of each model and provide an arbitrary strength indicator for evaluation.

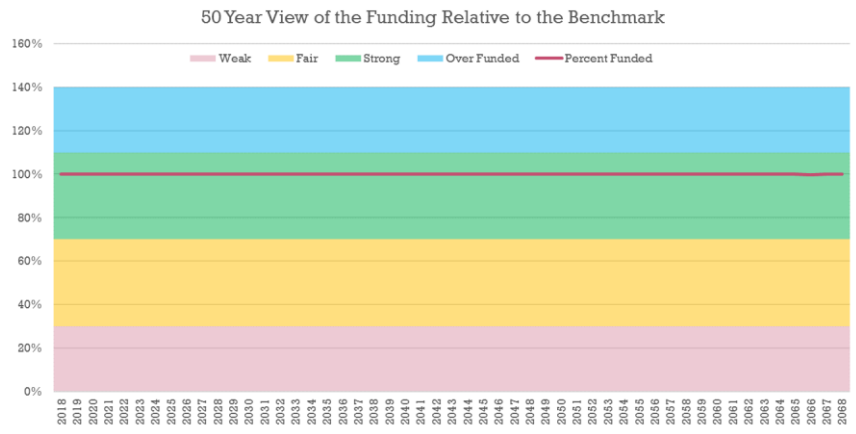


Figure 122 - Benchmark funding model strength visual

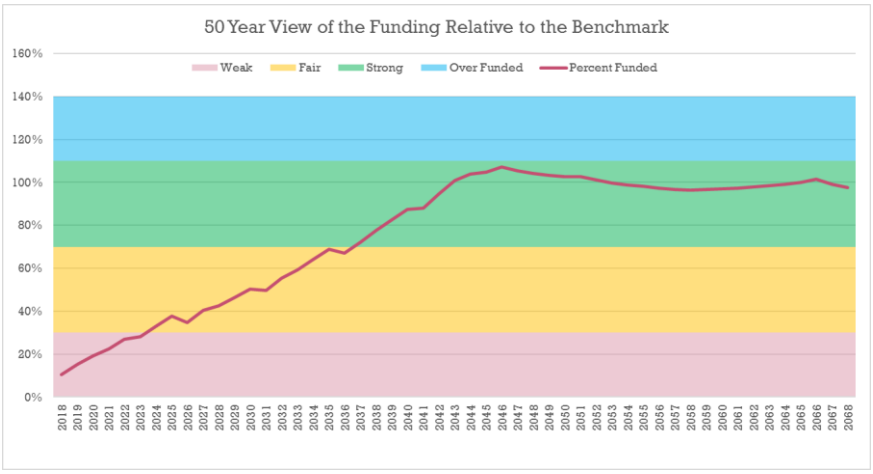


Figure 123 - Moderate funding model strength visual.

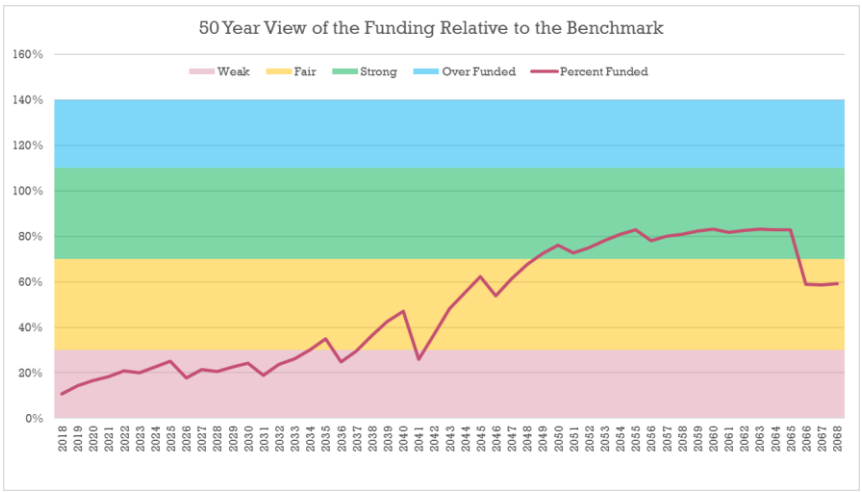


Figure 124 - Critical Year funding model strength visual.

Section 7 below explains the various tables used to generate the contribution schedules of the various options. The reserve component schedule & The 25-Year Cash Flow Projection and Benchmark Analysis (x3) can be found after its respective explanation. The contributions schedules have been introduced above.

7 RESERVE FUND SPREADSHEETS

The analysis model used to generate the graphs and schedules above consists of three spreadsheets:

- The Contribution Schedule
- The Reserve Component Schedule
- The 25-Year Cash Flow Projection and Benchmark Analysis

Note: Due to rounding, there may be minor discrepancies in the data presented, which are not deemed significant.

7.1 CONTRIBUTION SCHEDULE

The contribution schedules, which have already been introduced in sections 6.1.3, 6.2.3, & 6.3.3, show the minimum annual funding requirements proposed to meet the estimated reserve fund expenditures. It also shows the yearly account balances if the annual contributions are maintained, any special assessments planned, the magnitude of yearly expenditures, estimated investment income, and the year-on-year percentage increase of annual contributions. This schedule is dependent on the funding option, so three tables are included in this report.

7.2 RESERVE COMPONENT SCHEDULE

This schedule shows the various reserve components, the life cycle analysis of the components, and the estimated replacement costs. The cost estimates are made pursuant to prudent reserve fund practices, which provide for inflationary cost increases over time and interest income from reserve fund investments. This schedule is independent of the funding option, so only one version is included in this report.
The following spreadsheet columns are explained:

- **Current Replacement Costs:** The cost for all major repairs and replacements at current prices.

- **Future Replacement Costs:** The cost for all major repairs and replacements in the future at the end of the expected life span (the current replacement costs are compounded by inflation).

- **Current Reserve Fund Requirements:** The amount that should have been contributed by the owners to date for each of the reserve components.

- **Future Reserve Fund Accumulation:** The current reserve fund requirements together with interest compounded over the remaining life span.

- **Future Reserve Fund Requirements:** The amount that is still left to be contributed to achieve the repair/replacement of the reserve component (the future replacement cost – the future reserve fund accumulation).

- **Annual Reserve Fund Assessments:** The annual contribution that needs to be made by the owners.

Table 8 - Reserve Component Schedule

	Reserve Components	Year of Acquisition	Normal Life Span (Years)	Effective Age (Years)	Remaining Life Span (Years)	Est. Year of Work	Expenditure Type	Current Replacement/ Repair Cost ($)	Future Replacement/ Repair Cost ($)	Current Reserve Fund Requirements ($)	Future Reserve Fund Accumulation ($)	Future Reserve Fund Requirements ($)	Annual Reserve Fund Assessment ($)	Reserve Fund Assessment Allocation
1.00	**Substructure**													
1.01	Footings, Columns, Walls	2016	25	2	23	2041	Repair Contingency	4,980	9,400	610	940	8,460	300	0.26%
1.02	Parking Garage Floor Slab	2016	10	2	8	2026	Repair Contingency	5,250	6,550	1,210	1,410	5,140	600	0.52%
2.00	**Superstructure**													
2.01	Steel Posts, Beams, Canopies - Canopy Paint	2016	10	9	1	2019	Repair Contingency	3,190	3,280	2,910	2,970	310	300	0.26%
2.02	Framing, Above Grade Floors, & Roof Structure	2016	25	2	23	2041	Repair Contingency	10,000	18,880	1,210	1,870	17,010	600	0.52%
3.00	**Exterior Walls**													
3.01	Balcony Railings - Glass	2016	25	2	23	2041	Replacement	79,100	149,290	9,530	14,690	134,600	4,720	4.11%
3.02	Brick	2016	25	2	23	2041	Repair Contingency	14,800	27,940	1,780	2,740	25,200	880	0.77%
3.03	Caulking	2016	12	2	10	2028	Replacement	2,600	3,430	520	630	2,800	260	0.23%
3.04	Doors - Balcony	2016	35	2	33	2051	Replacement	34,300	85,330	3,510	6,530	78,800	1,740	1.52%
3.05	Doors - Metal	2016	10	2	8	2026	Repair Contingency	4,900	6,120	1,130	1,310	4,810	560	0.49%
3.06	Doors - Overhead	2016	25	2	23	2041	Replacement	6,800	12,840	830	1,280	11,560	410	0.36%
3.07	Doors - Rolling Service	2016	35	2	33	2051	Replacement	9,200	22,890	950	1,770	21,120	470	0.41%
3.08	Doors - Storefront	2016	15	2	13	2031	Repair Contingency	9,000	12,890	1,510	1,930	10,960	750	0.65%
3.09	EIFS - "Stucco"	2016	5	2	3	2021	Repair Contingency	5,000	5,440	2,120	2,240	3,200	1,050	0.91%
3.10	Metal Cladding Panels	2016	10	2	8	2026	Repair Contingency	3,000	3,750	690	800	2,950	340	0.30%
3.11	Windows	2016	35	2	33	2051	Replacement	141,500	351,990	14,480	26,950	325,040	7,170	6.24%
3.12	Windows - Curtain Wall	2016	45	2	43	2061	Replacement	16,100	52,790	1,510	3,390	49,400	750	0.65%
3.13	Windows - Storefront	2016	35	2	33	2051	Replacement	79,400	197,520	8,120	15,110	182,410	4,020	3.50%
4.00	**Roof Assembly**													
4.01	Balcony Membrane	2016	20	2	18	2036	Replacement	21,410	35,200	2,950	4,140	31,060	1,460	1.27%
4.02	Inverted Roofs - Terrace & Upper Balcony	2016	50	2	48	2066	Replacement	132,900	500,260	12,280	30,310	469,950	6,080	5.30%
4.03	MBM Torched Roofs - Low Slope SBS	2016	30	2	28	2046	Replacement	82,300	178,330	9,020	15,280	163,050	4,470	3.89%
4.04	Plaza/Podium Membrane	2016	40	2	38	2056	Replacement	84,500	241,330	8,240	16,850	224,480	4,080	3.55%
5.00	**Electrical Systems**													
5.01	Exterior Lighting & Other Electrical Components	2016	17	2	15	2033	Replacement	33,200	50,240	5,110	6,780	43,460	2,530	2.20%
5.02	Intercom & Access Control	2016	15	2	13	2031	Replacement	11,800	16,900	1,980	2,530	14,370	980	0.85%
5.03	Interior Lighting & Other Electrical Components	2016	25	2	23	2041	Replacement	60,800	114,750	7,330	11,300	103,450	3,630	3.16%
5.04	Power Distribution	2016	25	2	23	2041	Repair Contingency	26,600	50,210	3,210	4,950	45,260	1,590	1.38%
5.05	Security Camera System	2016	10	2	8	2026	Replacement	6,500	8,110	1,490	1,730	6,380	740	0.64%
6.00	**Mechanical Systems**													
6.01	Backflow Devices	2016	25	2	23	2041	Replacement	6,900	13,030	830	1,280	11,750	410	0.36%
6.02	Boiler	2016	25	2	23	2041	Replacement	95,700	180,620	11,530	17,780	162,840	5,710	4.97%
6.03	Chemical Feed System	2016	15	2	13	2031	Replacement	5,400	7,740	910	1,160	6,580	450	0.39%
6.04	Domestic Hot Water Circulation System	2016	20	2	18	2036	Repair Contingency	22,500	36,990	3,110	4,360	32,630	1,540	1.34%
6.05	Domestic Hot Water Expansion Tank	2016	12	2	10	2028	Replacement	500	660	100	120	540	50	0.04%
6.06	Domestic Hot Water Heater	2016	12	2	10	2028	Replacement	25,600	33,750	5,110	6,170	27,580	2,530	2.20%
6.07	Exhaust Fans - Parkade	2016	25	2	23	2041	Replacement	21,500	40,580	2,580	3,980	36,600	1,280	1.11%
6.08	Heating System Expansion Tank & Air Separator	2016	18	2	16	2034	Replacement	13,100	20,380	1,940	2,620	17,760	960	0.84%
6.09	Heaters - Cabinet Forced Flow	2016	20	2	18	2036	Replacement	23,100	37,980	3,190	4,480	33,500	1,580	1.38%
6.10	Heaters - Unit	2016	13	2	11	2029	Replacement	21,900	29,680	4,100	5,040	24,640	2,030	1.77%
6.11	Heating Circulation System	2016	15	2	13	2031	Repair Contingency	34,200	48,980	5,750	7,340	41,640	2,850	2.48%
6.12	Makeup Air Unit - Hallways	2016	20	2	18	2036	Replacement	42,000	69,050	5,790	8,120	60,930	2,870	2.50%
6.13	MUA Condensing Unit - Hallways	2016	20	2	18	2036	Replacement	21,000	34,530	2,910	4,080	30,450	1,440	1.25%
6.14	Makeup Air Unit - Parkade	2016	30	2	28	2046	Replacement	21,000	45,510	2,300	3,900	41,610	1,140	0.99%
6.15	Plumbing System Components	2016	15	2	13	2031	Repair Contingency	10,200	14,610	1,720	2,200	12,410	850	0.74%
6.16	Snow Melt System - Hydronic	2016	25	2	23	2041	Replacement	25,100	47,380	3,030	4,670	42,710	1,500	1.31%
6.17	Sump Pumps	2016	10	2	8	2026	Replacement	34,100	42,540	7,870	9,150	33,390	3,900	3.40%
7.00	**Life Safety Systems**													
7.01	Carbon Monoxide Detector	2016	10	2	8	2026	Replacement	1,700	2,130	400	470	1,660	200	0.17%
7.02	Fire Alarm - 10 Year Components	2016	10	2	8	2026	Replacement	41,200	51,390	9,510	11,060	40,330	4,710	4.10%
7.03	Fire Alarm - 15 Year Components	2016	15	2	13	2031	Replacement	27,200	38,950	4,580	5,850	33,100	2,270	1.98%
7.04	Fire Sprinklers	2016	15	2	13	2031	Repair Contingency	6,000	8,600	1,010	1,290	7,310	500	0.44%
8.00	**Conveyancing Systems**													
8.01	Cab Renovations	2016	25	2	23	2041	Replacement	15,100	28,500	1,820	2,810	25,690	900	0.78%
8.02	Elevator Modernization	2016	25	2	23	2041	Replacement	134,500	253,850	16,210	24,990	228,860	8,030	6.99%
9.00	**Interior Improvements**													
9.01	Carpet Tile	2016	12	2	10	2028	Replacement	22,600	29,790	4,500	5,430	24,360	2,230	1.94%
9.02	Doors	2016	10	2	8	2026	Repair Contingency	10,700	13,350	2,460	2,860	10,490	1,220	1.06%
9.03	Drywall	2016	7	2	5	2023	Repair Contingency	4,600	5,290	1,430	1,570	3,720	710	0.62%
9.04	Floor Tile	2016	30	2	28	2046	Replacement	14,200	30,770	1,550	2,630	28,140	770	0.67%
9.05	Lobby Furniture & Decoration	2016	15	2	13	2031	Replacement	2,000	2,870	340	430	2,440	170	0.15%
9.06	Mailbox	2016	30	2	28	2046	Replacement	4,000	8,670	440	750	7,920	220	0.19%
9.07	Miscellaneous	2016	15	2	13	2031	Repair Contingency	2,400	3,440	400	510	2,930	200	0.17%
9.08	Painting - Stairwells & Ceilings - 15 Year Cycle	2016	15	2	13	2031	Replacement	16,100	23,060	2,710	3,460	19,600	1,340	1.17%
9.09	Painting - Interior Components - 7 Year Cycle	2016	7	2	5	2023	Replacement	24,400	28,020	7,630	8,380	19,640	3,780	3.29%
9.10	Painting - Parkade	2016	20	2	18	2036	Replacement	11,100	18,250	1,530	2,150	16,100	760	0.66%
9.11	Signage	2016	30	2	28	2046	Replacement	8,300	17,990	910	1,540	16,450	450	0.39%
9.12	Stairwell Railings	2016	50	2	48	2066	Replacement	46,000	173,160	4,260	10,510	162,650	2,110	1.84%
10.00	**Site Improvements**													
10.01	Concrete - Sidewalks, Pads & Ramp	2016	20	2	18	2036	Repair Contingency	5,900	9,700	810	1,140	8,560	400	0.35%
10.02	Irrigation	2016	5	2	3	2021	Repair Contingency	300	330	120	130	200	60	0.05%
10.03	Landscaping	2016	5	2	3	2021	Repair Contingency	700	770	300	320	450	150	0.13%
10.04	Metal Bollards	2016	10	2	8	2026	Repair Contingency	1,300	1,630	300	350	1,280	150	0.13%
10.05	Railings	2016	40	2	38	2056	Replacement	10,500	29,990	1,030	2,110	27,880	510	0.44%
10.06	Retaining Walls - Concrete	2016	20	18	2	2020	Repair Contingency	4,200	4,440	3,820	3,970	470	180	0.16%
11.00	**Site Services**													
11.01	Underground Services	2016	20	2	18	2036	Repair Contingency	10,000	16,440	1,370	1,920	14,520	680	0.59%
12.00	**Professional Services**													
12.01	Reserve Fund Study	2018	5	0	5	2023	Replacement	2,500	2,880	0	0	2,880	550	0.48%
	TOTAL RESERVES							**$ 1,740,430**	**$ 3,673,930**	**$ 236,440**	**$ 363,510**	**$ 3,310,420**	**$ 114,820**	**100.00%**

7.3 25 YEAR CASH FLOW PROJECTION AND BENCHMARK ANALYSIS

This schedule is a 25-year picture of the corporation's reserve fund - including the cash position, annual contributions, component expenditures projected for each year, and a comparison of the account balance to the benchmark. It is specific to each funding model, so there are three of them in this report.

The benchmark analysis portion of this spreadsheet is the foundation of the REIC Reserve Fund Planning System, as it provides the basis for comparison to the actual reserve fund operation.

Some important spreadsheet columns are explained:

- **Opening Balance:** This is the reserve fund position at the beginning of each fiscal year.
- **Total Cash Resources:** These are the annual reserve fund contributions, special assessments and investment income.
- **Reserve Fund Expenditures:** These are the annual projected expenditures.
- **Closing Balance:** This is the reserve fund position at the end of each year, which is carried forward to the next year.
- **Benchmark Analysis:** The reserve requirements have been projected by formula considering the inflation factor, investment rates and reserve fund expenditures.

Table 9 - 25 Year Cash Flow Projection and Benchmark Analysis - Benchmark Funding Model

Year Ending Aug 31			Year 2018	Year 2019	Year 2020	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Year 2028	Year 2029	Year 2030	Year 2031	Year 2032	Year 2033	Year 2034	Year 2035	Year 2036	Year 2037	Year 2038	Year 2039	Year 2040	Year 2041	Year 2042	Year 2043
			0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
OPENING BALANCE			**0**	**236,440**	**352,470**	**469,650**	**587,090**	**713,480**	**806,090**	**937,710**	**1,071,830**	**1,065,400**	**1,206,120**	**1,278,580**	**1,391,420**	**1,501,000**	**1,467,540**	**1,625,700**	**1,732,820**	**1,877,270**	**2,045,470**	**1,770,050**	**1,900,590**	**2,079,690**	**2,260,980**	**2,349,660**	**1,586,270**	**1,754,710**
Reserve Fund Contributions			114,820	114,820	114,920	115,060	115,240	115,240	116,300	116,300	116,300	120,480	120,480	122,560	123,560	124,710	130,280	130,280	131,910	132,530	132,530	145,960	147,370	147,490	147,660	150,680	180,800	182,060
Reserve Fund Special Assessment			121,620	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Reserve Fund Interest Income		1.90%	0	4,490	6,700	8,920	11,150	13,560	15,320	17,820	20,360	20,240	22,920	24,290	26,440	28,520	27,880	30,890	32,920	35,670	38,860	33,630	36,110	39,510	42,960	44,640	30,140	33,340
TOTAL CASH RESOURCES			**236,440**	**355,750**	**474,090**	**593,630**	**713,480**	**842,280**	**937,710**	**1,071,830**	**1,208,490**	**1,206,120**	**1,349,520**	**1,425,430**	**1,541,420**	**1,654,230**	**1,625,700**	**1,786,870**	**1,897,650**	**2,045,470**	**2,216,860**	**1,949,640**	**2,084,070**	**2,266,690**	**2,451,600**	**2,544,980**	**1,797,210**	**1,970,110**
RESERVE FUND EXPENDITURES																												
		Current RFR																										
1.00 Substructure																												
1.01	Footings, Columns, Walls	610																								9,400		
1.02	Parking Garage Floor Slab	1,210									6,550										8,640							
2.00 Superstructure																												
2.01	Steel Posts, Beams, Canopies - Canopy Paint	2,910		3,280										4,330										5,710				
2.02	Framing, Above Grade Floors, & Roof Structure	1,210																								18,880		
3.00 Exterior Walls																												
3.01	Balcony Railings - Glass	9,530																								149,290		
3.02	Brick	1,780																								27,940		
3.03	Caulking	520											3,430												4,780			
3.04	Doors - Balcony	3,510																										
3.05	Doors - Metal	1,130									6,120										8,070							
3.06	Doors - Overhead	830																								12,840		
3.07	Doors - Rolling Service	950																										
3.08	Doors - Storefront	1,510														12,890												
3.09	EIFS - "Stucco"	2,120				5,440					6,250					7,180					8,250					9,480		
3.10	Metal Cladding Panels	690									3,750										4,950							
3.11	Windows	14,480																										
3.12	Windows - Curtian Wall	1,510																										
3.13	Windows - Storefront	8,120																										
4.00 Roof Assembly																												
4.01	Balcony Membrane	2,950																			35,200							
4.02	Inverted Roofs - Terrace & Upper Balcony	12,280																										
4.03	MBM Torched Roofs - Low Slope SBS	9,020																										
4.04	Plaza/Podium Membrane	8,240																										
5.00 Electrical Systems																												
5.01	Exterior Lighting & Other Electrical Components	5,110																50,240										
5.02	Intercom & Access Control	1,980														16,900												
5.03	Interior Lighting & Other Electrical Components	7,330																								114,750		
5.04	Power Distribution	3,210																								50,210		
5.05	Security Camera System	1,490									8,110										10,690							
6.00 Mechanical Systems																												
6.01	Backflow Devices	830																								13,030		
6.02	Boiler	11,530																								180,620		
6.03	Chemical Feed System	910														7,740												
6.04	Domestic Hot Water Circulation System	3,110																			36,990							
6.05	Domestic Hot Water Expansion Tank	100											660												920			
6.06	Domestic Hot Water Heater	5,110											33,750												47,020			
6.07	Exhaust Fans - Parkade	2,580																								40,580		
6.08	Heating System Expansion Tank & Air Separator	1,940																	20,380									
6.09	Heaters - Cabinet Forced Flow	3,190																			37,980							
6.10	Heaters - Unit	4,100												29,680													42,500	
6.11	Heating Circulation System	5,750														48,980												
6.12	Makeup Air Unit - Hallways	5,790																			69,050							
6.13	MUA Condensing Unit - Hallways	2,910																			34,530							
6.14	Makeup Air Unit	2,300																										
6.15	Plumbing System Components	1,720														14,610												
6.16	Snow Melt System - Hydronic	3,030																								47,380		
6.17	Sump Pumps	7,870									42,540										56,070							
7.00 Life Safety Systems																												
7.01	Carbon Monoxide Detector	400									2,130										2,810							
7.02	Fire Alarm - 10 Year Components	9,510									51,390										67,740							
7.03	Fire Alarm - 15 Year Components	4,580														38,950												
7.04	Fire Sprinklers	1,010														8,600												
8.00 Conveyancing Systems																												
8.01	Cab Renovations	1,820																								28,500		
8.02	Elevator Modernization	16,210																								253,850		
9.00 Interior Improvements																												
9.01	Carpet Tile	4,500											29,790												41,500			
9.02	Doors	2,460									13,350										17,600							
9.03	Drywall	1,430						5,290							6,420							7,790						
9.04	Floor Tile	1,550																										
9.05	Lobby Furniture & Decoration	340														2,870												
9.06	Mailbox	440																										
9.07	Miscellaneous	400														3,440												
9.08	Painting - Stairwells & Ceilings - 15 Year Cycle	2,710														23,060												
9.09	Painting - Interior Components - 7 Year Cycle	7,630						28,020							34,000							41,260						
9.10	Painting - Parkade	1,530																			18,250							
9.11	Signage	910																										
9.12	Stairwell Railings	4,260																										
10.00 Site Improvements																												
10.01	Concrete - Sidewalks, Pads & Ramp	810																			9,700							
10.02	Irrigation	120				330					380					440					510					590		
10.03	Landscaping	300				770					890					1,030					1,190					1,370		
10.04	Metal Bollards	300									1,630										2,150							
10.05	Railings	1,030																										
10.06	Retaining Walls - Concrete	3,820			4,440																				7,720			
11.00 Site Services																												
11.01	Underground Services	1,370																			16,440							
12.00 Professional Services																												
12.01	Reserve Fund Study	0						2,880					3,310					3,810					4,380					5,030
	TOTAL EXPENDITURES		**0**	**3,280**	**4,440**	**6,540**	**0**	**36,190**	**0**	**0**	**143,090**	**0**	**70,940**	**34,010**	**40,420**	**186,690**	**0**	**54,050**	**20,380**	**0**	**446,810**	**49,050**	**4,380**	**5,710**	**101,940**	**958,710**	**42,500**	**5,030**
	CLOSING BALANCE		**236,440**	**352,470**	**469,650**	**587,090**	**713,480**	**806,090**	**937,710**	**1,071,830**	**1,065,400**	**1,206,120**	**1,278,580**	**1,391,420**	**1,501,000**	**1,467,540**	**1,625,700**	**1,732,820**	**1,877,270**	**2,045,470**	**1,770,050**	**1,900,590**	**2,079,690**	**2,260,980**	**2,349,660**	**1,586,270**	**1,754,710**	**1,965,080**
	BENCHMARK ANALYSIS RESERVE REQUIREMENTS	**236,440**	**236,440**	**352,480**	**469,660**	**587,110**	**713,510**	**806,120**	**937,740**	**1,071,860**	**1,065,440**	**1,206,170**	**1,278,630**	**1,391,480**	**1,501,060**	**1,467,610**	**1,625,780**	**1,732,900**	**1,877,360**	**2,045,560**	**1,770,150**	**1,900,700**	**2,079,810**	**2,261,110**	**2,349,800**	**1,586,420**	**1,754,870**	**1,965,250**
	RESERVE FUND SURPLUS/SHORTFALL		**0**	**-10**	**-10**	**-20**	**-30**	**-30**	**-30**	**-30**	**-40**	**-50**	**-50**	**-60**	**-60**	**-70**	**-80**	**-80**	**-90**	**-90**	**-100**	**-110**	**-120**	**-130**	**-140**	**-150**	**-160**	**-170**

Table 10 - 25 Year Cash Flow Projection and Benchmark Analysis - Moderate Funding Model

Year Ending Aug 31		Year 2018	Year 2019	Year 2020	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Year 2028	Year 2029	Year 2030	Year 2031	Year 2032	Year 2033	Year 2034	Year 2035	Year 2036	Year 2037	Year 2038	Year 2039	Year 2040	Year 2041	Year 2042	Year 2043
		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
OPENING BALANCE		**0**	**25,000**	**53,700**	**89,340**	**132,150**	**191,840**	**226,760**	**309,340**	**404,450**	**368,980**	**485,920**	**542,930**	**647,460**	**756,540**	**731,020**	**900,520**	**1,028,530**	**1,202,540**	**1,410,730**	**1,187,180**	**1,368,940**	**1,611,320**	**1,870,230**	**2,051,860**	**1,395,060**	**1,657,770**
Reserve Fund Contributions		25,000	31,500	39,060	47,650	57,180	67,470	78,270	89,230	99,940	109,930	118,720	128,220	137,200	146,800	155,610	164,950	174,850	185,340	196,460	208,250	220,750	234,000	248,040	262,920	278,700	295,420
Reserve Fund Special Assessment		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Reserve Fund Interest Income	1.90%	0	480	1,020	1,700	2,510	3,640	4,310	5,880	7,680	7,010	9,230	10,320	12,300	14,370	13,890	17,110	19,540	22,850	26,800	22,560	26,010	30,620	35,530	38,990	26,510	31,500
TOTAL CASH RESOURCES		**25,000**	**56,980**	**93,780**	**138,690**	**191,840**	**262,950**	**309,340**	**404,450**	**512,070**	**485,920**	**613,870**	**681,470**	**796,960**	**917,710**	**900,520**	**1,082,580**	**1,222,920**	**1,410,730**	**1,633,990**	**1,417,990**	**1,615,700**	**1,875,940**	**2,153,800**	**2,353,770**	**1,700,270**	**1,984,690**
RESERVE FUND EXPENDITURES																											
	Current RFR																										
1.00 Substructure																											
1.01 Footings, Columns, Walls	610																								9,400		
1.02 Parking Garage Floor Slab	1,210									6,550										8,640							
2.00 Superstructure																											
2.01 Steel Posts, Beams, Canopies - Canopy Paint	2,910		3,280										4,330										5,710				
2.02 Framing, Above Grade Floors, & Roof Structure	1,210																								18,880		
3.00 Exterior Walls																											
3.01 Balcony Railings - Glass	9,530																								149,290		
3.02 Brick	1,780																								27,940		
3.03 Caulking	520											3,430												4,780			
3.04 Doors - Balcony	3,510																										
3.05 Doors - Metal	1,130									6,120										8,070							
3.06 Doors - Overhead	830																								12,840		
3.07 Doors - Rolling Service	950																										
3.08 Doors - Storefront	1,510														12,890												
3.09 EIFS - "Stucco"	2,120				5,440					6,250					7,180					8,250					9,480		
3.10 Metal Cladding Panels	690									3,750										4,950							
3.11 Windows	14,480																										
3.12 Windows - Curtian Wall	1,510																										
3.13 Windows - Storefront	8,120																										
4.00 Roof Assembly																											
4.01 Balcony Membrane	2,950																			35,200							
4.02 Inverted Roofs - Terrace & Upper Balcony	12,280																										
4.03 MBM Torched Roofs - Low Slope SBS	9,020																										
4.04 Plaza/Podium Membrane	8,240																										
5.00 Electrical Systems																											
5.01 Exterior Lighting & Other Electrical Components	5,110																50,240										
5.02 Intercom & Access Control	1,980														16,900												
5.03 Interior Lighting & Other Electrical Components	7,330																								114,750		
5.04 Power Distribution	3,210																								50,210		
5.05 Security Camera System	1,490									8,110										10,690							
6.00 Mechanical Systems																											
6.01 Backflow Devices	830																								13,030		
6.02 Boiler	11,530																								180,620		
6.03 Chemical Feed System	910														7,740												
6.04 Domestic Hot Water Circulation System	3,110																			36,990							
6.05 Domestic Hot Water Expansion Tank	100											660												920			
6.06 Domestic Hot Water Heater	5,110											33,750												47,020			
6.07 Exhaust Fans - Parkade	2,580																								40,580		
6.08 Heating System Expansion Tank & Air Separator	1,940																	20,380									
6.09 Heaters - Cabinet Forced Flow	3,190																			37,980							
6.10 Heaters - Unit	4,100												29,680													42,500	
6.11 Heating Circulation System	5,750														48,980												
6.12 Makeup Air Unit - Hallways	5,790																			69,050							
6.13 MUA Condensing Unit - Hallways	2,910																			34,530							
6.14 Makeup Air Unit	2,300																										
6.15 Plumbing System Components	1,720														14,610												
6.16 Snow Melt System - Hydronic	3,030																								47,380		
6.17 Sump Pumps	7,870									42,540										56,070							
7.00 Life Safety Systems																											
7.01 Carbon Monoxide Detector	400									2,130										2,810							
7.02 Fire Alarm - 10 Year Components	9,510									51,390										67,740							
7.03 Fire Alarm - 15 Year Components	4,580														38,950												
7.04 Fire Sprinklers	1,010														8,600												
8.00 Conveyancing Systems																											
8.01 Cab Renovations	1,820																								28,500		
8.02 Elevator Modernization	16,210																								253,850		
9.00 Interior Improvements																											
9.01 Carpet Tile	4,500											29,790												41,500			
9.02 Doors	2,460									13,350										17,600							
9.03 Drywall	1,430						5,290							6,420							7,790						
9.04 Floor Tile	1,550																										
9.05 Lobby Furniture & Decoration	340														2,870												
9.06 Mailbox	440																										
9.07 Miscellaneous	400														3,440												
9.08 Painting - Stairwells & Ceilings - 15 Year Cycle	2,710														23,060												
9.09 Painting - Interior Components - 7 Year Cycle	7,630						28,020							34,000							41,260						
9.10 Painting - Parkade	1,530																			18,250							
9.11 Signage	910																										
9.12 Stairwell Railings	4,260																										
10.00 Site Improvements																											
10.01 Concrete - Sidewalks, Pads & Ramp	810																			9,700							
10.02 Irrigation	120				330					380					440					510					590		
10.03 Landscaping	300				770					890					1,030					1,190					1,370		
10.04 Metal Bollards	300									1,630										2,150							
10.05 Railings	1,030																										
10.06 Retaining Walls - Concrete	3,820			4,440																				7,720			
11.00 Site Services																											
11.01 Underground Services	1,370																			16,440							
12.00 Professional Services																											
12.01 Reserve Fund Study	0						2,880					3,310					3,810					4,380					5,030
TOTAL EXPENDITURES		**0**	**3,280**	**4,440**	**6,540**	**0**	**36,190**	**0**	**0**	**143,090**	**0**	**70,940**	**34,010**	**40,420**	**186,690**	**0**	**54,050**	**20,380**	**0**	**446,810**	**49,050**	**4,380**	**5,710**	**101,940**	**958,710**	**42,500**	**5,030**
CLOSING BALANCE		**25,000**	**53,700**	**89,340**	**132,150**	**191,840**	**226,760**	**309,340**	**404,450**	**368,980**	**485,920**	**542,930**	**647,460**	**756,540**	**731,020**	**900,520**	**1,028,530**	**1,202,540**	**1,410,730**	**1,187,180**	**1,368,940**	**1,611,320**	**1,870,230**	**2,051,860**	**1,395,060**	**1,657,770**	**1,979,660**
BENCHMARK ANALYSIS RESERVE REQUIREMENTS	**236,440**	**236,440**	**352,480**	**469,660**	**587,110**	**713,510**	**806,120**	**937,740**	**1,071,860**	**1,065,440**	**1,206,170**	**1,278,630**	**1,391,480**	**1,501,060**	**1,467,610**	**1,625,780**	**1,732,900**	**1,877,360**	**2,045,560**	**1,770,150**	**1,900,700**	**2,079,810**	**2,261,110**	**2,349,800**	**1,586,420**	**1,754,870**	**1,965,250**
RESERVE FUND SURPLUS/SHORTFALL		**-211,440**	**-298,780**	**-380,320**	**-454,960**	**-521,670**	**-579,360**	**-628,400**	**-667,410**	**-696,460**	**-720,250**	**-735,700**	**-744,020**	**-744,520**	**-736,590**	**-725,260**	**-704,370**	**-674,820**	**-634,830**	**-582,970**	**-531,760**	**-468,490**	**-390,880**	**-297,940**	**-191,360**	**-97,100**	**14,410**

Table 11 - 25 Year Cash Flow Projection and Benchmark Analysis - Critical Year Model

Year Ending Aug 31		Year 2018	Year 2019	Year 2020	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Year 2028	Year 2029	Year 2030	Year 2031	Year 2032	Year 2033	Year 2034	Year 2035	Year 2036	Year 2037	Year 2038	Year 2039	Year 2040	Year 2041	Year 2042	Year 2043
		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
OPENING BALANCE		**0**	**25,000**	**50,200**	**78,070**	**108,130**	**149,510**	**160,210**	**211,710**	**269,040**	**189,700**	**257,800**	**262,710**	**311,740**	**363,100**	**277,760**	**386,940**	**454,530**	**568,510**	**717,600**	**436,540**	**563,110**	**753,490**	**964,570**	**1,103,680**	**410,930**	**645,730**
Reserve Fund Contributions		25,000	28,000	31,360	35,120	39,330	44,050	48,460	53,310	58,640	64,500	70,950	78,050	85,860	94,450	103,900	114,290	125,720	138,290	152,120	167,330	184,060	202,470	222,720	244,990	269,490	296,440
Reserve Fund Special Assessment		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Reserve Fund Interest Income	1.90%	0	480	950	1,480	2,050	2,840	3,040	4,020	5,110	3,600	4,900	4,990	5,920	6,900	5,280	7,350	8,640	10,800	13,630	8,290	10,700	14,320	18,330	20,970	7,810	12,270
TOTAL CASH RESOURCES		**25,000**	**53,480**	**82,510**	**114,670**	**149,510**	**196,400**	**211,710**	**269,040**	**332,790**	**257,800**	**333,650**	**345,750**	**403,520**	**464,450**	**386,940**	**508,580**	**588,890**	**717,600**	**883,350**	**612,160**	**757,870**	**970,280**	**1,205,620**	**1,369,640**	**688,230**	**954,440**
RESERVE FUND EXPENDITURES																											
	Current RFR																										
1.00 Substructure																											
1.01 Footings, Columns, Walls	610																								9,400		
1.02 Parking Garage Floor Slab	1,210									6,550										8,640							
2.00 Superstructure																											
2.01 Steel Posts, Beams, Canopies - Canopy Paint	2,910		3,280										4,330										5,710				
2.02 Framing, Above Grade Floors, & Roof Structure	1,210																								18,880		
3.00 Exterior Walls																											
3.01 Balcony Railings - Glass	9,530																								149,290		
3.02 Brick	1,780																								27,940		
3.03 Caulking	520											3,430												4,780			
3.04 Doors - Balcony	3,510																										
3.05 Doors - Metal	1,130									6,120										8,070							
3.06 Doors - Overhead	830																								12,840		
3.07 Doors - Rolling Service	950																										
3.08 Doors - Storefront	1,510														12,890												
3.09 EIFS - "Stucco"	2,120				5,440					6,250					7,180					8,250					9,480		
3.10 Metal Cladding Panels	690									3,750										4,950							
3.11 Windows	14,480																										
3.12 Windows - Curtian Wall	1,510																										
3.13 Windows - Storefront	8,120																										
4.00 Roof Assembly																											
4.01 Balcony Membrane	2,950																			35,200							
4.02 Inverted Roofs - Terrace & Upper Balcony	12,280																										
4.03 MBM Torched Roofs - Low Slope SBS	9,020																										
4.04 Plaza/Podium Membrane	8,240																										
5.00 Electrical Systems																											
5.01 Exterior Lighting & Other Electrical Components	5,110																50,240										
5.02 Intercom & Access Control	1,980														16,900												
5.03 Interior Lighting & Other Electrical Components	7,330																								114,750		
5.04 Power Distribution	3,210																								50,210		
5.05 Security Camera System	1,490									8,110										10,690							
6.00 Mechanical Systems																											
6.01 Backflow Devices	830																								13,030		
6.02 Boiler	11,530																								180,620		
6.03 Chemical Feed System	910														7,740												
6.04 Domestic Hot Water Circulation System	3,110																			36,990							
6.05 Domestic Hot Water Expansion Tank	100											660												920			
6.06 Domestic Hot Water Heater	5,110											33,750												47,020			
6.07 Exhaust Fans - Parkade	2,580																								40,580		
6.08 Heating System Expansion Tank & Air Separator	1,940																	20,380									
6.09 Heaters - Cabinet Forced Flow	3,190																			37,980							
6.10 Heaters - Unit	4,100												29,680													42,500	
6.11 Heating Circulation System	5,750														48,980												
6.12 Makeup Air Unit - Hallways	5,790																			69,050							
6.13 MUA Condensing Unit - Hallways	2,910																			34,530							
6.14 Makeup Air Unit	2,300																										
6.15 Plumbing System Components	1,720														14,610												
6.16 Snow Melt System - Hydronic	3,030																								47,380		
6.17 Sump Pumps	7,870									42,540										56,070							
7.00 Life Safety Systems																											
7.01 Carbon Monoxide Detector	400									2,130										2,810							
7.02 Fire Alarm - 10 Year Components	9,510									51,390										67,740							
7.03 Fire Alarm - 15 Year Components	4,580														38,950												
7.04 Fire Sprinklers	1,010														8,600												
8.00 Conveyancing Systems																											
8.01 Cab Renovations	1,820																								28,500		
8.02 Elevator Modernization	16,210																								253,850		
9.00 Interior Improvements																											
9.01 Carpet Tile	4,500											29,790												41,500			
9.02 Doors	2,460									13,350										17,600							
9.03 Drywall	1,430						5,290							6,420							7,790						
9.04 Floor Tile	1,550																										
9.05 Lobby Furniture & Decoration	340														2,870												
9.06 Mailbox	440																										
9.07 Miscellaneous	400														3,440												
9.08 Painting - Stairwells & Ceilings - 15 Year Cycle	2,710														23,060												
9.09 Painting - Interior Components - 7 Year Cycle	7,630						28,020							34,000							41,260						
9.10 Painting - Parkade	1,530																			18,250							
9.11 Signage	910																										
9.12 Stairwell Railings	4,260																										
10.00 Site Improvements																											
10.01 Concrete - Sidewalks, Pads & Ramp	810																			9,700							
10.02 Irrigation	120				330					380					440					510					590		
10.03 Landscaping	300				770					890					1,030					1,190					1,370		
10.04 Metal Bollards	300									1,630										2,150							
10.05 Railings	1,030																										
10.06 Retaining Walls - Concrete	3,820			4,440																				7,720			
11.00 Site Services																											
11.01 Underground Services	1,370																			16,440							
12.00 Professional Services																											
12.01 Reserve Fund Study	0						2,880					3,310					3,810					4,380					5,030
TOTAL EXPENDITURES		**0**	**3,280**	**4,440**	**6,540**	**0**	**36,190**	**0**	**0**	**143,090**	**0**	**70,940**	**34,010**	**40,420**	**186,690**	**0**	**54,050**	**20,380**	**0**	**446,810**	**49,050**	**4,380**	**5,710**	**101,940**	**958,710**	**42,500**	**5,030**
CLOSING BALANCE		**25,000**	**50,200**	**78,070**	**108,130**	**149,510**	**160,210**	**211,710**	**269,040**	**189,700**	**257,800**	**262,710**	**311,740**	**363,100**	**277,760**	**386,940**	**454,530**	**568,510**	**717,600**	**436,540**	**563,110**	**753,490**	**964,570**	**1,103,680**	**410,930**	**645,730**	**949,410**
BENCHMARK ANALYSIS RESERVE REQUIREMENTS	**236,440**	**236,440**	**352,480**	**469,660**	**587,110**	**713,510**	**806,120**	**937,740**	**1,071,860**	**1,065,440**	**1,206,170**	**1,278,630**	**1,391,480**	**1,501,060**	**1,467,610**	**1,625,780**	**1,732,900**	**1,877,360**	**2,045,560**	**1,770,150**	**1,900,700**	**2,079,810**	**2,261,110**	**2,349,800**	**1,586,420**	**1,754,870**	**1,965,250**
RESERVE FUND SURPLUS/SHORTFALL		**-211,440**	**-302,280**	**-391,590**	**-478,980**	**-564,000**	**-645,910**	**-726,030**	**-802,820**	**-875,740**	**-948,370**	**-1,015,920**	**-1,079,740**	**-1,137,960**	**-1,189,850**	**-1,238,840**	**-1,278,370**	**-1,308,850**	**-1,327,960**	**-1,333,610**	**-1,337,590**	**-1,326,320**	**-1,296,540**	**-1,246,120**	**-1,175,490**	**-1,109,140**	**-1,015,840**

8 FUTURE RESERVE FUND MANAGEMENT

8.1 PLAN FOR FUTURE FUNDING

Section 23 (4) & (5) of the Condominium Property Regulation provides that the Board of Directors prepare their own plan for future funding of the reserve fund. They are not bound by the recommendations of the reserve fund planner, provided that the reserve fund is sufficient to repair or replace the reserve components.

"(4) On receiving the reserve fund report under subsection (3), the board must, after reviewing the reserve fund report, approve a reserve fund plan…"

"(5) A reserve fund plan approved under subsection (4) must provide that, based on the reserve fund report, sufficient funds will be available by means of owners' contributions, or any other method that is reasonable in the circumstances, to repair or replace the depreciating property in accordance with the reserve fund report."

8.2 PROJECTED RESERVE FUND EXPENDITURES

For emphasis, the proposed reserve fund expenditures in the 25-Year Cash Flow Projection are guidelines only in terms of timing, based on the remaining life span analysis. ***They are not presented as a repair or replacement schedule***. Reserve fund expenditures should readily be varied to conform to actual management and maintenance plans.

APPENDICIES

The following appendices give additional information regarding the development of this reserve fund study & report.

APPENDIX A – DOCUMENTS REVIEWED

	Documents Reviewed	Document Date	Contractor	Notes
	Condominium Documents			
✓	AGM Minutes	May 16, 2018		
✓	Board Meeting Minutes	April 11, 2017 June 27, 2017 November 21, 2017		
✓	By-laws	September 6, 2016		
✓	Condominium Plan	August 31, 2016		
✓	Condominium Additional Plan Sheet (CAD)	July 25, 2018		
✓	Easement	January 20, 2016		
✓	Land Title Certificate	July 25, 2018		
	Financial Information			
	Annual Audit			
✓	Budget	2016 proposed		
✓	Condominium Fees	2016		
✓	Financial Statements	December 31, 2017		
	Invoices for Reserve Fund Expenditures			
✓	Quotations for Reserve Fund Expenditures	November 14, 2014 October 13, 2017 November 23, 2017	Otis Vipond Inc. Jas Electrical Contractors Inc.	elevator elevator card access exterior lighting
	Specifications for Reserve Fund Expenditures			
	Reserve Fund Investment Schedule			
	Reserve Fund Study (previous)			
	Contracts			
✓	Elevator	September 6, 2017	Otis	
✓	Mechanical Preventative Maintenance & Equipment List	January 18, 2017 February 23, 2018	Reggin Technical Services Ltd.	
	Inspection Reports			
✓	Backflow Prevention	August 6, 2017	Reggin Technical Services Ltd.	
	Elevator			
✓	Fire System	January 18, 2018	Jas Electrical Contractors Inc.	
	Mechanical Equipment			
✓	Sprinkler System	January 18, 2018	Jas Electrical Contractors Inc.	
✓	Deficiency & Warranty	August 9, 2017	Unofficial Site Review of Inglewood ID Common Property	
	Operating & Maintenance Manuals			
	Building			
	Electrical			
✓	Mechanical	issued to manager		
	Plans & Specifications			
✓	Architectural		March 12, 2015	
	Civil			
✓	Electrical		March 3, 2014	
✓	Fire Sprinker		December 15, 2014	
	Irrigation			
✓	Landscape		see Architectural	
✓	Mechanical		February 26, 2015	
	Structural			
✓	Elevator Specifications	July 24, 2018	Otis	
	Project Specifications			

NOTES: NOT NECESSARILY SPECIFIC TO THIS REPORT

1 As determined by provided documentation or counted/observed during site inspection.

2 No plans provided. Assembly is assumed based on typical construction for the age of the property or by visual inspection or through conversations with persons familiar with the project.

3 http://www.financialpost.com/personal-finance/rates/gic-annual.html, http://dollarguide.ca/index/products/1/3/

4 For example, roof coverings, windows, doors, HVAC (heating, ventilating, & air-conditioning), fencing, painting, etc. are items that wear out and require replacement.

5 Example impact to a fictitious unit's assessed condominium fee for an increase to the reserve fund portion:

a. Assume the unit's assessed total fee (operating & reserve) is $900/month and the reserve fund portion is $100/month ($800 + $100 = $900).
b. If there is a recommendation for an increase of 25% to the reserve fund contributions, then the unit's reserve fund portion will increase to $125 ($100 + $100*0.25 = $125). Therefore, the new condominium fee for the unit will be $925 ($800 + $125) assuming there is no increase in the operating portion of the fee.
c. The 25% increase in the reserve fund portion of the condominium fee has resulted in an increase of 2.78% for the overall condominium fee - $\left(\frac{\$925-\$900}{\$900}\right) * 100\% = 2.78\%$.

6 Important article regarding parking garage maintenance: https://www.reminetwork.com/articles/guide-condo-parking-garage-maintenance/

7

8 Assuming the inflation rate is zero and the investment rate is zero, a component with a future replacement cost of $100,000 and an estimated life span of 10 years would experience a proportionate depreciation of $10,000 per year. That means the corporation should save $10,000 per year for that component. It also implies that $10,000 per year should be charged to the owners in those years to ensure they are paying for the depreciation they have used. Not doing so imposes the uncollected depreciation onto future owners who may not have owned the property at the time the depreciation occurred. This is called a "benchmark shortfall" or a "reserve fund shortfall". As this shortfall rises, it can have a negative impact on property values. When the inflation and investment rates are not zero, the exact number may be more or less than the $10,000 for this example, depending on whether the real return is positive or negative.

LIMITING CONDITIONS & ASSUMPTIONS

THIS REPORT IS SUBJECT TO THE FOLLOWING LIMITING CONDITIONS

This signed version of this report is valid for 5 years from the date of issue or until a subsequent report is issued, whether by **eyre.consulting Inc.** (hereinafter referred to as "the planner") or by another reserve fund planning entity.

The planner reserves the right, at its sole discretion, to issue an updated report should information that existed at the time of the report, but was undiscovered for any reason, become known and, in the planner's opinion, this information will materially change any or all analyses, conclusions, or estimates contained herein.

The client to whom this report is addressed, the condominium corporation of the property, and other legitimate interested parties (hereinafter referred to as "authorized parties") may use this report in deliberations affecting the property (hereinafter referred to as the "authorized use") only, and in so doing, the report must not be abstracted; it must be used in its entirety.

Possession of this report, or any copy thereof, does not carry with it the right of publication nor may it be used for any purpose other than the authorized use by anyone except the authorized parties without the written consent of the author, and in any event, only with the proper qualifications.

The legal and survey descriptions of the property as stated herein are those which are recorded by the Registrar of the requisite Land Titles Office and are assumed to be correct.

"Documents Reviewed" indicates what documents were provided for the preparation of this study. Quantities are estimates based on provided drawings take-offs, condominium plan take-offs, and/or site measurements and are considered approximations only.

No legal survey, soil tests, engineering investigations, detailed quantity survey compilations, nor exhaustive physical examinations have been made. Accordingly, no responsibility is assumed concerning these matters or other technical and engineering techniques, which would be required to discover any inherent or hidden condition of the property.

This study makes no assertion regarding the compliance, of any part of the property or its improvements, with any applicable codes or regulations. This report assumes construction followed all building codes, fire codes, town & provincial by-laws, and construction practices in existence at the time of construction.

Sketches, drawings, diagrams, photographs, if any, presented in this report are included for the sole purpose of illustration.

To arrive at supportable replacement cost estimates, it was found necessary to utilize both documented and other cost data. A concerted effort has been put forth to verify the accuracy of the information contained herein. Accordingly, the information is believed to be reliable and correct, and it has been gathered to standard professional procedures, however no guarantee as to the accuracy of the data is implied.

The distribution of cost and other estimates in this report apply only under the programme of utilization as identified in this report. The estimates herein must not be used in conjunction with any other appraisal or Reserve Fund Study and may be invalid if so used.

Interest payments for any loans incurred after the report date have not been considered in this reserve fund analysis.

Unless otherwise noted, all estimates are expressed in Canadian currency

The agreed compensation for services rendered in preparing this report does not include fees for consultations and/or arbitrations, if any. Should personal appearances be required regarding this report, additional fees will have to be negotiated.