



2016 DEPRECIATION REPORT FOR

The Rolston
1325 Rolston Street
Vancouver, BC

March 3, 2016

Prepared For:

The Owners, Strata Plan EPS 1755
c/o FirstService Residential
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Introduction

To meet the requirements of the *Strata Property Act*, we have provided the Strata with this Depreciation Report.

A Depreciation Report is a financial plan that estimates the repair and replacement costs of major items in the Strata Corporation and the expected life of those items. The purpose of the Depreciation Report is to assist the Strata Corporation in determining the amount of annual contributions to the Contingency Reserve Fund (CRF).

The *Strata Property Act* defines the CRF as a fund for common expenses that usually occur less often than once a year or that do not usually occur, relating to the common property or common assets of the Strata Corporation.

Before Depreciation Reports were required, many Stratas were not following a long term repair and renewal plan, resulting in poorly maintained buildings. Without such a plan, many Owners did not fully understand the true cost of repairing and maintaining a building. Stratas were making minimum CRF contributions towards the repair of the complex, and as the buildings aged, Owners were facing large special levies as there were insufficient funds in the CRF to cover the cost of these expenditures.

This Depreciation Report includes a number of different parts to help the Strata Corporation manage their complex, and to help Owners understand the true long term cost of ownership. The Depreciation Report includes:

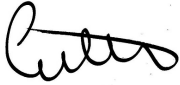
- an inventory of the common property components;
- an opinion of budgets for CRF projects related to these components;
- an estimated timeframe for when we expect those repair/replacement costs to occur;
- the cycle at which we expect those costs to reoccur; and
- funding scenarios to help the Strata decide on how they are going to fund the CRF projects.

Every year the Strata Council puts together a budget that lays out contributions to your Contingency Reserve Fund and your Operating Fund. These two contributions are typically what make up your maintenance fees. When we talk about expenditures throughout the report, it is important to remember that the Depreciation Report only covers the CRF related expenditures (e.g., replacing windows, replacing roofs, etc.), not the day-to-day expenditures that are dealt with through the Operating Fund (e.g., janitorial cleaning, common area hydro fees, common property insurance fees, etc.).

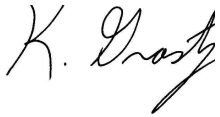
Expenditures that are expected to be managed with funds from the operating budget are not shown in this report. Operating expenditures should be carefully monitored. Conditions that require increasing expenditure may indicate problems that should be dealt with differently than how we have assumed. Further evaluation may be appropriate to determine if a more comprehensive repair or replacement program should be added to the Depreciation Report, or if programs already planned should be advanced. These types of changes would be reflected in updates.

We hope this Depreciation Report will set the stage for financial stability and a well maintained and marketable Strata Corporation in future years.

Respectfully submitted,
WSP Canada Inc.



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Project Manager



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Project Principal

Draft Report Issued: February 4, 2016
Approved by Council: March 3, 2016
Final Report Issued: March 3, 2016

General Description

The Rolston is a 23-storey mixed-use building, with 187 residential suites and 6 commercial units, constructed above a 5-level underground parking garage. There are two elevators serving the residential suites and the garage, and one elevator serving the commercial units and the P1 level. Amenities include two common terraces, and an amenity room with a dining area and exercise area. The building was constructed in 2014.

The floor labels exclude 4, 14, and 24. The floor labels (as opposed to the actual levels) are used in this report.

Based on the drawings, we have taken south elevation to be the Rolston Street elevation (with the residential lobby and garage entrances).

The Strata's fiscal year end is January 31, therefore the 2016 fiscal year began on February 1, 2015, and ends on January 31, 2016.

Sections

The strata is split into two sections: Residential and Commercial. There are three separate contingency reserve funds (CRFs): Residential, Commercial, and Joint Use. The bylaws (section 1.5) state that all repair and maintenance occurring less than once a year is the responsibility of the strata corporation as a whole, rather than the sole responsibility of either section. We interpret this to mean that all CRF expenditures will be split between the residential and commercial sections on a unit entitlement basis.

Reserve Fund Items

This section defines the components that are included in this Depreciation Report. The Projected Expenditure Table that follows this section summarizes the timing and costs of the projects included in this report.

Strata vs. Owner Responsibility

The following is our interpretation of the Strata Plan and Bylaws, legal interpretations of the Strata Property Act, and how we understand the Strata to be operating.

Strata Responsibility:

- Structural frame;
- Parking garage;
- Balconies, terraces, and patios;
- Roofs;
- Exterior cladding, windows, and doors;
- Interior finishes in common areas;
- Site finishes; and
- Common mechanical and electrical facilities.

Owner Responsibility:

- Interior suite finishes;
- Suite-specific plumbing, including commercial unit hot water tanks;
- Suite HVAC units, including baseboard radiators and commercial unit heat pumps; and
- Suite-specific electrical fixtures and associated wiring.

The assumptions we have made about hidden conditions, predicting technical performance, and ongoing maintenance needs for the common elements are described in the "Repair and Replacement Rationale" document, which can be found at www.wspgroup.ca/rfs. Limitations and our Professional Liability Insurance Certificate can also be found here.

The Strata may wish to have these assumptions reviewed by their solicitor for the appropriateness of our determinations.

Operating Costs

This report identifies costs which will be paid from the Contingency Reserve Fund. As such, operating costs are not shown, and only discussed in relation to CRF expenditures. Costs below about \$2,500 are generally considered operating costs.

Operating expenditures should be carefully monitored. Conditions that require increasing expenditure may indicate problems that should be dealt with differently than how we have assumed. Further evaluation may be appropriate to determine if a more comprehensive repair or replacement program should be added to the Depreciation Report, or if programs already planned should be advanced. These types of changes would be reflected in updates.

Capital Expenditure Definitions

Present Cost: Total project cost in today's dollars. The budgets assume a prudent level of ongoing maintenance. These amounts include contingencies (typically 5 to 15%) and allowances for design/project management (5 to 15%), where relevant. GST (5%) has been included.

First Occur.: The first fiscal year in which the project is anticipated to take place. Fiscal years are labeled according to the calendar year it ends in, regardless how many actual months fall in each calendar year.

Cycle: How often a project happens. For example, the number '1' in this column will cause the project to happen every year, and the number '5' in this column will cause the project to occur every fifth year. If the space is left blank, this indicates that the project is only scheduled to occur once. The time cycle following a repair or replacement may be different from the original service life as a result of changes in the materials or equipment employed, and changes in technology.

No. Occur.: How many times a project is anticipated to occur, or the 'Number of Occurrences' that are included in the capital plan. Often this column is left blank, which indicates that the project will repeat throughout the term of the report.

The Rolston, 1325 Rolston Street, Vancouver, BC							Projected Expenditures															
Item	Description	Class	Status	Present Cost	First Occur.	Cycle No.	Occur.	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
1	STRUCTURE																					
1.1.1	10 Year Structural Warranty Review	3	Forecasted	\$2,100	2024											\$2,460						
1.2.1	Balcony Condition Survey	3	Forecasted	\$12,600	2037	20																
1.2.2	Repair Balconies and Eyebrows	3	Forecasted	\$307,573	2039	20																
1.2.3	Replace Balcony Guards and Divider Panels	3	Forecasted	\$527,646	2059	40																
1.4.1	Parking Garage Condition Evaluation	3	Forecasted	\$7,875	2024	12										\$9,227						
1.4.2	Repair Garage Slab Waterproofing	3	Forecasted	\$216,678	2027	25													\$269,412			
1.4.3	Re-Waterproof Suspended Parking Slabs	3	Forecasted	\$392,598	2039	25																
1.4.4	Re-Waterproof Garage Entrance Ramp	3	Forecasted	\$117,180	2044	30																
1.4.5	Re-Waterproof Garage Roof Deck	3	Forecasted	\$74,520	2054	40																
2	BUILDING ENVELOPE																					
2.1.1	5 Year Building Envelope Warranty Review	3	Forecasted	\$10,500	2019						\$11,143											
2.1.2	Repaint and Repair Concrete Walls	3	Forecasted	\$57,668	2034	20																
2.1.3	Replace Exterior Sealants	3	Forecasted	\$131,001	2034	20																
2.2.1	Leakage Investigation and Repair Allowance	3	Forecasted	\$18,112	2029	5															\$23,430	
2.2.2	Replace Double Glazing	3	Forecasted	\$27,720	2034	1	25															
2.2.3	Window Walls - Interim Sealing	3	Forecasted	\$118,465	2054	50																
2.3.1	Replace Garage Overhead Door (P2)	3	Forecasted	\$5,250	2034	20																
2.3.2	Replace Garage Overhead Door (Main Entrance)	3	Forecasted	\$5,250	2034	20																
2.3.3	Replace Entrance Doors (Commercial)	3	Forecasted	\$25,200	2044	30																
2.3.4	Replace Entrance Door (Residential)	3	Forecasted	\$5,250	2044	30																
2.4.1	Re-Waterproof Roof Terraces	3	Forecasted	\$639,510	2039	25																
2.4.2	Replace Smaller Flat Roofs	3	Forecasted	\$42,336	2039	25																
3	FIRE SAFETY																					
3.1.1	Replace Fire Alarm Panels	3	Forecasted	\$82,215	2034	20																
3.1.2	Replace Pressurization Fan	3	Forecasted	\$11,970	2049	35																
3.1.3	Replace Fire Alarm System Devices	3	Forecasted	\$423,741	2054	40																
3.1.4	Replace Back-flow Preventer (Fire Line)	3	Forecasted	\$10,500	2039	25																
3.1.5	Replace Fire Pump and Control Panel	3	Forecasted	\$51,975	2048	35																
3.1.6	Overhaul Generator	3	Forecasted	\$13,650	2039	35																
3.1.7	Replace Generator Fuel Storage Tank	3	Forecasted	\$17,325	2049	35																
3.1.8	Replace Generator and Transfer Switch	3	Forecasted	\$297,360	2049	35																
4	FINISHES, FURNITURE AND EQUIPMENT																					
4.1.1	Refresh Entrance Lobby	3	Forecasted	\$38,640	2029	30																\$49,985
4.1.2	Renovate Entrance Lobby	3	Forecasted	\$102,910	2044	30																
4.2.1	Renovate Corridors	3	Forecasted	\$106,281	2028	15															\$134,790	
4.2.2	Replace Suite Door Hardware	3	Forecasted	\$96,075	2043	30																
4.3.1	Renovate Amenity Room	3	Forecasted	\$51,688	2034	20																
4.3.2	Renovate Common Area Washrooms	3	Forecasted	\$10,500	2034	20																
4.4.1	Repaint Stairwells	3	Forecasted	\$33,472	2028	15																\$42,451

The Rolston, 1325 Rolston Street, Vancouver, BC							Projected Expenditures															
Item	Description	Class	Status	Present Cost	First Occur.	Cycle No.	Occur.	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
4	FINISHES, FURNITURE AND EQUIPMENT																					
4.4.2	Renovate Commercial Corridor	3	Forecasted	\$13,274	2029	15																\$17,171
5	SITE																					
6	HVAC																					
6.1.1	Overhaul Heating Boilers	3	Forecasted	\$15,120	2029	25																\$19,559
6.1.2	Replace Heating Boilers	3	Forecasted	\$157,500	2039	25																
6.1.3	Overhaul Heat Recovery Ventilator	3	Forecasted	\$38,325	2039	25																
6.2.1	Overhaul Make-up Air Unit	3	Forecasted	\$33,075	2029	25																\$42,786
6.2.2	Replace Make-up Air Unit	3	Forecasted	\$84,420	2039	25																
6.3.1	Replace Heat Pumps	3	Forecasted	\$19,924	2034	20																
6.3.2	Replace Heat Pump Boilers	3	Forecasted	\$52,500	2039	25																
6.3.3	Overhaul Air Handling Units	3	Forecasted	\$63,000	2039	25																
6.4.1	Replace Garage CO Detection System	3	Forecasted	\$24,150	2034	20																
6.4.2	Replace Garage Exhaust Fans	3	Forecasted	\$25,200	2044	30																
7	PLUMBING																					
7.1.1	Replace Domestic Hot Water Tank Heaters	3	Forecasted	\$37,800	2027	15																\$47,000
7.2.1	Replace Booster Pumps	3	Forecasted	\$52,500	2039	25																
7.2.2	Replace Back-flow Preventer (Domestic Line)	3	Forecasted	\$5,250	2039	25																
7.2.3	Replace Hot and Cold Supply Risers	3	Forecasted	\$366,597	2044	30																
7.3.1	Replace Sump Pumps	3	Forecasted	\$10,500	2034	20																
8	ELECTRICAL																					
8.1.1	Replace Substation	3	Forecasted	\$549,360	2059	45																
8.2.1	Replace Garage and Stairwell Lighting (T8 Fixtures)	3	Forecasted	\$56,595	2042	25																
8.2.2	Replace Lobby Lighting	3	Forecasted	\$107,184	2042	25																
9	CONVEYANCE																					
9.1.1	Replace Lift (Residential Lobby Entrance)	3	Forecasted	\$31,500	2032	18																
9.1.2	Refurbish Elevator Cab Interiors	3	Forecasted	\$57,645	2039	25																
9.1.3	Elevator System Modernization (Residential)	3	Forecasted	\$355,162	2039	25																
9.1.4	Elevator System Modernization (Commercial)	3	Forecasted	\$205,012	2039	25																
10	MISCELLANEOUS																					
10.1.1	Replace Garbage Compactor	3	Forecasted	\$12,600	2039	25																
10.2.1	Replace Closed Circuit Television System	3	Forecasted	\$73,920	2029	15																\$95,623
10.2.2	Replace Enterphone System	3	Forecasted	\$30,030	2029	15																\$38,847
10.2.3	Replace Access System	3	Forecasted	\$53,130	2029	15																\$68,729
10.3.1	Initial Depreciation Report	3	Forecasted	\$12,075	2017			\$12,316														
10.3.2	Update Depreciation Report	3	Forecasted	\$7,245	2020	3				\$7,842		\$8,322					\$8,832					\$9,372
Total Projected Expenditures								\$0	\$12,316	\$0	\$11,143	\$7,842	\$0	\$0	\$8,322	\$11,687	\$0	\$8,832	\$316,411	\$177,241	\$365,503	\$0



Financial Analysis

The *Strata Property Act* establishes regulations for minimum contributions into the CRF based on the operating fund. In our experience preparing Depreciation Reports, following this minimum contribution approach typically causes under-funding, resulting in future special levies or larger future annual CRF contributions.

The funding scenarios that follow this section are intended to help you understand the long term implications of various CRF contribution approaches. The options presented range from maintaining a low annual CRF contribution and paying for the majority of the future capital projects by special levies, to increasing annual CRF contributions in an effort to mitigate special levies. We have included the following funding scenarios for consideration, shown on the following pages. Owners could choose to follow one of these options or an alternate cash flow plan that better suits their needs.

Although each scenario only shows 30 years of expenditures/contributions, cash flow Scenario 3 is calculated based on a 45 year timeframe. While we appreciate that the *Strata Property Act* only requires a 30 year analysis period, we recommend that our clients consider a longer report term as many building components have life cycles longer than 30 years (such as the windows, the main electrical equipment, etc.), and some of these projects are very capital intensive.

Three CRFs Treated As One For Financial Analysis Section

The strata corporation maintains three CRFs: one for the residential section, one for the commercial section, and one for joint use. Each CRF has a balance available to fund projects identified in this report, and is contributed to by the owners.

Our interpretation of the bylaws is that all CRF projects are paid for by both sections on a unit entitlement basis. As such, we assume that contributions to the CRFs are also calculated on a unit entitlement basis.

With contributions and expenditures handled in this way, this report need not deal with individual CRF balances and contribution amounts. For simplicity, this report takes the combined balance of the three CRFs and treats it as one CRF.

The strata corporation will need to manage contributions and withdrawals to/from each fund to meet minimum balance requirements.

How To Read The Funding Scenarios

Each funding scenario is a separate CRF cash flow analysis. Once all the CRF project budgets are put together for the repair/replacement of the common elements, we incorporate them into our financial analysis tool along with the following information:

- The CRF Opening Balance for report starting year;
- The annual CRF Contribution for report starting year;
- Special Levies anticipated for the report starting year (if any);
- A specified Minimum Balance (the present value of the lowest allowable CRF balance, as set by the Strata Council);
- An estimated annual Interest Rate earned on savings (reflecting expected average trends, not necessarily the current rate); and
- An estimated Inflation Rate used to increase the estimated costs of repairs and replacements (reflecting expected average trends, not necessarily the current rate).

The cash flow analysis tool contains an algorithm that adds up all of the expenditures that the Strata will see over the report term, and calculates a contribution level to keep the CRF balance above the minimum balance that was specified by the Strata Council.

For each scenario, the algorithm optimizes itself so that at no point will the Strata be contributing more than is required to fund the future expenditures. You can see adjustments occur in some of the scenarios where the contribution rate decreases, indicated as a "Critical Year". The algorithm is adjusting the CRF contribution level as you enter a period of lower average annual expenditures.

The funding scenarios should be read across each row, from left to right. The logic follows a simple mathematic equation:

Opening Balance + Recommended Annual Contributions + Other Contributions (typically special levies) -
Estimated Inflation Adjusted Expenditures + Expected Interest Earned (on CRF balance) = Closing Balance

The closing balance at the end of this year is then inserted as the opening balance of the next fiscal year on the row below.

The "Recommended Annual Contribution Increase" column shows the year-over-year increase to the CRF portion of the monthly fees. The columns "Amount," "Percentage(%)," and "per Unit per Month" express this same year-over-year increase in different ways. The "Amount" column shows the total increase for the Strata as a whole, while the "per Unit per Month" column shows the increase in monthly CRF contribution for an average unit (actual amounts vary by unit entitlement). The "Percentage (%)" column shows the increase expressed as a percentage of the previous year's contribution.

Note that the financial scenarios consider only the CRF component of strata fees, and do not include the portion that goes to the operating fund. As such, the increases shown are increases in the CRF component only, rather than increases in the total strata fees. For example, consider a \$400 monthly strata fee made up of a \$100 CRF component and a \$300 operating component. If a scenario shows a year-over-year increase of 30%, this means an increase of \$30 (\$100 x 30%) and a new strata fee of \$430 (made up of a \$130 CRF component and a \$300 operating component). The new strata fee is not \$520 (\$400 + 30%).

There is no requirement within the *Strata Property Act* to implement a specific funding scenario that is provided in this Depreciation Report. We recommend using the information presented in these scenarios to assist in determining an appropriate amount for the annual contribution to the contingency reserve fund. When selecting your CRF contribution, you should consider the impact on not only the current owners, but the future owners as well, as deferring CRF contributions shifts the financial burden from present to future Owners.

Scenario 1 - Current Contribution and Special Levies

Assumptions:

Opening Balance of the Reserve Fund:	\$89,704	Interest Rate Earned:	3%
Current Annual Contribution:	\$54,617	Expenditure Inflation Rate:	2%
Minimum Reserve Fund Balance:	\$50,000	Minimum Balance Inflation Rate:	2%
First Critical Year:	N/A	Number of Units:	193
Second Critical Year:	N/A	Fiscal Year End:	Jan 31

Results:

Year	Opening Balance	Recommended Annual Contributions		Estimated Inflation Adjusted Expenditure	Estimated Interest Earned	Recommended Annual Contribution Increase			Closing Balance
		Base	Other			Amount	Percentage (%)	per Unit per Month	
2016	\$89,704	\$54,617		\$0	\$3,510				\$147,831
2017	\$147,831	\$55,709		\$12,316	\$5,086	\$1,092	2	\$0.47	\$196,311
2018	\$196,311	\$56,824		\$0	\$6,742	\$1,114	2	\$0.48	\$259,876
2019	\$259,876	\$57,960		\$11,143	\$8,499	\$1,136	2	\$0.49	\$315,191
2020	\$315,191	\$59,119		\$7,842	\$10,225	\$1,159	2	\$0.50	\$376,693
2021	\$376,693	\$60,302		\$0	\$12,205	\$1,182	2	\$0.51	\$449,200
2022	\$449,200	\$61,508		\$0	\$14,399	\$1,206	2	\$0.52	\$525,107
2023	\$525,107	\$62,738		\$8,322	\$16,569	\$1,230	2	\$0.53	\$596,092
2024	\$596,092	\$63,993		\$11,687	\$18,667	\$1,255	2	\$0.54	\$667,065
2025	\$667,065	\$65,272		\$0	\$20,991	\$1,280	2	\$0.55	\$753,328
2026	\$753,328	\$66,578		\$8,832	\$23,466	\$1,305	2	\$0.56	\$834,540
2027	\$834,540	\$67,909		\$316,411	\$21,309	\$1,332	2	\$0.58	\$607,347
2028	\$607,347	\$69,268		\$177,241	\$16,601	\$1,358	2	\$0.59	\$515,974
2029	\$515,974	\$70,653		\$365,503	\$11,056	\$1,385	2	\$0.60	\$232,181
2030	\$232,181	\$72,066		\$0	\$8,046	\$1,413	2	\$0.61	\$312,293
2031	\$312,293	\$73,507		\$0	\$10,471	\$1,441	2	\$0.62	\$396,272
2032	\$396,272	\$74,977		\$53,189	\$12,215	\$1,470	2	\$0.63	\$430,275
2033	\$430,275	\$76,477		\$0	\$14,055	\$1,500	2	\$0.65	\$520,807
2034	\$520,807	\$78,007	\$99,426	\$634,110	\$7,283	\$1,530	2	\$0.66	\$71,412
2035	\$71,412	\$79,567		\$50,937	\$2,572	\$1,560	2	\$0.67	\$102,614
2036	\$102,614	\$81,158		\$52,892	\$3,502	\$1,591	2	\$0.69	\$134,382
2037	\$134,382	\$82,781		\$61,112	\$4,357	\$1,623	2	\$0.70	\$160,408
2038	\$160,408	\$84,437		\$54,055	\$5,268	\$1,656	2	\$0.72	\$196,058
2039	\$196,058	\$86,126	\$3,795,541	\$3,998,879	\$0	\$1,689	2	\$0.73	\$78,845
2040	\$78,845	\$87,848		\$44,586	\$3,014	\$1,723	2	\$0.74	\$125,121
2041	\$125,121	\$89,605		\$57,364	\$4,237	\$1,757	2	\$0.76	\$161,599
2042	\$161,599	\$91,397	\$213,924	\$383,713	\$463	\$1,792	2	\$0.77	\$83,671
2043	\$83,671	\$93,225	\$358,295	\$449,847	\$0	\$1,828	2	\$0.79	\$85,344
2044	\$85,344	\$95,090	\$1,413,940	\$1,507,323	\$0	\$1,865	2	\$0.81	\$87,051
2045	\$87,051	\$96,991		\$49,226	\$3,328	\$1,902	2	\$0.82	\$138,145

Description:

This scenario shows the special levies that would be required each year if you continue annual CRF contributions at the current level. Special levies are shown in the "Other" contributions column. Levies are calculated to cover funding shortfalls in years where expenditures exceed savings, and are only as large as necessary to maintain the specified minimum balance.

This approach puts off saving for large projects and shifts the financial burden toward future owners.



Scenario 2 – One-Time Increase to Fully Funded, No Special Levies (30 Year Analysis)

Assumptions:

Opening Balance of the Reserve Fund:	\$89,704	Interest Rate Earned:	3%
Current Annual Contribution:	\$54,617	Expenditure Inflation Rate:	2%
Minimum Reserve Fund Balance:	\$50,000	Minimum Balance Inflation Rate:	2%
First Critical Year:	2044	Number of Units:	193
Second Critical Year:	2045	Fiscal Year End:	Jan 31

Results:

Year	Opening Balance	Recommended Annual Contributions		Estimated Inflation Adjusted Expenditure	Estimated Interest Earned	Recommended Annual Contribution Increase			Closing Balance
		Base	Other			Amount	Percentage (%)	per Unit per Month	
2016	\$89,704	\$54,617		\$0	\$3,510				\$147,831
2017	\$147,831	\$175,081		\$12,316	\$6,876	\$120,464	220.6	\$52.01	\$317,473
2018	\$317,473	\$178,583		\$0	\$12,203	\$3,502	2	\$1.51	\$508,258
2019	\$508,258	\$182,154		\$11,143	\$17,813	\$3,572	2	\$1.54	\$697,082
2020	\$697,082	\$185,797		\$7,842	\$23,582	\$3,643	2	\$1.57	\$898,620
2021	\$898,620	\$189,513		\$0	\$29,801	\$3,716	2	\$1.60	\$1,117,934
2022	\$1,117,934	\$193,304		\$0	\$36,438	\$3,790	2	\$1.64	\$1,347,675
2023	\$1,347,675	\$197,170		\$8,322	\$43,263	\$3,866	2	\$1.67	\$1,579,786
2024	\$1,579,786	\$201,113		\$11,687	\$50,235	\$3,943	2	\$1.70	\$1,819,447
2025	\$1,819,447	\$205,135		\$0	\$57,660	\$4,022	2	\$1.74	\$2,082,242
2026	\$2,082,242	\$209,238		\$8,832	\$65,473	\$4,103	2	\$1.77	\$2,348,122
2027	\$2,348,122	\$213,423		\$316,411	\$68,899	\$4,185	2	\$1.81	\$2,314,032
2028	\$2,314,032	\$217,691		\$177,241	\$70,028	\$4,268	2	\$1.84	\$2,424,510
2029	\$2,424,510	\$222,045		\$365,503	\$70,583	\$4,354	2	\$1.88	\$2,351,636
2030	\$2,351,636	\$226,486		\$0	\$73,946	\$4,441	2	\$1.92	\$2,652,068
2031	\$2,652,068	\$231,016		\$0	\$83,027	\$4,530	2	\$1.96	\$2,966,111
2032	\$2,966,111	\$235,636		\$53,189	\$91,720	\$4,620	2	\$1.99	\$3,240,278
2033	\$3,240,278	\$240,349		\$0	\$100,814	\$4,713	2	\$2.03	\$3,581,440
2034	\$3,581,440	\$245,156		\$634,110	\$101,609	\$4,807	2	\$2.08	\$3,294,094
2035	\$3,294,094	\$250,059		\$50,937	\$101,810	\$4,903	2	\$2.12	\$3,595,026
2036	\$3,595,026	\$255,060		\$52,892	\$110,883	\$5,001	2	\$2.16	\$3,908,077
2037	\$3,908,077	\$260,161		\$61,112	\$120,228	\$5,101	2	\$2.20	\$4,227,354
2038	\$4,227,354	\$265,364		\$54,055	\$129,990	\$5,203	2	\$2.25	\$4,568,654
2039	\$4,568,654	\$270,672		\$3,998,879	\$81,136	\$5,307	2	\$2.29	\$921,583
2040	\$921,583	\$276,085		\$44,586	\$31,120	\$5,413	2	\$2.34	\$1,184,202
2041	\$1,184,202	\$281,607		\$57,364	\$38,890	\$5,522	2	\$2.38	\$1,447,334
2042	\$1,447,334	\$287,239		\$383,713	\$41,973	\$5,632	2	\$2.43	\$1,392,833
2043	\$1,392,833	\$292,984		\$449,847	\$39,432	\$5,745	2	\$2.48	\$1,275,401
2044	\$1,275,401	\$298,843		\$1,507,323	\$20,135	\$5,860	2	\$2.53	\$87,057
2045	\$87,057	\$304,820		\$49,226	\$6,446	\$5,977	2	\$2.58	\$349,096

Description:

This scenario shows a large initial increase in the annual CRF contribution to a level which will fully cover future expenditures within the next 30 years. No special levies are needed. Following the large initial increase, small annual increases adjust for inflation so that the contribution level remains consistent in terms of today's dollars.

This approach represents a long term savings plan.



Scenario 3 – One-Time Increase to Fully Funded, No Special Levies (45 Year Analysis)

Assumptions:

Opening Balance of the Reserve Fund:	\$89,704	Interest Rate Earned:	3%
Current Annual Contribution:	\$54,617	Expenditure Inflation Rate:	2%
Minimum Reserve Fund Balance:	\$50,000	Minimum Balance Inflation Rate:	2%
First Critical Year:	2059	Number of Units:	193
Second Critical Year:	2060	Fiscal Year End:	Jan 31

Results:

Year	Opening Balance	Recommended Annual Contributions		Estimated Inflation Adjusted Expenditure	Estimated Interest Earned	Recommended Annual Contribution Increase			Closing Balance
		Base	Other			Amount	Percentage (%)	per Unit per Month	
2016	\$89,704	\$54,617		\$0	\$3,510				\$147,831
2017	\$147,831	\$200,827		\$12,316	\$7,263	\$146,210	267.7	\$63.13	\$343,605
2018	\$343,605	\$204,843		\$0	\$13,381	\$4,017	2	\$1.73	\$561,829
2019	\$561,829	\$208,940		\$11,143	\$19,822	\$4,097	2	\$1.77	\$779,448
2020	\$779,448	\$213,119		\$7,842	\$26,463	\$4,179	2	\$1.80	\$1,011,187
2021	\$1,011,187	\$217,381		\$0	\$33,596	\$4,262	2	\$1.84	\$1,262,165
2022	\$1,262,165	\$221,729		\$0	\$41,191	\$4,348	2	\$1.88	\$1,525,084
2023	\$1,525,084	\$226,163		\$8,322	\$49,020	\$4,435	2	\$1.91	\$1,791,946
2024	\$1,791,946	\$230,687		\$11,687	\$57,043	\$4,523	2	\$1.95	\$2,067,989
2025	\$2,067,989	\$235,300		\$0	\$65,569	\$4,614	2	\$1.99	\$2,368,859
2026	\$2,368,859	\$240,006		\$8,832	\$74,533	\$4,706	2	\$2.03	\$2,674,567
2027	\$2,674,567	\$244,807		\$316,411	\$79,163	\$4,800	2	\$2.07	\$2,682,125
2028	\$2,682,125	\$249,703		\$177,241	\$81,551	\$4,896	2	\$2.11	\$2,836,138
2029	\$2,836,138	\$254,697		\$365,503	\$83,422	\$4,994	2	\$2.16	\$2,808,754
2030	\$2,808,754	\$259,791		\$0	\$88,159	\$5,094	2	\$2.20	\$3,156,704
2031	\$3,156,704	\$264,987		\$0	\$98,676	\$5,196	2	\$2.24	\$3,520,366
2032	\$3,520,366	\$270,286		\$53,189	\$108,867	\$5,300	2	\$2.29	\$3,846,331
2033	\$3,846,331	\$275,692		\$0	\$119,525	\$5,406	2	\$2.33	\$4,241,548
2034	\$4,241,548	\$281,206		\$634,110	\$121,953	\$5,514	2	\$2.38	\$4,010,597
2035	\$4,010,597	\$286,830		\$50,937	\$123,856	\$5,624	2	\$2.43	\$4,370,346
2036	\$4,370,346	\$292,567		\$52,892	\$134,706	\$5,737	2	\$2.48	\$4,744,727
2037	\$4,744,727	\$298,418		\$61,112	\$145,901	\$5,851	2	\$2.53	\$5,127,934
2038	\$5,127,934	\$304,386		\$54,055	\$157,593	\$5,968	2	\$2.58	\$5,535,858
2039	\$5,535,858	\$310,474		\$3,998,879	\$110,750	\$6,088	2	\$2.63	\$1,958,203
2040	\$1,958,203	\$316,683		\$44,586	\$62,828	\$6,209	2	\$2.68	\$2,293,128
2041	\$2,293,128	\$323,017		\$57,364	\$72,779	\$6,334	2	\$2.73	\$2,631,560
2042	\$2,631,560	\$329,477		\$383,713	\$78,133	\$6,460	2	\$2.79	\$2,655,457
2043	\$2,655,457	\$336,067		\$449,847	\$77,957	\$6,590	2	\$2.85	\$2,619,634
2044	\$2,619,634	\$342,788		\$1,507,323	\$61,121	\$6,721	2	\$2.90	\$1,516,221
2045	\$1,516,221	\$349,644		\$49,226	\$49,993	\$6,856	2	\$2.96	\$1,866,632

Description:

This scenario takes the same approach as Scenario 2, but will cover all expenditures within the next 45 years. The expanded analysis period takes the full lifecycle of most building components into account, and results in higher contribution levels than Scenario 2.



Scenario 4 - Phased-In Contribution Increase (30 Year Analysis)

Assumptions:

Opening Balance of the Reserve Fund:	\$89,704	Interest Rate Earned:	3%
Current Annual Contribution:	\$54,617	Expenditure Inflation Rate:	2%
Minimum Reserve Fund Balance:	\$50,000	Minimum Balance Inflation Rate:	2%
First Critical Year:	2044	Number of Units:	193
Second Critical Year:	2045	Fiscal Year End:	Jan 31

Results:

Year	Opening Balance	Recommended Annual Contributions		Estimated Inflation Adjusted Expenditure	Estimated Interest Earned	Recommended Annual Contribution Increase			Closing Balance
		Base	Other			Amount	Percentage (%)	per Unit per Month	
2016	\$89,704	\$54,617		\$0	\$3,510				\$147,831
2017	\$147,831	\$82,664		\$12,316	\$5,490	\$28,047	51.4	\$12.11	\$223,670
2018	\$223,670	\$111,272		\$0	\$8,379	\$28,608	34.6	\$12.35	\$343,321
2019	\$343,321	\$140,452		\$11,143	\$12,239	\$29,180	26.2	\$12.60	\$484,870
2020	\$484,870	\$170,216		\$7,842	\$16,982	\$29,764	21.2	\$12.85	\$664,226
2021	\$664,226	\$200,575		\$0	\$22,935	\$30,359	17.8	\$13.11	\$887,737
2022	\$887,737	\$204,587		\$0	\$29,701	\$4,012	2	\$1.73	\$1,122,025
2023	\$1,122,025	\$208,679		\$8,322	\$36,666	\$4,092	2	\$1.77	\$1,359,048
2024	\$1,359,048	\$212,852		\$11,687	\$43,789	\$4,174	2	\$1.80	\$1,604,002
2025	\$1,604,002	\$217,109		\$0	\$51,377	\$4,257	2	\$1.84	\$1,872,488
2026	\$1,872,488	\$221,452		\$8,832	\$59,364	\$4,342	2	\$1.87	\$2,144,471
2027	\$2,144,471	\$225,881		\$316,411	\$62,976	\$4,429	2	\$1.91	\$2,116,917
2028	\$2,116,917	\$230,398		\$177,241	\$64,305	\$4,518	2	\$1.95	\$2,234,379
2029	\$2,234,379	\$235,006		\$365,503	\$65,074	\$4,608	2	\$1.99	\$2,168,956
2030	\$2,168,956	\$239,706		\$0	\$68,664	\$4,700	2	\$2.03	\$2,477,327
2031	\$2,477,327	\$244,500		\$0	\$77,987	\$4,794	2	\$2.07	\$2,799,815
2032	\$2,799,815	\$249,390		\$53,189	\$86,937	\$4,890	2	\$2.11	\$3,082,953
2033	\$3,082,953	\$254,378		\$0	\$96,304	\$4,988	2	\$2.15	\$3,433,636
2034	\$3,433,636	\$259,466		\$634,110	\$97,389	\$5,088	2	\$2.20	\$3,156,381
2035	\$3,156,381	\$264,655		\$50,937	\$97,897	\$5,189	2	\$2.24	\$3,467,996
2036	\$3,467,996	\$269,948		\$52,892	\$107,296	\$5,293	2	\$2.29	\$3,792,348
2037	\$3,792,348	\$275,347		\$61,112	\$116,984	\$5,399	2	\$2.33	\$4,123,568
2038	\$4,123,568	\$280,854		\$54,055	\$127,109	\$5,507	2	\$2.38	\$4,477,476
2039	\$4,477,476	\$286,471		\$3,998,879	\$78,638	\$5,617	2	\$2.43	\$843,706
2040	\$843,706	\$292,201		\$44,586	\$29,025	\$5,729	2	\$2.47	\$1,120,346
2041	\$1,120,346	\$298,045		\$57,364	\$37,221	\$5,844	2	\$2.52	\$1,398,247
2042	\$1,398,247	\$304,006		\$383,713	\$40,752	\$5,961	2	\$2.57	\$1,359,292
2043	\$1,359,292	\$310,086		\$449,847	\$38,682	\$6,080	2	\$2.63	\$1,258,213
2044	\$1,258,213	\$316,287		\$1,507,323	\$19,881	\$6,202	2	\$2.68	\$87,058
2045	\$87,058	\$322,613		\$49,226	\$6,713	\$6,326	2	\$2.73	\$367,157

Description:

This scenario shows the large increase from Scenario 2 spread out over several years. This approach still arrives at a fully-funded position at the end of the phase-in period, but breaks the increase down into smaller, more manageable increases.

This approach represents a middle ground between funding by special levy and becoming fully-funded next year.



1. STRUCTURE

1.1 Structural Frame

Description:

The structure is concrete-framed, with cast-in-place reinforced concrete slabs, supported by reinforced concrete columns and walls. Drawings indicate that the majority of the concrete is conventionally reinforced; floor slabs at levels 5, 7, 9, 11, 13, 16, 18, 20, 22, and 25 have a fully-encapsulated unbonded post-tensioning (PT) system (high-strength cables placed in concrete under high tension).

Foundations consist of concrete strip and spread footings.

The main building structure is generally protected from the deteriorating effects of weather. No reserve fund expenditures are expected within the timeframe of this report for the protected structural components. The structural components that have exposure to weather and/or vehicle traffic (such as the concrete balcony and parking garage slabs) are covered in other component sections.

This building is located in an area with a relatively high risk of strong seismic activity. Code requirements for earthquake resistance have traditionally become more stringent over time; however, upgrading to current code is normally only required if major structural renovations are undertaken (eg. expansions, removing load-bearing walls). In the absence of any planned major structural renovations, we have not included a budget for seismic retrofits.

Project Name	Present Cost	Inflated Cost	First Occur.	Cycle	# Occurrences	CL	Status
1.1.1 10 Year Structural Warranty Review	\$2,100	\$2,460	2024	N/A	One time	3	Forecasted

Project Notes:

This project allows for a 10 Year Warranty Review to identify any major structural defects, which may be covered by the 10 year warranty provided under the Homeowner Protection Act.

1.2 Balconies

Description:

There are balconies on all elevations, which are formed by extensions of the concrete floor slabs, either cantilevered or spanning between concrete shear walls. The topside of the slabs have elastomeric waterproofing membranes with a pedestrian traffic topping, and the undersides of the slabs have either metal panels or are painted.

Balcony guards are aluminum posts and rails with glass panels. Some balconies have concrete curbs, with the metal and glass guards mounted on top.

There are prefinished aluminum and glass divider panels between shared balconies.

Every other floor slab extends beyond the exterior walls to create ledges or "eyebrows". At the 16th floor, the east and west eyebrows are deeper, extending about 2m from the exterior wall. Eyebrows are protected with an elastomeric waterproofing membrane on the topside.

There are terraces (similar to balconies, but over living space) at the 5th, 16th, and 26th floors. Terraces are discussed further in the "Roofing" section.

Project Name	Present Cost	Inflated Cost	First Occur.	Cycle	# Occurrences	CL	Status
1.2.1 Balcony Condition Survey	\$12,600	\$19,097	2037	20 yrs	recurring	3	Forecasted
Project Notes: This item allows for a balcony condition evaluation to visually review the condition of the structural components at sample areas, evaluate the repair needs and to use this information to develop a scope of work and budget for balcony structure repairs. The budget allows for sounding survey of a sample of the concrete slabs to evaluate the extent of concrete delamination.							
1.2.2 Repair Balconies and Eyebrows	\$307,573	\$485,012	2039	20 yrs	recurring	3	Forecasted
Project Notes: This item is an allowance for repairs to the concrete balcony slabs and eyebrows, including replacement of the waterproofing membrane on the topside of the slabs, and repainting of the slab edges and undersides (painted concrete undersides only). The budget assumes that the balcony undersides with metal panelling will not require repainting.							
1.2.3 Replace Balcony Guards and Divider Panels	\$527,646	\$1,236,374	2059	40 yrs	recurring	3	Forecasted
Project Notes: This item allows for replacement of the guards and divider panels at balconies and terraces. This project is timed to occur with the concrete balcony repair project to minimize suspended access costs. If the projects are completed separately, additional suspended access costs will apply. The suspended access costs are included in the balcony repair project.							

1.3 Suspended Access Systems

Description:

The building has permanent tie-back anchors to permit suspended access to the exterior walls and terrace perimeter planters. According to the roof anchor drawings, the components include:

- cast-in-place anchors (65);
- adhesive anchors (18); and
- weld-on anchors (4).

The adhesive anchors require mandatory annual inspections and 5-year loading testing. The cast-in-place and welded anchors are required to be annually inspected, but not load-tested. Annual inspections and load tests are assumed to be an operating expense. Wholesale replacement of the system is not budgeted within the life of the building as it is not normally required.

The roof anchor drawings are only kept in the caretaker's office. Regulations require these drawings to be posted at all roof exits. Additional drawings should be posted at roof exits as part of ongoing maintenance.

1.4 Parking Garage

Description:

There is a five-level underground parking garage. The P1, P2, P3, and P4 Levels are conventionally-reinforced suspended slabs (according to the structural drawings) and have elastomeric waterproofing membranes and traffic toppings. The lowest level (P5) is a concrete slab-on-grade.

The garage extends beyond the tower footprint at the southeast corner, forming a small buried roof deck area. Above this areas, there is concrete paving.

The garage access ramp is located at the south side, accessed off Rolston Street. The ramp slab is suspended and has a concrete topping.

The parking garage has painted columns and concrete block walls. The foundation walls and ceilings are exposed concrete.

Project Name	Present Cost	Inflated Cost	First Occur.	Cycle	# Occurrences	CL	Status
1.4.1 Parking Garage Condition Evaluation	\$7,875	\$9,227	2024	12 yrs	recurring	3	Forecasted
Project Notes: This item allows for a parking garage condition evaluation to confirm an appropriate scope of work and budget for future garage repairs. The budget includes a visual review, sounding survey, and engineering report.							
1.4.2 Repair Garage Slab Waterproofing	\$216,678	\$269,412	2027	25 yrs	recurring	3	Forecasted
Project Notes: Traffic deck waterproofing systems include a flexible waterproofing membrane covered by a traffic surface to resist wear and tear. With age, membranes become less flexible and split, allowing leakage, or debond from the concrete slab. Minor repairs are expected to be paid for from the operating fund. Over time, the extent of wear-and-tear will warrant a more major refurbishment. This item allows to generally re-apply the traffic surface over all drive aisles (as the drive aisles are subject to greater wear), and complete local membrane repairs in the parking stalls. The budget also includes an allowance for nominal concrete repairs.							
1.4.3 Re-Waterproof Suspended Parking Slabs	\$392,598	\$619,087	2039	25 yrs	recurring	3	Forecasted
Project Notes: Eventually, the entire waterproofing system will require general replacement. This project allows to remove and replace the existing traffic deck coating, including an allowance for some concrete and drain repairs. Budgets assume that local membrane repairs will be completed in a timely manner, avoiding the need for major structural repairs to the concrete slab at the time of general re-waterproofing.							
1.4.4 Re-Waterproof Garage Entrance Ramp	\$117,180	\$204,013	2044	30 yrs	recurring	3	Forecasted
Project Notes: This item allows to re-waterproof the garage entrance ramp, including removing and replacing the concrete topping and membrane. The budget also includes a nominal allowance for concrete repairs.							
1.4.5 Re-Waterproof Garage Roof Deck	\$74,520	\$158,154	2054	40 yrs	recurring	3	Forecasted
Project Notes: This item allows to re-waterproof the garage roof deck, and includes concrete repairs, drain repairs, excavating the area, installing a new membrane, and reinstating the fill and surface finishes.							

2. BUILDING ENVELOPE

2.1 Walls

Description:

The exterior walls are primarily window wall with some prefinished metal panel sections. See the "Windows" section for further discussion of the window wall system.

In addition, there is painted cast-in-place concrete at the ground level, at the mechanical/elevator penthouses, at balcony and eyebrow slab edges, and at the vertical wall extensions (similar to eyebrows, but vertical) at the north and south walls.

There are caulked joints visible where balcony, terrace, and eyebrow topsides meet the exterior walls.

There are metal architectural features (horizontal rails) attached to the exterior walls at the 2nd level of the north and west elevations, and at the mechanical/elevator penthouses.

There are awnings attached to the exterior walls over the ground level commercial unit entrances, at the 16th floor terrace, and at the rooftop terrace. Each awning consists of a painted steel frame. The commercial entrance and rooftop awnings also have sloped glass panels.

Project Name	Present Cost	Inflated Cost	First Occur.	Cycle	# Occurrences	CL	Status
2.1.1 5 Year Building Envelope Warranty Review	\$10,500	\$11,143	2019	N/A	One time	3	Forecasted
Project Notes: This project allows for a 5 Year Warranty Review, which is an evaluation of building envelope components, which are covered by the 5 year warranty provided under the Homeowner Protection Act.							
2.1.2 Repaint and Repair Concrete Walls	\$57,668	\$82,364	2034	20 yrs	recurring	3	Forecasted
Project Notes: This item allows to repaint the concrete wall areas. The project includes an allowance for localized concrete repairs that may be required. We do not expect the metal panels, awnings, or metal architectural features to require replacement within the report term. Periodic cleaning, touch-up repainting, and repairs are assumed to be operating expenses.							
2.1.3 Replace Exterior Sealants	\$131,001	\$187,102	2034	20 yrs	recurring	3	Forecasted
Project Notes: This item allows for replacement of the wall sealants required to maintain joints weather-tight and reduce the incidence/likelihood of leakage into the building. Refer to the "Windows" section for re-sealing projects related to the window wall system.							

2.2 Windows

Description:

Windows are aluminum-framed with double glazing, installed in a window wall configuration (floor-to-ceiling). The windows are exterior-glazed, meaning that IGUs are installed from the outside. The window wall system consists of aluminum frames, double-glazed vision panels, and spandrel panels. Spandrel panels are back-painted glass within window areas, and metal at non-window areas. Sealants are generally concealed behind frame components.

Glass doors are generally incorporated into the window wall system. There are double-swing entrance doors at the the lobby and commercial units, single-swing glass doors at the common terraces, and sliding glass doors at balconies and private terraces.

Project Name	Present Cost	Inflated Cost	First Occur.	Cycle	# Occurrences	CL	Status
2.2.1 Leakage Investigation and Repair Allowance	\$18,112	\$23,430	2029	5 yrs	recurring	3	Forecasted
<p>Project Notes:</p> <p>As the wall system ages, joints will open up and some leaks should be expected. Annual costs are expected to be minimal in early years and escalate over time, but long-term window wall performance is difficult to predict. This item allows for periodic window wall leakage investigations and associated repairs.</p> <p>Replacement of failed (fogged) IGUs is budgeted separately.</p>							
2.2.2 Replace Double Glazing	\$27,720	\$39,591	2034	1 yrs	25	3	Forecasted
<p>Project Notes:</p> <p>This item allows for insulated glazing unit (IGU) replacements as the building ages. IGUs will fail over time as moisture gets past the perimeter seals and fogs up the units. Replacement needs to be handled on an as-needed basis. Replacement in early years is expected to be minimal and to be handled from the operating fund.</p>							
2.2.3 Window Walls - Interim Sealing	\$118,465	\$251,418	2054	50 yrs	recurring	3	Forecasted
<p>Project Notes:</p> <p>After about 40 years of service, many window wall systems require some relatively extensive sealing of metal-to-glass joints to address leakage. This item allows to seal about 20% of the joints in advance of a full wall refurbishment project that covers all joints. We do not expect full wall refurbishment to be required within the term of this report.</p>							

2.3 Exterior Doors

Description:

There are double-swing glass entrance doors at the residential lobby, commercial common corridor (street access), and the ground floor commercial units.

The garage has two metal overhead doors with power operators; one at the main garage entrance, and one to access the P2 to P5 residential parking areas.

Service rooms and exits have metal doors in metal frames. The report assumes these doors will be replaced individually as required from the operating fund, so a specific project has not been included.

Balcony/terrace doors are discussed in the "Windows" section of the report.

Project Name	Present Cost	Inflated Cost	First Occur.	Cycle	# Occurrences	CL	Status
2.3.1 Replace Garage Overhead Door (Main Entrance)	\$5,250	\$7,498	2034	20 yrs	recurring	3	Forecasted
Project Notes: This item allows to replace the garage overhead door at the main entrance to the garage. We assume the power operator will be replaced as needed as an operating expense.							
2.3.2 Replace Garage Overhead Door (P2)	\$5,250	\$7,498	2034	20 yrs	recurring	3	Forecasted
Project Notes: This item allows to replace the garage overhead door for access to the residential parking areas (P2 to P5). We assume the power operator will be replaced as needed as an operating expense.							
2.3.3 Replace Entrance Door (Residential)	\$5,250	\$9,140	2044	30 yrs	recurring	3	Forecasted
Project Notes: This item allows for replacement of the main lobby entrance door.							
2.3.4 Replace Entrance Doors (Commercial)	\$25,200	\$43,874	2044	30 yrs	recurring	3	Forecasted
Project Notes: This item allows for replacement of the main commercial unit entrance doors.							

2.4 Roofing

Description:

There are roof terraces (similar to balconies, but over living space) over the 26th floor suites and half of the 16th floor suites (north side). There are also smaller private terraces over the 2nd floor commercial unit. Terraces are covered with inverted roofing assemblies which consist of concrete unit pavers, fabric, and insulation over a waterproof membrane. Drainage is provided by internal area drains.

There are small flat roof areas over the mechanical/elevator penthouse, within the make-up air unit enclosure (26th floor), and at the east elevation, over portions of the 1st and 3rd floors. Roof assemblies are similar to terraces, but with stone ballast instead of concrete unit pavers.

Project Name	Present Cost	Inflated Cost	First Occur.	Cycle	# Occurrences	CL	Status
2.4.1 Replace Smaller Flat Roofs	\$42,336	\$66,760	2039	25 yrs	recurring	3	Forecasted
Project Notes: This project allows for replacement of the smaller flat roofs (3rd floor and stair/mechanical penthouse).							
2.4.2 Re-Waterproof Roof Terraces	\$639,510	\$1,008,443	2039	25 yrs	recurring	3	Forecasted
Project Notes: This project allows for re-waterproofing of the terrace roofs, including the main roof top terrace, 16th floor, 5th floor, and 2nd floor.							

3. FIRE SAFETY

3.1 Fire Safety Systems

Description:

The building has a central addressable fire alarm system with integrated voice communication and firefighter handsets. The control panel was manufactured by EST and is located in the emergency distribution room (level P1). There are two annunciator panels: one located in the residential lobby, and one located just inside the Granville Street entrance to the commercial corridor. The fire alarm system monitors smoke and heat detectors, supervised flow switches and valves in the suppression systems, and manual pull stations. Signalling devices (mini horns, speakers) are located throughout the building and within individual suites.

According to the mechanical drawings, there is one fan (7.5 Hp) that pressurizes the stairwells, presumably for smoke control upon activation of the fire alarm, located on the ground floor.

The main water line enters the building on the south side and splits to serve the fire line in the P1 mechanical room. The fire line is 6" in diameter and has a backflow preventer installed. The suppression systems are served by a 75 Hp fire pump with control panel and transfer switch.

Suppression systems include a dry sprinkler system serving the garage, a wet sprinkler system serving the interior spaces, and a standpipe system with connections in the stairwells. There is an air compressor for the dry pipe sprinkler system. We assume suppression system components such as distribution piping, sprinkler heads, valves, etc. will be repaired or replaced as needed as an operating expense.

Emergency power is provided by a 350 kW (437.5 kVA) diesel generator, located in the generator room on the P1 level. The generator was manufactured by Simson-Maxwell. It provides power through four automatic transfer switches to power emergency loads. Diesel fuel is stored in a 1,140 L tank beside the generator.

There are three main transfer switches, manufactured by Eaton, located in the emergency distribution room. They are rated for 800A, 200A, and 200A. The other transfer switch serves the fire pump and is integral with the fire pump control panel.

Project Name	Present Cost	Inflated Cost	First Occur.	Cycle	# Occurrences	CL	Status
3.1.1 Replace Fire Alarm Panels	\$82,215	\$117,423	2034	20 yrs	recurring	3	Forecasted
Project Notes: This item allows for replacement of the fire alarm control panel and annunciator panels. Annual testing, monitoring and minor repairs, including individual device replacement required by the testing, are expected to be part of normal maintenance. This project assumes that the new system will be compatible with the existing devices and wiring; if this is not the case, the budget will need to be adjusted accordingly.							
3.1.2 Replace Pressurization Fan	\$11,970	\$23,009	2049	35 yrs	recurring	3	Forecasted
Project Notes: This item allows to replace the stairwell pressurization fan.							
3.1.3 Replace Fire Alarm System Devices	\$423,741	\$899,305	2054	40 yrs	recurring	3	Forecasted
Project Notes: This item allows for replacement of the devices, as these components typically become obsolete or incompatible due to technology changes. We assume the wiring will be reused. The budget excludes the panel, which is budgeted in a separate project.							
3.1.4 Replace Back-flow Preventer (Fire Line)	\$10,500	\$16,557	2039	25 yrs	recurring	3	Forecasted
Project Notes: This item allows to replace the backflow preventer on the incoming fire water service.							
3.1.5 Replace Fire Pump and Control Panel	\$51,975	\$97,949	2048	35 yrs	recurring	3	Forecasted
Project Notes: This item allows for replacement of the fire pump and control panel.							
3.1.6 Overhaul Generator	\$13,650	\$21,525	2039	35 yrs	recurring	3	Forecasted
Project Notes: This item allows for major repairs to the generator and related equipment. It also includes an allowance for the rental of a temporary power generator during the work.							
3.1.7 Replace Generator Fuel Storage Tank	\$17,325	\$33,303	2049	35 yrs	recurring	3	Forecasted
Project Notes: This budget allows for replacement of the fuel storage tank.							
3.1.8 Replace Generator and Transfer Switch	\$297,360	\$571,595	2049	35 yrs	recurring	3	Forecasted
Project Notes: This item is for eventual replacement of the emergency generator and transfer switches.							

4. FINISHES, FURNITURE AND EQUIPMENT

4.1 Entrance Lobby

Description:

Lobby finishes include ceramic tile flooring, painted ceilings, and painted walls with small areas of wallpaper and wood panelling.

Lobby furnishings include a wood veneer concierge desk; two seating areas, each with two upholstered chairs, a small wood coffee table, and an area rug; an upholstered bench; three potted plants; a large mirror; several pieces of artwork; and a mailbox area.

Project Name	Present Cost	Inflated Cost	First Occur.	Cycle	# Occurrences	CL	Status
4.1.1 Refresh Entrance Lobby	\$38,640	\$49,985	2029	30 yrs	recurring	3	Forecasted
Project Notes: This item is a periodic allowance to "refresh" the lobby by repainting the walls and ceiling, refinishing the tile floor, and replacing the furniture and artwork. This item alternates with a more substantial refurbishment budgets so that some work is done to the lobby every 15 years.							
4.1.2 Renovate Entrance Lobby	\$102,910	\$179,169	2044	30 yrs	recurring	3	Forecasted
Project Notes: This item allows for a more substantial renovation of the main entrance lobby, including replacement of the lighting, hard finishes, mailboxes, and concierge desk.							

4.2 Corridors

Description:

Residential corridor finishes include painted drywall ceilings and walls, painted baseboards, and carpeted floors.

Parking-level elevator lobbies and storage area corridors have basic finishes (concrete floors, painted drywall), which we assume will be renewed as-needed and paid for from the operating fund.

The commercial corridor is discussed in the "Stairwells/Service/Administration Areas" section.

Project Name	Present Cost	Inflated Cost	First Occur.	Cycle	# Occurrences	CL	Status
4.2.1 Renovate Corridors	\$106,281	\$134,790	2028	15 yrs	recurring	3	Forecasted
Project Notes: This item allows for replacement of the residential corridor finishes, including the floor and wall coverings, and ceiling and door finishes (including repainting trim). This is a preliminary estimate only, as costs can vary widely depending on the materials and products chosen. The budget will need to be revised once a design is established and actual cost estimates are developed.							
4.2.2 Replace Suite Door Hardware	\$96,075	\$163,989	2043	30 yrs	recurring	3	Forecasted
Project Notes: This item allows for periodic replacement of suite door hardware, and is timed to occur with every second corridor refurbishment.							

4.3 Recreation Facilities

Description:

Amenity room finishes include painted drywall ceilings and walls, rubber tile flooring in the exercise area, and ceramic tile flooring elsewhere.

Furnishings include a wood dining table with eight plastic chairs, a coffee table with two chairs, bookshelf, artwork, and a kitchenette with a granite counter, lower cabinets, dishwasher, mini fridge, microwave, and sink.

The exercise area has a mirrored wall, treadmill, recumbent bike, upright bike, universal weight machine, and two ellipticals.

There are two two-piece common area washrooms: one in the amenity room and one at the roof garden level.

Project Name	Present Cost	Inflated Cost	First Occur.	Cycle	# Occurrences	CL	Status
4.3.1 Renovate Common Area Washrooms	\$10,500	\$14,997	2034	20 yrs	recurring	3	Forecasted
Project Notes: This project allows for renovation of the common area washrooms.							
4.3.2 Renovate Amenity Room	\$51,688	\$73,823	2034	20 yrs	recurring	3	Forecasted
Project Notes: This project allows for renovation of the amenity room, including the exercise area. We assume the exercise equipment will be replaced as needed as an operating expense.							

4.4 Stairwells/Service/Administration Areas

Description:

Stairwell finishes are painted concrete ceilings and walls, and bare concrete floors.

The commercial units share a common corridor. The majority of the corridor has basic finishes (painted walls and bare concrete floors). The section leading from the street entrance to the elevator has painted walls and ceilings, and carpeted floors.

Services rooms generally have bare concrete walls and ceilings, and painted floors, which we assume will be renewed as-needed and paid for from the operating fund.

Project Name	Present Cost	Inflated Cost	First Occur.	Cycle	# Occurrences	CL	Status
4.4.1 Repaint Stairwells	\$33,472	\$42,451	2028	15 yrs	recurring	3	Forecasted
Project Notes: This project allows for repainting of the exit stairwells.							
4.4.2 Renovate Commercial Corridor	\$13,274	\$17,171	2029	15 yrs	recurring	3	Forecasted
Project Notes: This item allows to renovate the commercial corridor, including painting the walls and ceilings, replacing the carpet at the section near the entrance, and replacing the light fixtures. This is a preliminary estimate only, as costs can vary widely depending on the materials and products chosen. The budget will need to be revised once a design is established and actual cost estimates are developed.							

5. SITE

5.1 Site Features

Description:

There is concrete sidewalk paving and concrete stairs at grade at the southwest corner of the site, near the residential lobby entrance. The building extends fully to the property line on all remaining sides. This paving is located over the garage and will be replaced as part of the garage roof deck re-waterproofing project (costs are included in this project - see the "Parking Garage" section of this report).

Other site features include:

- shrubs and grass within concrete planters at the 3rd and 16th floors, and at the Roof Garden level;
- metal and wood benches and bars at the 16th floor terrace;
- wood tables at the Roof Garden terrace;
- a BBQ station at each of the 16th floor and Roof Garden terraces; and
- a play area with concrete walls and rubber flooring at the Roof Garden terrace.

These site features will be replaced as part of the roof terrace re-waterproofing project (costs are included in this project - see the "Roofing" section of this report). We assume site features will be locally repaired or individually replaced prior to terrace re-waterproofing as needed as an operating expense.

6. HVAC

6.1 Central Heating Plant

Description:

Residential suites, most common areas, and some storage and service rooms are heated by a central heating plant via hydronic baseboard heaters. The heating plant is located in the roof level boiler room. The plant consists of two gas-fired boilers, manufactured by Raypak, each with a rated heating input capacity of 1,500,000 Btu/hr.

The hydronic heating distribution system includes the following:

- steel distribution piping from the central plants to the terminal units;
- 2 pumps for heating water circulation, each rated at 5 Hp and equipped with a variable speed drive (VSD);
- 2 expansion tanks;
- automatic water treatment, which helps maintain a neutral pH level in the water, and reduces the potential for corrosion of the piping;
- air separator; and
- isolation and other flow control valves located throughout the system.

According to the mechanical drawings, there are about 6 supply and 6 return risers, in a single zone. General replacement of the hydronic distribution piping is not expected within the report term. We assume minor issues and isolated replacements will be managed from operating budgets.

The garage level elevator lobbies/corridors are heated and ventilated by a heat recovery ventilator (HRV), located in the ground level boiler room. HRVs help to conserve energy by pre-heating the cold incoming air with the warmer exhaust air via a cross flow heat exchanger within the unit. Supplemental heating is provided by the central hydronic heating loop.

Some service rooms are heated by electric baseboard heaters.

We assume the hydronic and electric baseboard heaters (terminal units) in the common areas, storage rooms, and service rooms will be replaced as needed as an operating expense, and the in-suite hydronic baseboard heaters are the responsibility of the individual owners.

Commercial units are heated and cooled by heat pumps. See the "Heat Pump" section for further discussion.

Project Name	Present Cost	Inflated Cost	First Occur.	Cycle	# Occurrences	CL	Status
6.1.1 Overhaul Heating Boilers	\$15,120	\$19,559	2029	25 yrs	recurring	3	Forecasted
Project Notes: This project allows for major repairs to the boilers prior to each full replacement.							
6.1.2 Replace Heating Boilers	\$157,500	\$248,362	2039	25 yrs	recurring	3	Forecasted
Project Notes: This project budgets for boiler replacement, including a crane to lift the boilers up to the roof.							
6.1.3 Overhaul Heat Recovery Ventilator	\$38,325	\$60,435	2039	25 yrs	recurring	3	Forecasted
Project Notes: This item allows for major repairs to the HRV, including replacement of the coils, the dampers, and fan components. Since the unit is located indoors and protected from corrosion, many of the components can be changed without replacing the unit outright. As such, replacement of the unit is not expected within the report term. Some more minor interim repairs may be needed. We assume these will be completed as-needed, with costs paid from the operating fund.							

6.2 Make-up Air Unit(s)

Description:

Fresh air is supplied to the corridors by a make-up air unit (MAU) manufactured by Daikin McQuay. The unit is located at the roof level, within a concrete perimeter wall. Heating is provided by the central heating plant via hydronic heating coils. According to the dataplate, the unit has an approximate airflow capacity of 4,536 L/s (10,000 CFM). There is a variable speed drive (VSD) control for the MAU fan motor.

Project Name	Present Cost	Inflated Cost	First Occur.	Cycle	# Occurrences	CL	Status
6.2.1 Overhaul Make-up Air Unit	\$33,075	\$42,786	2029	25 yrs	recurring	3	Forecasted
Project Notes: This item allows for major repairs to the make-up air unit, including replacement of the heating coil, VSD, the dampers, and fan components. Some more minor interim repairs may be needed. We assume these will be completed as-needed, with costs paid from the operating fund.							
6.2.2 Replace Make-up Air Unit	\$84,420	\$133,122	2039	25 yrs	recurring	3	Forecasted
Project Notes: This item budgets for eventual replacement of the make-up air unit. The budget includes an allowance for the rental of a crane.							

6.3 Heat Pumps

Description:

Water source heat pumps provide heating and cooling to the electrical room, emergency distribution room, and commercial units. The heat pumps were manufactured by McQuay.

The electrical room heat pump has 10 tons of cooling and the emergency distribution room heat pump has 1.5 tons of cooling, according to the mechanical drawings.

There are 16 heat pumps serving the commercial units (between 1 and 8 heat pumps per unit). The mechanical drawings indicate that the units each have between 2 and 4 tons of cooling.

The heat pump loop is heated by two boilers located in the ground level boiler room. The boilers were manufactured by Raypak and each have a heating input capacity of 300,000 Btu/hr.

Heat is rejected from the heat pump loop via two air handling units (AHUs) manufactured by McQuay. The units are located at the ceiling of the P1 level. According to the mechanical drawings, each unit has an approximate airflow capacity of 7,075 L/s (15,000 CFM).

The heat pump distribution system includes steel distribution piping and two pumps, each rated at 7.5 Hp and equipped with variable speed drives (VSDs). General replacement of the distribution piping is not expected within the report term. We assume minor issues and isolated replacements will be managed from operating budgets.

Project Name	Present Cost	Inflated Cost	First Occur.	Cycle	# Occurrences	CL	Status
6.3.1 Replace Heat Pumps	\$19,924	\$28,456	2034	20 yrs	recurring	3	Forecasted
Project Notes: This item allows to replace the heat pumps in the electrical room and emergency distribution room. We assume the heat pumps in the commercial units are the responsibility of the individual commercial unit owners.							
6.3.2 Replace Heat Pump Boilers	\$52,500	\$82,787	2039	25 yrs	recurring	3	Forecasted
Project Notes: This item allows to replace the heat pump loop boilers.							
6.3.3 Overhaul Air Handling Units	\$63,000	\$99,345	2039	25 yrs	recurring	3	Forecasted
Project Notes: This item allows for major repairs to the air handling units, including replacement of the coils, the dampers, and fan components. Since the units are located indoors and protected from corrosion, many of the components can be changed without replacing the units outright. As such, replacement of the units is not expected within the report term. Some more minor interim repairs may be needed. We assume these will be completed as-needed, with costs paid from the operating fund.							

6.4 Exhaust Fan(s)

Description:

The garage has six exhaust fans (one per level and one extra fan on the P1 level). Each fan has a design air flow between 4,530 L/s (10,000 CFM) and 9,009 L/s (19,000 CFM), according to the mechanical drawings. The fans are controlled by a CO detection system with about 20 sensors.

Amenity, locker, and service rooms have smaller exhaust fans, which are assumed to be replaced as needed as an operating expense.

Residential and commercial units have smaller exhaust fans, which are assumed to be the responsibility of the individual owners.

Project Name	Present Cost	Inflated Cost	First Occur.	Cycle	# Occurrences	CL	Status
6.4.1 Replace Garage CO Detection System	\$24,150	\$34,492	2034	20 yrs	recurring	3	Forecasted
Project Notes: This item allows for replacement of the CO detection system.							
6.4.2 Replace Garage Exhaust Fans	\$25,200	\$43,874	2044	30 yrs	recurring	3	Forecasted
Project Notes: This item allows for replacement of the garage exhaust fans.							

7. PLUMBING

7.1 Hot Water Storage Tanks/ Heaters

Description:

Domestic hot water for residential use is generated by three gas-fired hot water boilers with integral storage. Each boiler has a rated heating input capacity of 400,000 Btu/hr, and a storage capacity of 130 gallons. The boilers were manufactured by A.O. Smith and are located in the ground level boiler room.

There are three electric reheat tanks (one for each distribution zone - see "Domestic Water Distribution Systems" for further discussion on zones), located in PRV closets on the 2nd, 3rd, and 16th floors. Each tank has a heating capacity between 6kW and 9kW and a storage capacity of 30 gallons. We assume these tanks will be repaired or replaced as needed as an operating expense.

There are other hot water tanks serving specific commercial units. We assume these tanks are unit-owned.

Project Name	Present Cost	Inflated Cost	First Occur.	Cycle	# Occurrences	CL	Status
7.1.1 Replace Domestic Hot Water Tank Heaters	\$37,800	\$47,000	2027	15 yrs	recurring	3	Forecasted

Project Notes:

This item allows to replace the domestic hot water tank heaters.

7.2 Domestic Water Piping, Valves and Pumps

Description:

The main domestic water service to the building is located in the P2 level water entry room. There is a 4" diameter domestic water line with a meter and backflow preventer.

A pressure booster pump set boosts the water pressure to the upper floors. The pump set includes two 15 Hp pumps, two variable speed drives (VSDs), and a controller panel.

Domestic hot and cold water is distributed by three zones. The lower zone serves floors 2 to 7, the mid zone serves floors 8 to 15, and the upper zone serves floors 16 to 26. According to the mechanical drawings, the cold supply headers are located in the ceiling space of the corridors on floors 6, 9, and 17; the hot supply headers are located on floors 5, 8, and 16; and the recirculation headers are located on floors 7, 15, and 26. Domestic water is distributed from the supply headers to residential suited through a series of risers. Based on the mechanical drawings, there are about 30 hot and 30 cold risers.

Domestic cold water is distributed to the commercial units through headers on the ground and 3rd floors.

Where checked, the in-suite distribution piping and supply risers are pex (plastic), and the supply headers are ductile-iron. We assume the recirculation headers are pex.

Project Name	Present Cost	Inflated Cost	First Occur.	Cycle	# Occurrences	CL	Status
7.2.1 Replace Booster Pumps	\$52,500	\$82,787	2039	25 yrs	recurring	3	Forecasted
Project Notes: This item budgets to replace the booster pump set, including the VSDs and control panel.							
7.2.2 Replace Back-flow Preventer (Domestic Line)	\$5,250	\$8,279	2039	25 yrs	recurring	3	Forecasted
Project Notes: This item allows to replace the backflow preventer on the incoming domestic water service.							
7.2.3 Replace Hot and Cold Supply Risers	\$366,597	\$638,254	2044	30 yrs	recurring	3	Forecasted
Project Notes: This project allows for replacement of the domestic water hot, cold, and recirculation riser (vertical) piping. The riser piping is mostly PEX (plastic). PEX is relatively new and its long-term performance is not yet well-established. We have timed re-piping to occur every 30 years, based on some warranties provided by suppliers in the industry. This should be revised during future updates as the service life of PEX piping becomes better understood. We have estimated the quantity of piping based on the mechanical drawings. We recommend you ask your plumbing service contractor to confirm the quantity and condition of the piping as the project approaches. The domestic water headers are ductile-iron, where seen at the 16th and 17th floor ceiling spaces. It is uncommon to see this type of piping used for domestic water supply, and the long-term performance is not clear. In other applications, such as drainage, ductile-iron is durable and long-lasting. As such, we suspect the domestic water headers will last beyond the term of this report. Although limited copper was noted during our review, it is possible some of the smaller distribution lines (i.e. recirculation headers and risers) are copper. Copper piping is not as long-lasting as PEX or ductile-iron in the Lower Mainland, so we suggest confirming the pipe material in these lines to gain greater certainty in these renewal budgets.							

7.3 Drainage Systems

Description:

There is one stormwater and one sanitary sump pit. The pumping systems include duplex submersible pumps equipped with high-water-level alarms. The stormwater pumps are 7.5 Hp each, and the sanitary pumps are 1.5 Hp each.

Project Name	Present Cost	Inflated Cost	First Occur.	Cycle	# Occurrences	CL	Status
7.3.1 Replace Sump Pumps	\$10,500	\$14,997	2034	20 yrs	recurring	3	Forecasted

Project Notes:

This budget allows for replacement of the sump pumps.

8. ELECTRICAL

8.1 Electric Supply and Distribution

Description:

Electricity is supplied to the building underground at 12.5kV to a substation located in the P1 level transformer room. The substation includes a 1,250kVA transformer, which steps the high-voltage service down to 120/208V.

The substation also includes five distribution switchgears, as follows:

1. rated at 4,000A, 120/208V, containing the main breaker
2. rated at 4,000A, 120/208V, serving the fire pump and meter centres
3. rated at 1,600A, 120/208V, serving house loads
4. rated for 120/208V, serving two automatic transfer switches and various power panels
5. rated for 120/208V, serving the commercial units

Power is distributed from the switchgear number 2 to electrical closets in the corridors before being supplied to the suites. Each closet has a splitter, and meters and disconnects for suites. Each suite has a circuit-breaker-type panel rated at 100A, 120/208V, where checked.

The majority of the electrical distribution system is not expected to require significant repair or renewal within the report term. The in-suite electrical panels and wiring are assumed to be the responsibility of each unit owner.

Project Name	Present Cost	Inflated Cost	First Occur.	Cycle	# Occurrences	CL	Status
8.1.1 Replace Substation	\$549,360	\$1,287,255	2059	45 yrs	recurring	3	Forecasted

Project Notes:

This item allows for replacement of the main substation.

8.2 Lighting

Description:

Parking garage: ceiling-mounted fluorescent fixtures with T8 lamps.

Stairwells: ceiling-mounted fluorescent fixtures with T8 lamps at each landing.

Lobby: large rectangular pendant fixtures, pot lights with compact fluorescent lamps (CFLs), and a few fluorescent fixtures with T8 lamps.

Garage elevator lobbies: sconces with CFLs and fluorescent fixtures with T8 lamps.

Residential corridors: pot lights throughout and a wall-mounted fixture above each suite door, all with CFLs.

Service and Storage Rooms: typically ceiling-mounted fluorescent fixtures with T8 lamps.

Commercial corridor: pot lights with CFLs.

Exterior: wall-mounted fixtures at the east and south elevations, near grade; and ceiling-mounted fixtures and bollard lights near the lobby entrance.

We understand you have an agreement with Luminex to retrofit or replace most of the common area lighting (as set out in Appendix A of the agreement) with LEDs. According to the agreement, the project will be paid for on a monthly basis out of the operating fund, with payments based on the energy cost savings from the new lighting. As such, we have not included a budget for this lighting replacement.

Based on our interpretation of the agreement, service and storage room, commercial corridor, and exterior lighting is excluded. Based on the infrequent use and/or limited quantity of these lights, we assume they will be replaced as needed as an operating expense.

Project Name	Present Cost	Inflated Cost	First Occur.	Cycle	# Occurrences	CL	Status
8.2.1 Replace Garage and Stairwell Lighting (T8 Fixtures)	\$56,595	\$94,707	2042	25 yrs	recurring	3	Forecasted
Project Notes: This project allows for the future replacement of the T8 fixtures, assuming you will not have the same agreement with Luminex in the future and will pay for lighting fixture replacement from the Contingency Reserve Fund. We assume repairs and individual replacements between cycles of full renewal will be completed as needed as an operating expense.							
8.2.2 Replace Lobby Lighting	\$107,184	\$179,364	2042	25 yrs	recurring	3	Forecasted
Project Notes: According to the 2015 Luminex lighting agreement, the lighting fixtures in the tower lobbies and corridors will be retrofit for LED lamps, but not replaced. This project allows for the eventual replacement of the light fixtures throughout the main lobby, elevator lobbies, and residential corridors. We assume repairs and individual replacements between cycles of full renewal will be completed as needed as an operating expense.							

9. CONVEYANCE

9.1 Elevators

Description:

Residential:

Two roped overhead passenger elevators serve the garage and residential floors. Cab interior finishes are wallpaper (protected by plexiglass) walls, stainless steel ceiling panels, and tile floors.

There is also a lift for wheelchair access located just outside the lobby entrance.

Commercial:

One elevator serves the P1 level and the commercial area. The controls are located in a closet in the commercial garbage room. Cab finishes are wood veneer wall panels, stainless steel ceiling panels, and tile floors.

Project Name	Present Cost	Inflated Cost	First Occur.	Cycle	# Occurrences	CL	Status
9.1.1 Replace Lift (Residential Lobby Entrance)	\$31,500	\$43,243	2032	18 yrs	recurring	3	Forecasted
Project Notes: This item allows to replace the wheelchair lift at the residential lobby entrance.							
9.1.2 Refurbish Elevator Cab Interiors	\$57,645	\$90,900	2039	25 yrs	recurring	3	Forecasted
Project Notes: This project allows for elevator cab refurbishment.							
9.1.3 Elevator System Modernization (Residential)	\$355,162	\$560,055	2039	25 yrs	recurring	3	Forecasted
Project Notes: This item allows to modernization the residential elevators.							
9.1.4 Elevator System Modernization (Commercial)	\$205,012	\$323,283	2039	25 yrs	recurring	3	Forecasted
Project Notes: This item allows to modernization the commercial elevator.							

10. MISCELLANEOUS

10.1 Waste Disposal/Collection

Description:

There is a garbage room for the residential units on the P1 level, which contains a garbage compactor and 12 plastic bins.

There is a garbage room for the commercial units on the ground floor, which contains two large metal bins and four smaller plastic bins.

Project Name	Present Cost	Inflated Cost	First Occur.	Cycle	# Occurrences	CL	Status
10.1.1 Replace Garbage Compactor	\$12,600	\$19,869	2039	25 yrs	recurring	3	Forecasted
Project Notes: This item allows for replacement of the garbage compactor. We assume the metal and plastic bins will be replaced as needed as an operating expense.							

10.2 Security Systems

Description:

There are four enterphone panels: two at the residential lobby entrance, one at the garage entrance, and one at the commercial corridor entrance. The panels were manufactured by Viscount.

There is a CCTV system with a central computer/recorder and about 28 color cameras.

There are door controls with about 36 fob readers at entrances, parking garage elevator lobbies, elevator cabs, storage rooms, and the amenity room.

Project Name	Present Cost	Inflated Cost	First Occur.	Cycle	# Occurrences	CL	Status
10.2.1 Replace Access System	\$53,130	\$68,729	2029	15 yrs	recurring	3	Forecasted
Project Notes: This project allows for replacement of the card access system (readers and central equipment).							
10.2.2 Replace Enterphone System	\$30,030	\$38,847	2029	15 yrs	recurring	3	Forecasted
Project Notes: This item allows to replace the enterphone panels.							
10.2.3 Replace Closed Circuit Television System	\$73,920	\$95,623	2029	15 yrs	recurring	3	Forecasted
Project Notes: This project allows for replacement of the cameras and central monitoring and recording equipment.							

10.3 Consulting Services

Description:

From time to time, Strata Corporations engage consultants such as engineers, lawyers, or other professionals. In some instances these services can be paid from the Contingency Reserve Fund.

Project Name	Present Cost	Inflated Cost	First Occur.	Cycle	# Occurrences	CL	Status
10.3.1 Initial Depreciation Report	\$12,075	\$12,317	2017	N/A	One time	3	Forecasted
Project Notes: This item allows for the initial Depreciation Report, written in 2016, but paid for in the 2017 fiscal year.							
10.3.2 Update Depreciation Report	\$7,245	\$7,842	2020	3 yrs	recurring	3	Forecasted
Project Notes: This item allows to update your Depreciation Report.							

Scope Of Work

Authorization

This Depreciation Report was commissioned by Strata Plan No. EPS 1416 c/o FirstService Residential in accordance with our proposal, dated November 4, 2015, and authorization to proceed received December 2, 2015.

Mandate

As per the *Strata Property Act Regulations*, we confirm our qualifications as follows:

- We are a firm of engineers and consultants who has prepared Depreciation type reports across the Country since the early 90s; our Team is familiar with all building systems, their failure mechanisms and required maintenance, repair and replacement needs; and we have completed over 250 such reports in BC for Stratas since 2004.
- We carry \$2,000,000 in errors and omissions insurance.
- At the time of writing this report, no employee carries any ownership in this Strata, thereby solely providing independent 3rd party consulting services to the Strata.

In preparing this Depreciation Report for the Strata, we:

- Reviewed and visually evaluated the condition of the major common element components (without completing any destructive testing);
- Prepared an inventory of common elements we expect to deteriorate and require repairs or replacement based on our best interpretation of Corporation documentation;
- Estimated the scope of repairs or replacement, which is likely to be required;
- Predicted the times when repairs or replacements will be necessary and the life expectancies following the repairs;
- Provided our opinion of the costs required to carry out the repairs or replacements; and
- Calculated various funding scenarios to determine options for contributions into the Contingency Reserve Fund to plan for future expenditures.

We include items, which typically require replacement because their service life is shorter than the service life of the building (such as caulking, roofing, equipment, etc.). We also include items, which would not have been anticipated to be required when the building was new, but which have become necessary due to building specific deterioration (concrete repair related to poor durability, window modifications due to loss of internal seals, etc.). There may be expenses, which arise, which we have not anticipated, related to concealed conditions or unexpected deterioration. As long as these relate to the repair or replacement of the common elements, they can often be paid out of the Contingency Reserve Fund provided the report is updated to account for the impact of these expenditures.

If you are in doubt about whether or not an expenditure can be paid for out of the Contingency Reserve Fund, we recommend you check with your legal counsel or chartered accountant.

Survey Method

We reviewed the building on December 10, 2015.

The survey consisted of visual review of portions of the building, including:

- suites: 1308, 1807, 1601, and 2601;
- the exterior walls, windows, and doors from exterior, and sample interior areas;
- balconies and terraces from exterior and sample interior areas;
- the roofs;
- the parking garage;
- service rooms: boiler rooms, elevator machine room, electrical rooms, mechanical rooms, and emergency generator room; and
- the perimeter site.

There was no access to the elevator pits or hoistways.

Information Provided

We have reviewed the following documents:

- Survey Plan;
- Bylaws;
- Financial statements for 2016;
- 15 Month Warranty Review by Halsall Associates (now WSP), dated February 23, 2015;
- AGM minutes from March and April 2015;
- Service reports by National Hydronics Ltd. from 2014 and 2015; and
- Agreement for LED Lighting Products and Services by Luminex.

We have reviewed the following drawings:

- Structural drawings by IBI/HB Architects and Glotman Simpson Consulting Engineers, dated November 2013; and
- Mechanical drawings by IBI/HB Architects and MCW Consultants, dated August 2013.

Elson (Caretaker) answered questions about the history of performance of the various systems, described existing capital plans, etc.

A financial questionnaire was completed by the Strata and the results were incorporated.

The following service contractors were contacted:

- National Hydronics (HVAC) - no response at time of issue

Report Revisions

****Section to be completed once feedback received from Council****

This final report incorporates the changes requested by the Council, received on ****date****.

****OR****

Based on feedback from the Council, received on ****date****, we have incorporated the following revisions to the draft report:

*****if changes were already itemized elsewhere (i.e., in a previous letter or email with the revised cash flow scenarios), don't repeat them again here. Use the first paragraph instead.*****

****OR****

Council accepted the draft report without revisions on ****date****.



Photo No. 1: West elevation



Photo No. 2: North elevation



Photo No. 3: Garage entrance



Photo No. 4: Typical garage area



Photo No. 5: Typical balcony

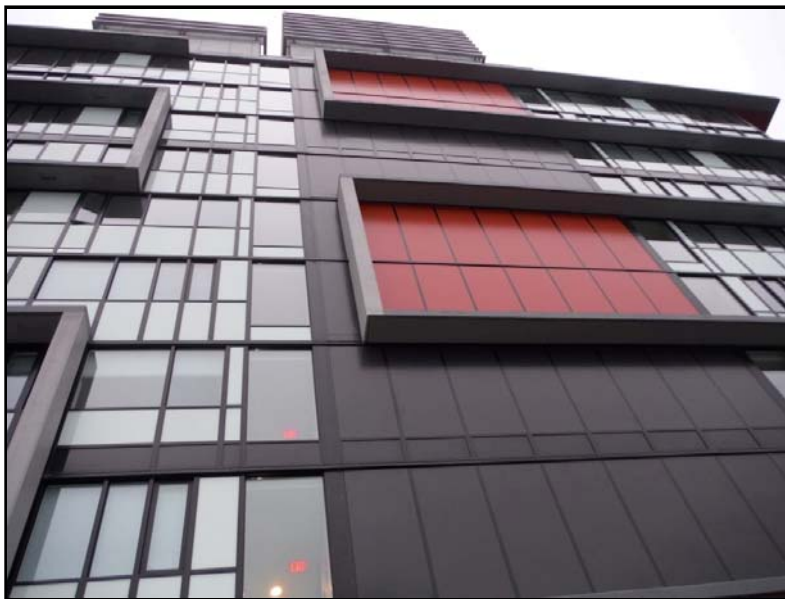


Photo No. 6: Wall area showing typical window wall and metal panels



Photo No. 7: Typical flat roof area

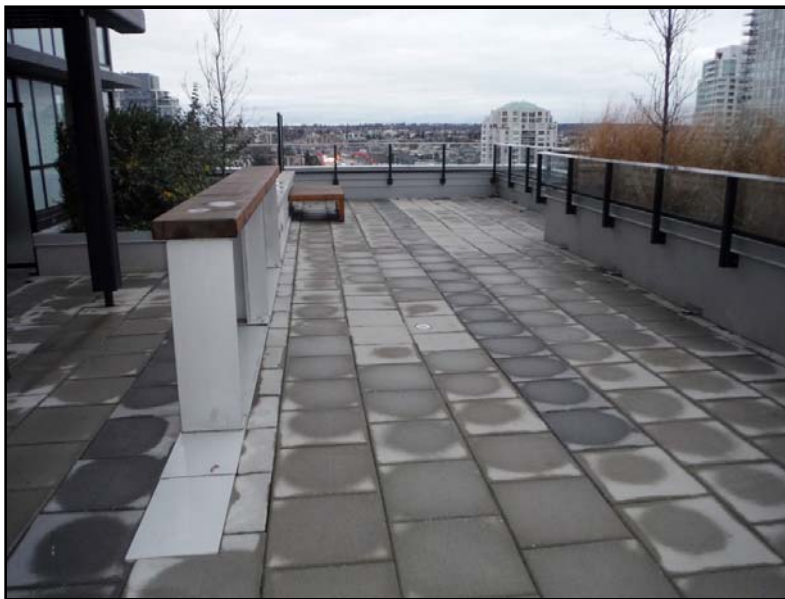


Photo No. 8: 16th floor common terrace

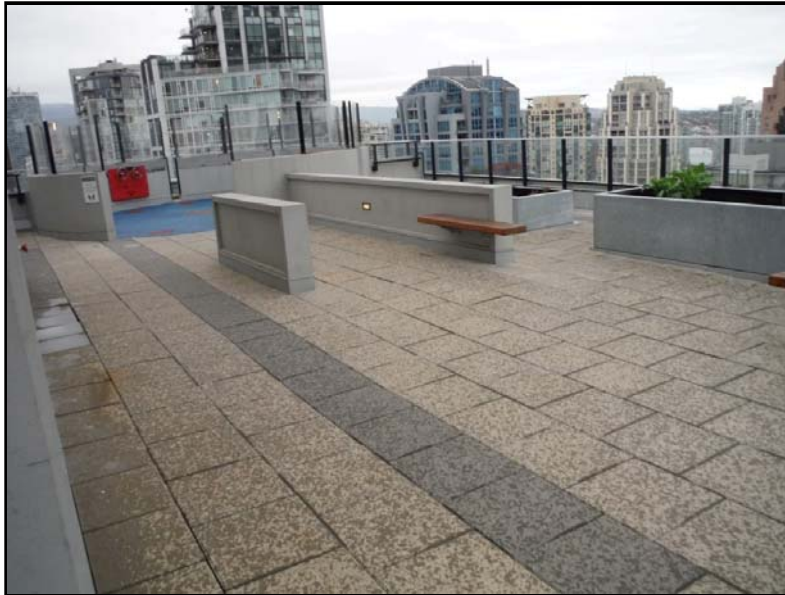


Photo No. 9: Roof garden common terrace



Photo No. 10: Fire alarm control panel



Photo No. 11: Residential fire alarm annunciator panel



Photo No. 12: Commercial fire alarm annunciator panel



Photo No. 13: Main fire suppression service



Photo No. 14: Emergency generator



Photo No. 15: Residential lobby



Photo No. 16: Amenity room dining area



Photo No. 17: Amenity room exercise area



Photo No. 18: Typical residential corridor



Photo No. 19: Typical stairwell



Photo No. 20: Commercial common corridor



Photo No. 21: Central heating equipment



Photo No. 22: Make-up air unit



Photo No. 23: Transformer room heat pump



Photo No. 24: Heat pump loop boilers



Photo No. 25: Heat recovery ventilator



Photo No. 26: Main domestic water service and booster pumps



Photo No. 27: Domestic water boilers



Photo No. 28: Typical domestic water re-heat tank



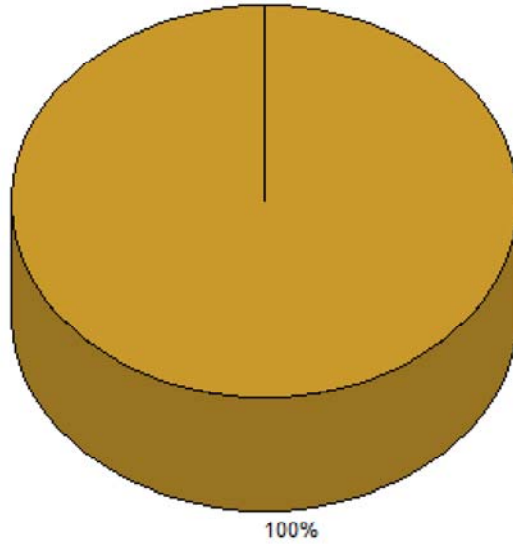
Photo No. 29: Electrical substation

2016 - Total Annual Expenditures by System

No Project Expenditures data for this year.

2017 - Total Annual Expenditures by System

Generated on 3/3/2016



	MISCELLANEOUS
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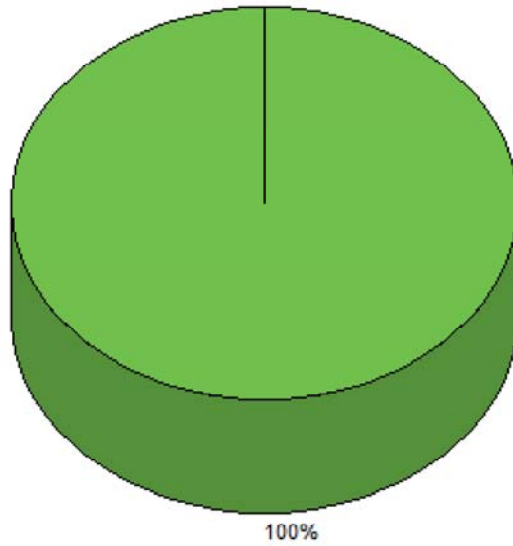
Projects for 2017 listed by System		
MISCELLANEOUS		
Initial Depreciation Report	Forecasted	\$12,316
	TOTAL:	\$12,316

2018 - Total Annual Expenditures by System

No Project Expenditures data for this year.

2019 - Total Annual Expenditures by System

Generated on 3/3/2016

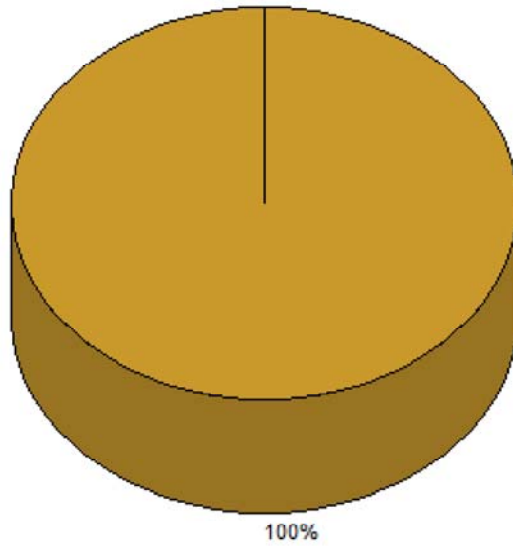


■ BUILDING ENVELOPE
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Projects for 2019 listed by System		
BUILDING ENVELOPE		
5 Year Building Envelope Warranty Review	Forecasted	\$11,143
	TOTAL:	\$11,143

2020 - Total Annual Expenditures by System

Generated on 3/3/2016



	MISCELLANEOUS
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Projects for 2020 listed by System		
MISCELLANEOUS		
Update Depreciation Report	Forecasted	\$7,842
	TOTAL:	\$7,842