



To The Owners, Strata Plan LMS712
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Site Visit: October 9, 2018
Submitted: September 10, 2019
by
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1 Introduction

RDH Building Science Inc. (RDH) was retained by The Owners, Strata Plan LMS712 (the Owners) to prepare a Depreciation Report Update (the Report) for the residential complex known as 888 Beach, which is located at the following addresses in Vancouver, BC.

- Beach Tower: 1500 Hornby Street
- Ocean Tower: 1501 Howe Street
- Garden Tower: 888 Beach Avenue

The Report considers the common property and limited common property components (the Assets) that the Strata Corporation is responsible to maintain, repair, and replace.

The Report is intended to help the Owners, the strata council, and the management team make informed decisions about the allocation of resources to the common property Assets (such as windows, piping, boilers, and soft landscaping).

This Report meets the requirements stipulated in the current Strata Property Act and Regulations. The Report includes a physical inventory of the common property assets; estimated costs for capital expenditures over a 30-year horizon; and four funding models. Refer to the appendices for RDH's qualifications and information on errors and omissions insurance. In accordance with the requirements of the Act, RDH declares that there is no relationship between the employees of RDH and the Owners.

This report is an update to the original Depreciation Report that was completed in 2013 by Halsall and Associates. As part of the work for this Report, RDH completed a site visit on October 9, 2018, and the financial data is based on the 2018 fiscal year. A draft report was distributed to the strata council and strata management on February 15, 2019, and a presentation was held with the Strata Council on March 21, 2019 to discuss the draft report. The report was finalized with Council's feedback and submitted on September 10, 2019.

Depreciation Reports and Updates are a synopsis of a significant volume of data and has two parts: the summary and the appendices. The summary is intended to provide an overview of the Depreciation Report Update. The appendices provide detailed information to support the summary report. The appendices include a glossary of terms. Words that are *italicized* are defined in the glossary.

In addition to the Report, the supporting data are available to authorized users through RDH's interactive Building Asset Management Software (BAMS), posted on a secure website. The data is owned by the Strata Corporation and can be printed and/or exported on request. RDH developed the BAMS tool to enable Owners to proactively manage their funding requirements and maintenance obligations. Within BAMS there are a variety of other services available, in addition to the Depreciation Report Update.

As the physical and financial status of the Assets change over time, the Report will require updating. The Strata Property Act requires updates to the Report every three years; however, the Strata Corporation can choose to update portions of the Report more frequently, at their discretion, to reflect changes to their financial status and completed work.

2 888 Beach

888 Beach is a 27-year-old (as of 2019) mixed-use complex consisting of three high-rise buildings with 26 townhouse units, and 4 commercial strata lots. The complex features a central courtyard with a water feature on Level 2. The buildings are typically of cast-in-place concrete construction with steel stud walls and are constructed above a four-level below-grade parkade. The complex is located along false creek in the downtown core of Vancouver.

The principal systems in the complex include the building enclosure (the separation of the interior from exterior space), electrical (the electrical distribution, communications, and security equipment), mechanical (heating and plumbing), elevators, fire safety (sprinklers, fire detection, and egress equipment), interior finishes, amenities, and site work. The Assets within each system are described in detail in Appendix B.

Key physical parameters of 888 Beach are summarized in Table 2.1 and Figures 2.1 to 2.4 below.

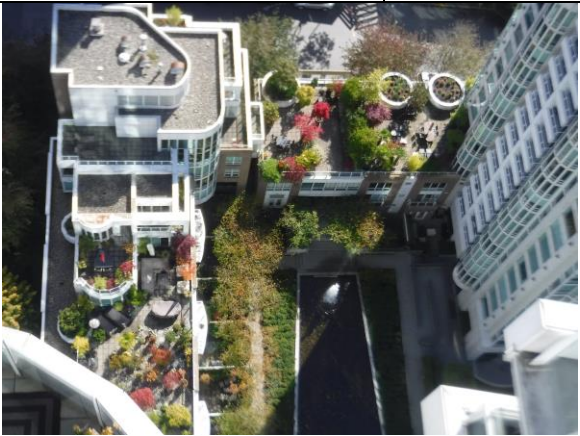
TABLE 2.1 KEY PHYSICAL PARAMETERS		
 <i>Figure 2.1 North and west elevations of Ocean Tower.</i>	Date of first occupancy (approximate)	1992
	Approximate gross floor area, including the parkade (ft ²)	669,300
	Total area of Unit Entitlement (m ²)	317,521
	Stories above grade	
	- Beach Tower - Ocean Tower - Garden Tower - Townhouses	33 18 9 3
 <i>Figure 2.2 East elevation of Beach Tower.</i>	Total number of strata lots	
	- Residential - Commercial - Total	255 4 259
	 <i>Figure 2.3 Aerial photograph of Garden Tower, townhouses, and courtyard.</i>	

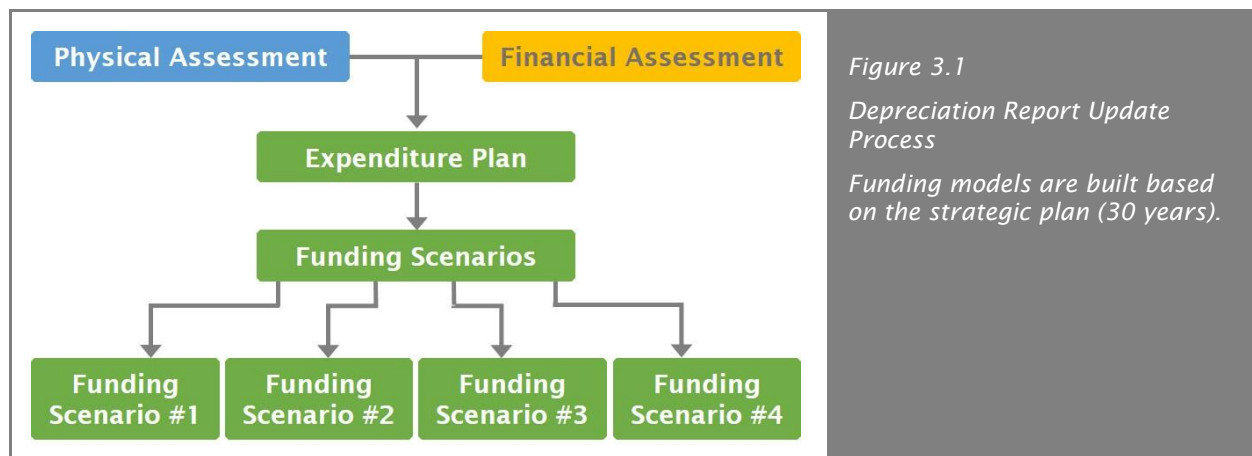


Figure 2.4 Aerial photograph of 888 Beach (Imagery and map data © 2019 Google).

3 Assessments

Depreciation Reports and Updates combine two distinct types of analysis: a *physical assessment*, and a *financial assessment*. The assessments are used to determine what the Strata Corporation owns, what condition the Assets are in, what the strata is responsible for, and the *capital costs* associated with the Assets.

The process of preparing a Depreciation Report and Updates is summarized in Figure 3.1 below:



The following sections provide a brief overview of the physical assessment and financial assessment including a summary of key information.

3.1 Physical Assessment

The physical assessment has two parts: an inventory and an evaluation.

The *Asset Inventory* identifies “the common property, the common assets and those parts of a strata lot or limited common property, or both, that the Strata Corporation is responsible to maintain or repair under the Act, the Strata Corporation’s bylaws or an agreement with an owner” (*Strata Property Act Regulation*, BC Reg 43/2000, Ch. 6.2). In other words, it identifies what the Strata Corporation owns and must repair and maintain. The Asset Inventory is included as an appendix to this report.

The evaluation is used to forecast common repairs, replacements, and maintenance activities that “usually occur less often than once a year or that do not usually occur” (*Strata Property Act Regulation*, BC Reg 43/2000, Ch.6.2). In other words, the evaluation predicts only events that occur at intervals greater than one year.

The evaluation is typically based on:

- A review of historical documentation such as minutes, financial statements, and previously completed work,
- Discussions with Strata Corporation representatives,
- A visual review of the complex, limited to a sample of readily accessible Assets, and
- A review of other technical information such as construction drawings, previous investigations or reports, and maintenance manuals.

Destructive testing, disassembly, and performance testing are not included in the physical evaluation; this report does not replace a Warranty Review or Condition Assessment. Please visit www.rdh.com for additional information on Warranty Reviews and Condition Assessments.

The condition of some Assets may be concealed, for example, buried infrastructure such as sanitary drainage lines or building enclosure assets such as cladding. For Assets with the potential for concealed failure, a number of tools are used to assign a reasonable expected service life including the typical performance of the asset in other, similar properties; the performance history reported by the Strata Corporation; the original drawings; and any previous investigation reports commissioned by the Strata Corporation. It is expected that the Strata Corporation will need more detailed reviews as Assets approach the end of their service lives. Allowances for additional reviews or investigations are included as appropriate. Recommendations taken from any additional reviews should be incorporated into future Depreciation Report updates.

As part of the physical assessment, RDH compiled a history of completed projects by reviewing the documents provided by the strata and interviewing Strata Corporation representatives. The history is summarized in Table 3.1 below. The history of renewals establishes the chronological age of the Assets while the history of major maintenance may affect the effective age of the Assets. Unless specifically listed, repairs and renewal work were completed at a global level for the purposes of the list below.

TABLE 3.1 MAINTENANCE AND RENEWALS HISTORY

Building Enclosure

- 2010 – 2019 Targeted renewal of various roof and deck membranes (See Figure 3.2 below for locations/years).
- 2019 – Locally replaced podium membrane at the main entrance of Ocean Tower and patio at Townhouse 7.
- 2019 – Replaced townhouse doors (wood swing doors and metal clad swing doors) with fibreglass doors.
- 2019 – Renewed sealant at Townhouse brick walls (courtyard and street facing).
- 2018 – Locally replaced courtyard and planter membranes (Townhouses 6-11).
- 2018 – Renewed all Ocean Tower balcony membranes and some Garden Tower south balconies.
- 2018 – Renewed Ocean Tower balcony guardrails and some Garden Tower south balcony guardrails.
- 2018 – Renewed sealant at composite panels and balconies at Ocean Tower and Garden Tower.
- 2018 – Applied sealant at all window frame to Insulating Glazing Unit (IGU) interfaces at the townhouses.
- 2018 – Installed corrugated metal panel cladding over the EIFS panel cladding in select areas on the Ocean Tower roof.
- 2017 – Renewed one overhead parkade gate.
- 2014 – Renewed 10 (approximately) townhouse main entry doors.

- 2013 - Renewed several metal clad swing doors with fiberglass swing doors on townhouses (T5-11, T23-26).
- 2013 - Renewed all Beach and Garden Towers balcony membranes.
- 2013 - Renewed Beach Tower balcony guardrails.
- 2012 - Applied sealant at all window frame to IGU interfaces at Beach and Garden Towers.
- 2012 - Applied sealant at all window frame to IGU interfaces at Ocean Tower.
- 2011-2012 - Renewed sealant at composite panels and balconies at Beach Tower.
- 2010 - Commissioned a Building Enclosure Condition Assessment by RDH.
- 2008 - Renewed traffic bearing membrane on suspended slabs in parkade.
- Annual - Renewed IGU's throughout the buildings, on an as needed basis.

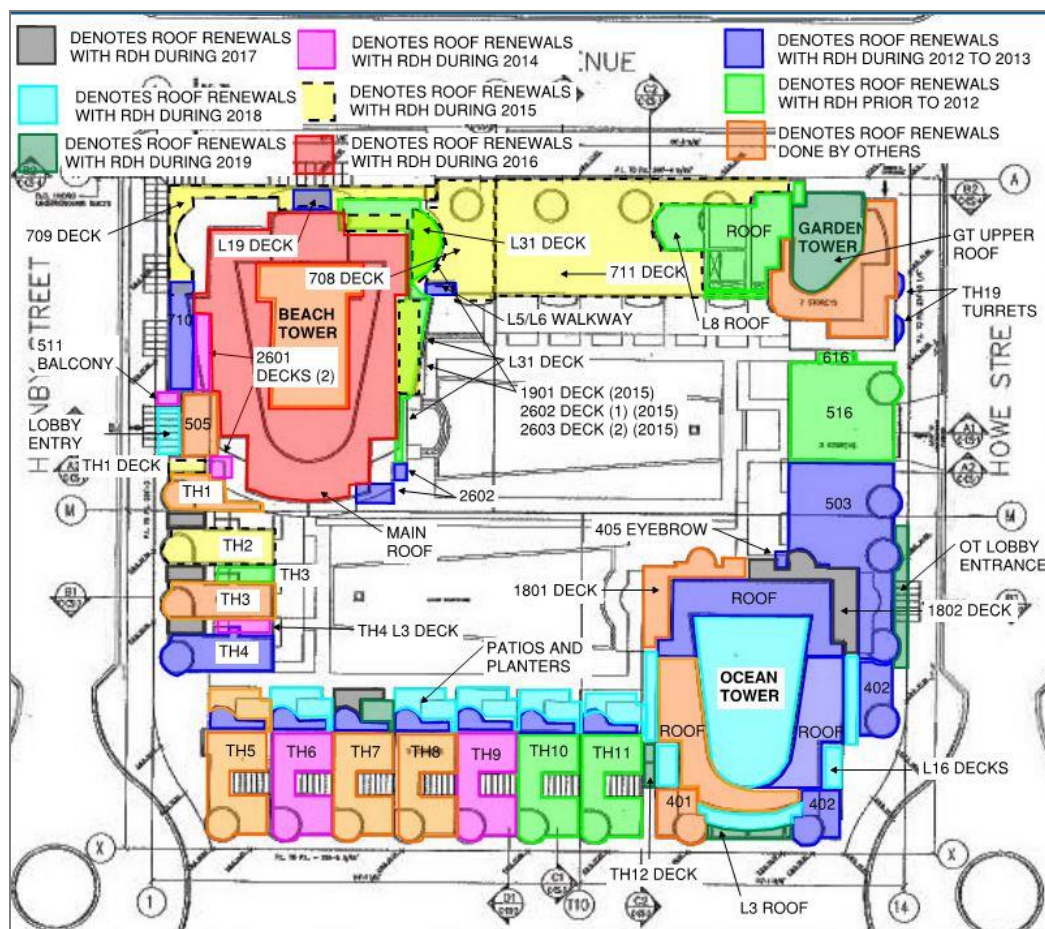
Electrical

- 2019 - Replacement of exterior lighting at the rooftop of each tower.
- 2017 - Replaced enterphone's and fob controls.
- 2017 - Replaced 13 security cameras in the lobbies.
- 2016 - Inspected and cleaning of the electrical vault.
- 2016 - Added new Digital Video Recording (DVR) system for security cameras.
- 2014 - Replaced parkade lights with LED's.

Mechanical

- 2019 - Installation of new VFD Booster Pump.
- 2018 - Replaced all domestic hot water storage tanks.
- 2018 - Replaced 4 sump pumps in Garden and Beach Towers.
- 2018 - Replaced heat exchanger in Ocean Tower.
- 2018 - Replaced a section of hot water recirculation lines between floors 3 and 8 at Ocean Tower.
- 2018 - Installed AC in main electrical room as well as in smaller mechanical rooms in the parkade.
- 2017 - Cleaned and scoped sanitary and storm drain lines.
- 2017 - Installed hallway make up air unit in Garden Tower.
- 2016 - Replaced Ocean Tower booster pumps.
- 2015 - Replaced hot water recirculation lines on one elevation of Beach Tower.
- 2015 - Replaced select valves in mechanical rooms.
- 2014 - Reviewed domestic water distribution system (McCuaig and Associates).
- 2013 - Replaced main hot water supply riser in Garden Tower.
- 2012 - Replaced Beach and Ocean Tower roof top boilers.

→ 2008 – Replaced hot water recirculation riser in Garden Tower. → As required – Replacement of miscellaneous pumps, valves, sensors, fans, and motors.
Elevator → 2018 – Commissioned an elevator review from KJA Consultants Inc. → 2017 – Installed/Replaced HDLM heavy door operators, infrared door safety edges, car operating panels, hall fixtures, brake cables, and new camera travel cables. → 2017 – Replaced elevator interiors. → 2017 – Installed 6 Internet Protocol (IP) HD Cameras in elevators.
Fire Safety → 2017 – Replaced a number of smoke detectors. → 2016 – Replaced fire panel outside of beach tower. → 2014 – Replaced most fire extinguishers (this work is completed yearly on an as needed basis, the date is a blended age based on Owner input). → 2010 – Replaced fire alarm panel interior components in all panels.
Interior Finishes → 2017 – Repainted all common areas (lobbies, amenity rooms, etc.). → 2017 – Refinished marble floors and columns in lobbies. → 2017 – Replaced hardwood floor in Beach Tower. → 2017 – Replaced lobby floor mats (carpets). → 2013 – Replaced gym flooring. → 2013 – Re-waterproofed select service room floors.
Amenities → 2018 – Repaired tractor. → 2017 – Re-plastered pool. → 2017 – Replaced heater in sauna. → 2017 – Replaced furniture in lobbies. → 2016 – Replaced gym equipment. → 2013 – Replaced sauna including heater. → 2008 – Replaced all carpets in common areas.
Sitework → 2017 – Replaced plantings around exterior pond.



On October 9, 2018, two representatives of RDH Building Science Inc. visited the site to visually review the Assets. While the Depreciation Report Update does not constitute a maintenance review or condition assessment, some observations regarding the general condition, design and construction of the Assets were made as part of the visual review. These observations were used to determine a reasonable estimated remaining service life of various assets. Table 3.2 includes examples of some observations made during the review.

SYSTEM	OBSERVATION
Building Enclosure	→ Localized corroded flashing and deteriorated sealant at glass block wall on Garden Tower roof. → Localized signs of efflorescence and staining were seen in the parkade below the courtyard waterproofing.
Elevator	→ The elevators are original to the complex and based on the report provided by KJA Consultants Inc., spare parts are becoming increasingly hard to find. Please refer to the report for more information.
Fire Safety	→ Fire panels are original and may be reaching technological obsolescence.

3.2 Financial Assessment

The financial assessment estimates the future costs associated with the Assets, and examines how future funding requirements will be affected by current financial practises. More specifically, the financial assessment identifies:

- The balance in the *Contingency Reserve Fund* (CRF).
- The estimated value of capital expenditures, expressed in *Current Year Dollars* (CYD).
- The estimated future value of capital expenditures, expressed in *Future Year Dollars* (FYD). These costs are calculated by applying an inflation rate (2% per year) to the current costs.

The future value of major maintenance and renewals costs can be compared against the building reproduction cost. The building reproduction cost is the cost to reproduce the complex in similar materials, in accordance with current market prices, and is obtained from the most recent insurance appraisal.

The financial assessment begins with a review of the current financial situation of the Strata Corporation. Table 3.3 below summarizes the key financial parameters reviewed as part of the financial assessment.

TABLE 3.3 KEY FINANCIAL PARAMETERS		
PARAMETER	INITIAL STUDY - HALSALL REPORT (2013)	UPDATE STUDY - RDH REPORT (2018)
Fiscal year end	December 31	December 31
Complex reproduction cost	\$100,9510,000	\$122,590,000
Operating budget (excluding CRF contribution)	\$1,342,168	\$2,257,540
Annual CRF contribution • CRF Allocation (repayment) • Structural Fund (capital replacement fund)	\$280,000	\$84,000 \$633,000
Accumulated CRF Balance* • Contingency Reserve Balance • Interior Refurbishment Reserve Balance • Exterior Maintenance Reserve Balance • Structural Reserve Balance		\$558,320 \$5,346 \$17,423 <u>\$534,641</u>
Total	\$618,972	\$1,492,432

**The balance in the CRF varies each month as contributions are made and funds are withdrawn for capital renewal projects and major maintenance activities. The accumulated CRF balance is reconciled as of December 2018.*

Depreciation Reports and Updates include capital costs only: the costs for activities that occur at intervals greater than one year. Activities that occur annually or more frequently than once a year are considered operating expenses and are not included in the Depreciation Report funding models and calculations.

Capital costs can be distributed into three general categories:

- *Catch-up costs*. The cost to complete any deferred maintenance and renewals.
- *Keep-up costs*. The cost to complete planned cyclical maintenance and renewals.
- *Get-ahead costs*. The cost to adapt, upgrade and improve.

The Depreciation Report Update is based on keep-up costs. Get-ahead costs (improvements) may also be included, but only if they are required to meet changing codes or standards.

Costs are considered *Class D* estimates ($\pm 50\%$), as defined by the Engineers and Geoscientists of British Columbia, unless noted otherwise. Unless otherwise noted, soft costs, such as consulting fees and contingency allowances are not included, because these costs are highly dependent on the scope of work for a particular project. Scopes of work for specific projects should be developed well in advance so that project budgets, including soft costs, can be refined.

The current value of many major maintenance and renewal activities is calculated by multiplying the quantity of an Asset by standard unit rates (for example, the cost per square foot or cost per linear foot). Quantities are measured from original construction documents and visual observations on site. The unit rates are based on historical information, construction trends, information from contractors, and other sources as appropriate. Unit rates will fluctuate over time. Basic unit rates are adjusted for the relative complexity of the property. A detailed list of activities and their associated costs are available online through BAMS. Please contact the strata council or strata manager for additional information on how to access and view this information.

Costing Caveats

The capital costs given in the depreciation report update provide a basic estimate for long term planning. They are intended to help guide priority setting and provide a clearer sense of timing. They are not suitable for planning specific projects as they cannot account for project soft costs such as taxes, grants, engineering or design, municipal permits, etc., or for project specific construction costs such as access to the work (e.g. scaffold), contingencies, hazardous materials, disposal, project management, etc. Such costs cannot be estimated without more information, including a project scope and preliminary design work. Once a project reaches the planning stages, a reasonable assumption of soft costs should be made based on the actual needs of the project. It is recommended that this happen well in advance of predicted work to allow time to plan for the funding of the soft costs.

4 Expenditures

Maintenance refers to activities that preserve the Assets, to ensure the Assets will last their predicted service lives and perform as expected. *Renewal* refers to the replacement or refurbishment of an Asset at the end of its useful service life.

Major maintenance refers to maintenance that occurs at intervals greater than one year, for example, every 18 months, two years, five years, etc. (less frequently than once a year). Major maintenance typically includes activities such as testing and inspecting, and is considered a capital expense. Minor maintenance includes maintenance activities that occur once a year or more frequently such as quarterly or monthly. The costs associated with *major maintenance and renewals* are included in the Depreciation Report Update funding models as required by the Strata Property Act. Costs associated with minor maintenance are included in the Strata Corporation's operating budget.

4.1 Major Maintenance and Renewals Expenditures

Table 4.1 below summarizes all major maintenance and renewal costs by system, including costs forecasted for the next 30 years. The values are rounded.

TABLE 4.1 CAPITAL EXPENDITURES SUMMARY BY SYSTEM				
SYSTEM	10 YEAR CAPITAL COSTS (WITHOUT INFLATION)	10 YEAR CAPITAL COSTS (WITH INFLATION)	30 YEAR CAPITAL COSTS (WITHOUT INFLATION)	30 YEAR CAPITAL COSTS (WITH INFLATION)
Building Enclosure	\$5,100,000	\$5,300,000	\$32,000,000	\$46,000,000
Electrical	\$520,000	\$600,000	\$1,400,000	\$1,900,000
Mechanical	\$370,000	\$410,000	\$3,300,000	\$4,400,000
Elevator	\$1,900,000	\$2,100,000	\$1,900,000	\$2,100,000
Fire Safety	\$430,000	\$460,000	\$810,000	\$1,000,000
Interior Finishes	\$340,000	\$370,000	\$1,000,000	\$1,300,000
Amenities	\$21,000	\$23,000	\$220,000	\$320,000
Sitework	\$1,900,000	\$2,000,000	\$2,100,000	\$2,300,000
Building Total	\$10,581,000	\$11,263,000	\$42,730,000	\$59,320,000

Approximately 25% of the Strata Corporation's capital expenditures may occur in the next 10 years. The distribution of estimated capital expenditures over the next 10 years is shown in Figure 4.1 below.

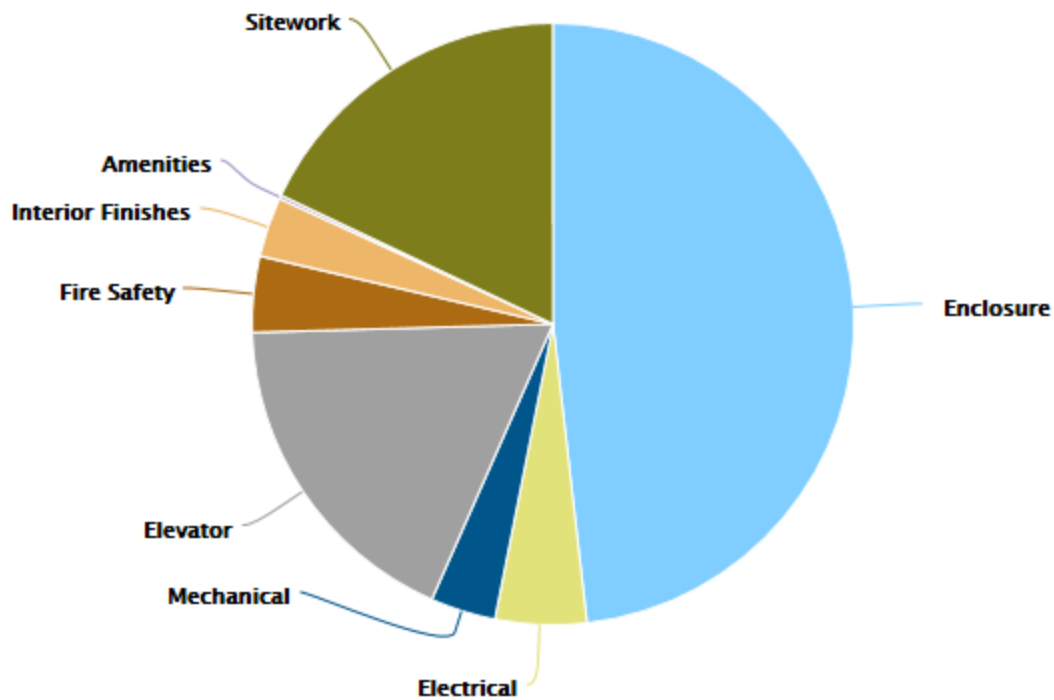


Figure 4.1 Distribution of estimated capital expenditures over 10 years by system.

Section 5 discusses the timing and size of renewals projects forecast for the next 30 years. A detailed list of each major maintenance and renewals activity, including the frequency, costs expressed in current year dollars (CYD), and costs including inflation rates, expressed in future year dollars (FYD) are available to Strata Corporation owners.

5 Major Maintenance and Renewals Planning Horizons

There are three common planning horizons, used for making different types of capital planning decisions:

- **Strategic** (30 years): The average service life of many of Assets is approximately 25 years (such as roofs) so a long-range view captures most renewal projects. In some cases, an asset may be replaced more than once in the 30-year horizon.
- **Tactical** (5-10 years): Many residential Owners will own their strata lot for less than 10 years; the tactical plan captures projects that may occur while current Owners still have an interest in the Strata Corporation.
- **Operational** (1 year): The annual operating period encompasses one fiscal cycle (12 months). Typically, the budget is presented and approved at the annual general meeting (AGM) and will include any capital expenditures paid from the CRF, as well as the CRF contributions for the year. As a minimum, the decision on the CRF contribution should consider projects forecast for the next five to ten years.

5.1 Strategic Planning Horizon

Estimated major maintenance and renewal costs over the next 30 years are shown on the graph below (Figure 5.1). The red bars represent the estimated value of capital costs.

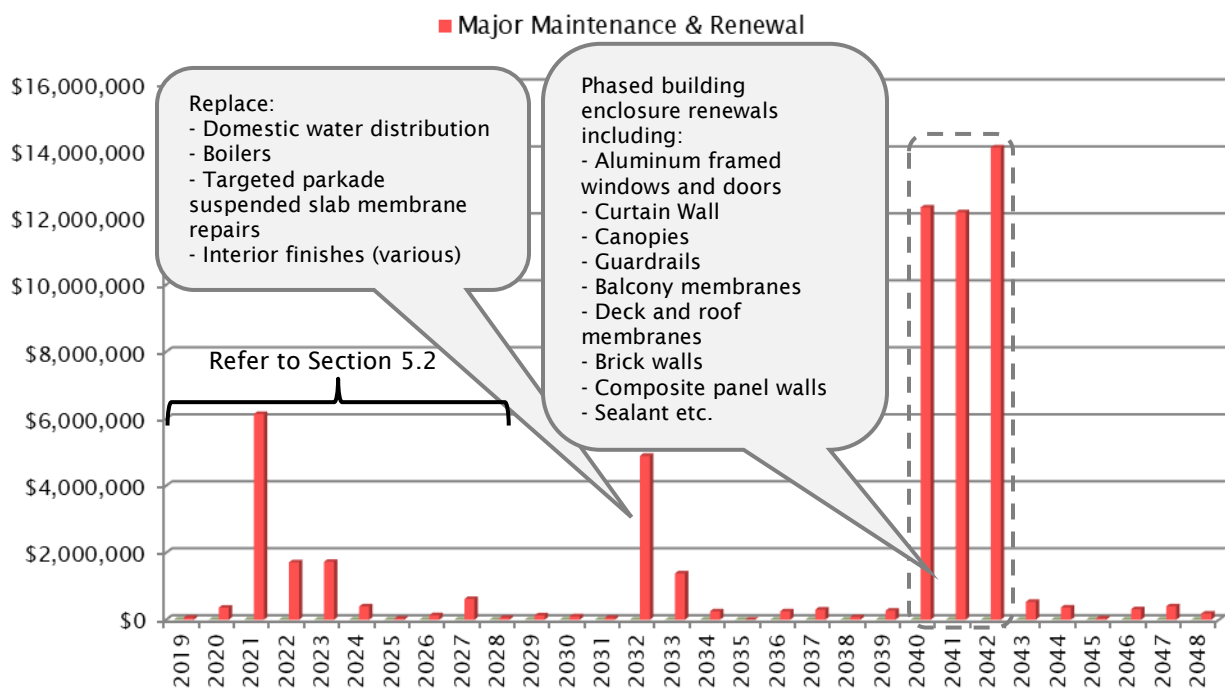


Figure 5.1 Strategic Forecast (30 Years), showing the approximate timing and value of some key capital expenditures.

Each bar on the graph represents a collection of different major maintenance and renewals activities, each with different values. Detailed information about each year, including a description of the maintenance

and renewal activities and estimated costs, is also available through the online version of the Depreciation Report Update, available through BAMS (please contact the strata council for additional information).

The strategic plan represents an estimate of future projects. The actual timing of projects will likely vary. Assets may be replaced earlier or later, depending on the quality of maintenance, in-service conditions, and other factors. The Strata Corporation can anticipate changes to the strategic plan with each update of the Depreciation Report.

5.2 Tactical Planning Horizon

The graph below shows the projected major maintenance and renewal costs for the next ten years (Figure 5.2). Commonly, building managers refer to a five-year tactical plan; however, a ten-year plan allows the Strata Corporation to see a wider range of projects.

The bars indicate the years in which an event (or bundle of events) is most likely to occur as well as the total magnitude of major maintenance and renewal costs for that year and the costs broken down by system. The soft costs associated with project implementation, such as site access, design, contract administration, are not included.

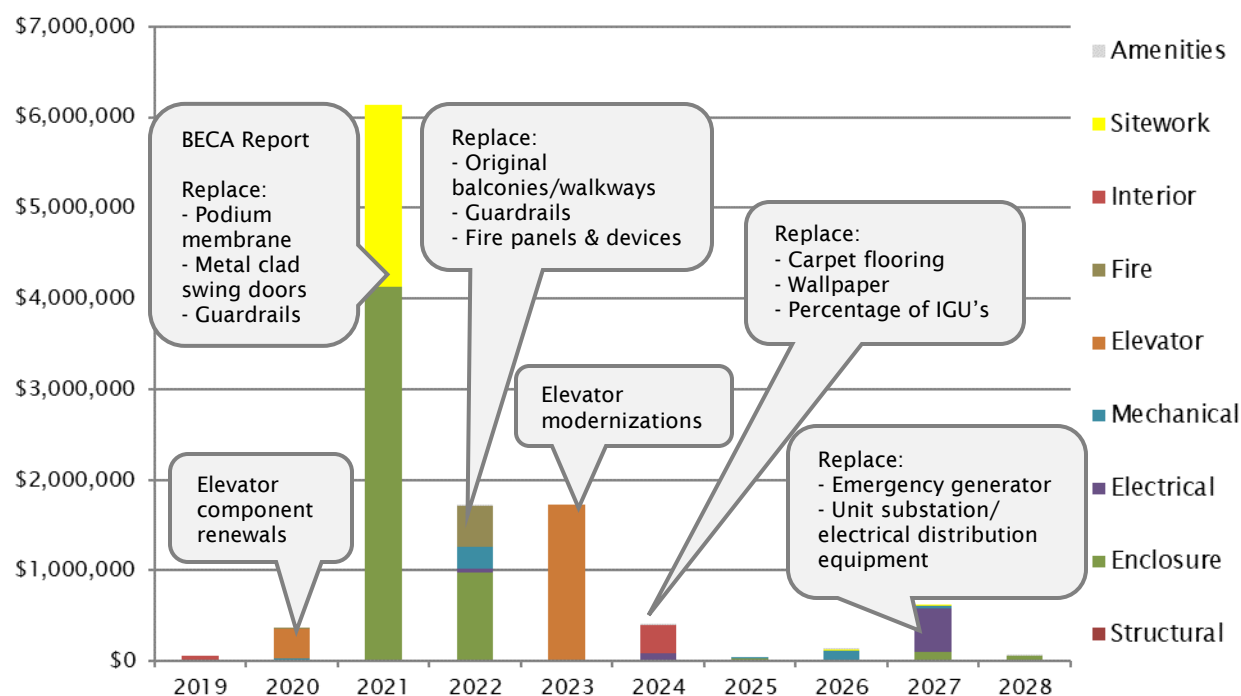


Figure 5.2 Tactical Forecast (10 years), showing the approximate timing and value of some key capital expenditures.

The tactical plan above represents one of many possible approaches to planning major maintenance and renewals activities. The Strata Corporation can use this initial plan as a tool, a starting point to identify probable projects, priorities, and strategies. The actual cost, timing, and scope of projects will be determined by the Strata Corporation and may be reflected in updates to the Depreciation Report.

To help the Strata Corporation start the project planning process, some of the activities forecast for the next 10 years are listed below. Because the timing is somewhat uncertain, renewals and major maintenance activities are grouped into three-year planning periods. The list below is not comprehensive; all renewals and major maintenance activities are available through BAMS. The list below focuses on

renewals likely to cost more than \$50,000 in current year dollars, but also includes maintenance events, assessments, and repairs that are needed to ensure the assets achieve their full service life.

2019 to 2021

Building Enclosure

- Encl 32 – General – Commission a Building Enclosure Condition Assessment (BECA) Report. The BECA would provide the Owners with detailed information on the current condition of building enclosure Assets such as the, brick wall cladding, composite metal panel walls, windows, podium membrane, and exterior sealant. The BECA Report will help refine the actual timing, scope of work, and project budget for potential upcoming maintenance and renewals.
- Encl 02 – Protected Sheet Applied Rubber Roof Waterproofing Membrane – Replace remaining original roof areas.
- Encl 03 – Protected Sheet Applied Rubber Podium Waterproofing Membrane – Replace interior courtyard and exterior perimeter podium waterproofing membrane.
- Encl 07 – Guardrail Aluminum – Replace guardrails at the podium level in conjunction with the podium membrane renewal.
- Encl 21 – Metal Clad Swing Doors – Replace original metal clad swing doors at the townhouses in conjunction with the podium membrane renewal.
- Encl 13 – Aluminum Framed Windows – Cyclical replacement of insulating glazing units (IGUs), as required. An allowance has been included on a two-year cycle.

Interior Finishes

- Finish 04 – Ceramic Floor Tiles – Planned replacement of pool and washroom floor tiles.

Elevator

- Elev 01 – Geared Traction Elevators - Replace, repair, or upgrade the following elevator components for code compliance, reliability, accessibility, and safety; firefighter key switches, car door restrictor, hall door retainers, hall door unblocking devices, barrier free upgrades, car top railings, and equipment guarding, as per the recommendations of the 2018 Elevator Maintenance Inspection performed by KJA Consultants Inc. Also included are allowances for vandalism and code changes.

Sitework

- Site 01 – Interlocking Unit Paving Walkways – Replace pavers and paving where situated over the suspended slab of the parkade in conjunction with the podium membrane renewals.
- Site 02 – Water Feature – Replace the pond liner in conjunction with the podium membrane renewals.
- Site 04 – Glass Block Privacy Screens – Replace glass block privacy screens in conjunction with the podium membrane renewals.
- Site 10 – Soft Landscaping – Remove and replace the soft landscaping over the suspended slab of the parkade in conjunction with the podium membrane renewals.

2022 to 2024

Building Enclosure

- Encl 06 – Guardrail Glazed Aluminum – Consider replacing the guardrails at the California Walkways as part of the membrane renewals at those areas.
- Encl 24 – Urethane Balcony Membranes – Consider locally reapplying top coat at Beach and Garden Towers, as required.
- Encl 25 – California Walkways – Consider renewing tile finish and installing new waterproofing membranes on the California Walkways and the remaining original townhouses.
- Encl 30 – Suspended Slab Traffic-Bearing Membrane – Consider repairing damaged areas of the parkade traffic-bearing membrane in high traffic locations, and reapply base and top coats, as required.

Electrical

- Elec 07 – Interior Light Fixtures – Replace interior light fixtures, as required, in conjunction with other interior finish renewals.

Mechanical

- Mech 10 – Boilers – Consider replacing the original gas fired boilers under Beach Tower.
- Mech 30 – Consider replacing the original indoor air handlers in Beach and Ocean Towers.

Elevator

- Elev 01 – Geared Traction Elevators – Consider replacing the elevator machines, controls and drive systems based on the KJA Consultants maintenance review. In general, renewal projects associated with the elevators tend to be completed on a preventative basis, to reduce the risk of break downs, and unreliable operation. A second comprehensive review by the elevator maintenance contractor or elevator consultant may help to confirm any new conditions and refine the potential renewal year.

Fire Safety

- Fire 02 – Fire Alarm Panel, Devices, and Emergency Egress Equipment – Anticipate replacing or modernizing the fire alarm panels, field devices, and emergency egress equipment, as required due to technological obsolescence. The Owners could contact their fire safety maintenance contractor to confirm the age and dependability of the equipment, and confirm upcoming renewal requirements.

Interior Finishes

- Interior common area renovations. Interior renovations are completed to refurbish the interior common areas and are typically renewed at the Ownership group's discretion. The following assets are anticipated to be included in the interior common area renovations:
 - Finish 03 – Common area carpets.
 - Finish 08 – Fabric wall coverings.

2025 to 2028

Electrical

- Elec 02 – Emergency Generator – Consider replacing the emergency generator and transfer switch.
- Elec 03 – Unit Substation – Consider replacing the unit substation equipment based on a third-party review of the system prior to the replacement date.

Mechanical

- Mech 17 – Domestic Hot Water Storage Tanks – Consider replacing the domestic hot water storage tanks.

5.3 Project Implementation

The projects identified in the previous section represent a preliminary step that is only intended to help the Strata Corporation identify, prioritize, and plan projects. Most significant renewal projects identified in the Depreciation Report Update will subsequently go through four basic steps before implementing the work: Assessment, Design, Documentation, and Quotation.

- **Assessment** – Determines what work must be done, what should be done and what could be done in general terms. The evaluation will help the Strata Corporation understand the risks and opportunities associated with deferring or implementing renewals work.
- **Design** – Refines the recommendations from the evaluation, and defines what work will be done in a specific project. The Design may include recommendations for different project strategies such as phasing or bundling projects, or may include recommendations for upgrades.
- **Documentation** – Describes the project in enough technical detail to get competitive pricing.
- **Quotation** – Obtains competitive pricing from different contractors or service providers to perform the work described in the documents, including alternate prices for optional work.

The time period for each step can range from a few days to a few months or more, depending on the scale of the project under consideration. The budget and scope of work will be refined in each step. Most estimates currently included in the Depreciation Report Update are considered Class D ($\pm 50\%$) due to the lack of information regarding specific projects and are based on a number of general assumptions regarding scopes of work.

The Owners can implement projects in a variety of ways, including:

- **Targeted Projects.** These projects are localized to particular portions of the complex. Different exposure conditions and wear patterns may require that only some sections of the complex require renewal at one point in time.
- **Phased Projects.** These projects are carried out in multiple stages rather than as a single coordinated project. Phased projects can reduce the financial burden by spreading the costs over a longer time period.
- **Comprehensive Projects.** These projects are implemented as one coordinated undertaking. Comprehensive projects may allow the Strata Corporation to leverage the best economies of scale, shorten the overall duration, and lower the overall costs.
- **Bundled Projects.** These projects bundle or combine various related renewals activities (e.g. renewals that are located in close physical proximity, or that require the same type of trade workers). Bundled

projects may allow the Strata Corporation to leverage economies of scale and lower the overall costs, improve the quality of the work, and incorporate upgrades.

The scope of the Depreciation Report Update does not compare different implementation methods.



6 Funding Scenarios

The physical assessment and financial assessment were used to create a tentative schedule and budget for forecasted major maintenance and renewal projects. Within this section, hypothetical *funding scenarios*, also known as *funding models*, based on different annual contributions to the contingency reserve fund (CRF) are presented.

The Strata Corporation can use the funding scenarios to choose an appropriate funding strategy, based on their tolerance for risk and desired standard of care for the property. RDH provides the tools so the Owners can determine a CRF contribution that suits their needs.

6.1 Minimum Funding Requirements

The Strata Property Act Regulations dictates that if the CRF closing balance is less than 25% of the operating fund, then the Strata Corporation must contribute either the difference between the balance and 25% of the operating fund, or up to 10% of the operating fund (*Strata Property Act Regulation*, BC Reg 43/2000, Ch. 6.1). Table 6.1 below shows the calculation to confirm the Strata Corporation meets the minimum requirements set out in the Strata Property Act Regulation.

TABLE 6.1 MINIMUM FUNDING REQUIREMENT CALCULATION	
PARAMETER	VALUE
2018 operating budget (excluding CRF contribution)	\$ 2,257,540
→ 25% of the operating budget	\$ 564,385
→ 10% of the operating budget	\$ 225,754
2017 CRF closing balance	\$ 2,721,015
2018 CRF Contribution (approximate)	\$ 600,000
Will the CRF closing balance exceed 25% of the operating budget at the end of the fiscal year?	Yes
Does the CRF contribution exceed 10% of the operating budget?	Yes

Although the Strata Corporation meets the statutory minimum contribution to the CRF, it is important to note that the statutory guideline is not a good measure of the financial preparedness of the corporation.

6.2 Alternative Funding Scenarios

The funding scenarios below compare the financial impact of different funding levels over the next 30 years. The scenarios serve as a sensitivity analysis that allow the Strata Corporation to evaluate how changes to the contingency reserve fund impact the number and size of special levies. The actual size and timing of special levies will be affected by how the Strata Corporation chooses to implement the renewal projects.

While there are many different scenarios that can be generated, Table 6.2 below compares the following alternatives:

- **Current (2018).** The CRF allocation that was approved by the Owners at the last Annual General Meeting. The current allocation is also known as the status quo. While the 2018 budget includes a repayment of \$84,000 to the CRF, the Strata Corporation funded \$633,000 strictly for capital asset

replacements, major maintenance repairs, and upgrades. Therefore, a more accurate representation of the current CRF allocation is approximately \$600,000, which is reflected as an approximate fixed allocation for the current funding model.

- **Alternative #1.** A non-linear funding scenario that begins with a contribution to \$200,000, which is approximately 10% of the operating budget, and continues with a 3% annual increase in subsequent years. This alternative is one of many possible scenarios for a new funding level in the next fiscal year.
- **Alternative #2.** A fixed annual CRF contribution of \$500,000. Alternative #2 is just one of many possible scenarios for a new funding level in the next fiscal year.
- **Progressive.** This is the annual contribution that would need to be set aside, commencing in the first fiscal year of this Report, to ensure that the reserve balance is sufficient to eliminate or bring special levies over a 30-year period to a minimum. With “progressive” reserve allocation, older strata’s with underfunded reserves may still require some special levies at some point in their strategic plan. The “progressive” reserve contribution is an optimum target that a strata corporation could use as a guide.

TABLE 6.2 COMPARISON OF DIFFERENT FUNDING SCENARIOS				
	CURRENT	ALTERNATIVE #1	ALTERNATIVE #2	PROGRESSIVE RESERVE
Annual CRF allocation	\$600,000	\$200,000 +	\$500,000	\$1,726,000
Annual CRF increase	0 %	3 %	0 %	0 %
Percent of progressive reserve	35 %	12 % +	28 %	100 %
CRF contribution per unit of unit entitlement		Starting at		
Per month	\$0.16	\$0.05 +	\$0.13	\$0.45
Per year	\$1.89	\$0.63 +	\$1.57	\$5.44
CRF contribution per average strata lot		Starting at		
Per month	\$193	\$64 +	\$161	\$555
Per year	\$2,316	\$768 +	\$1,932	\$6,660
Approximate number of special levies (over 30 years)	8	11	9	1
Approximate value of special levies (over 30 years)	\$41.3 M	\$49.3 M	\$43.8 M	\$10.7 M
Minimum Closing Balance	\$225,740	\$225,740	\$225,740	\$225,740
Assumed Inflation Rate	2 %	2 %	2 %	2 %
Assumed Interest Rate	2 %	2 %	2 %	2 %

The following sections of the report provide more detailed information about each funding scenario, including a graph showing the closing balance of the CRF, annual CRF contributions, and the approximate value of special levies. Tables with ten years of cash flow data are also provided.

Appendix E includes 30 years of cash flow data for each funding scenario.

6.3 Current (2018) Funding Scenario

The current funding scenario is based on the CRF contribution approved by the Owners at the last annual general meeting. The scenario is based on a fixed annual CRF contribution (no increases).

FISCAL YEAR	OPENING BALANCE	RESERVE CONTRIBUTION	SPECIAL LEVY	RESERVE INCOME	RENEWAL COSTS	CONTINGENCY COSTS	CLOSING BALANCE
2019	\$1,492,432	\$600,000	\$0	\$29,849	\$63,000	\$2,000	\$2,057,281
2020	\$2,057,281	\$600,000	\$0	\$41,146	\$362,200	\$2,000	\$2,334,226
2021	\$2,334,226	\$600,000	\$3,388,029	\$46,685	\$6,141,200	\$2,000	\$225,740
2022	\$225,740	\$600,000	\$1,111,515	\$4,515	\$1,714,030	\$2,000	\$225,740
2023	\$225,740	\$600,000	\$1,125,485	\$4,515	\$1,728,000	\$2,000	\$225,740
2024	\$225,740	\$600,000	\$0	\$4,515	\$397,100	\$2,000	\$431,155
2025	\$431,155	\$600,000	\$0	\$8,623	\$34,760	\$2,000	\$1,003,018
2026	\$1,003,018	\$600,000	\$0	\$20,060	\$134,000	\$2,000	\$1,487,078
2027	\$1,487,078	\$600,000	\$0	\$29,742	\$618,500	\$2,000	\$1,496,320
2028	\$1,496,320	\$600,000	\$0	\$29,926	\$61,100	\$2,000	\$2,063,147

The graph below shows the annual contribution to the CRF, the closing balance of the CRF, and the size of the special levies forecast for the next 30 years.

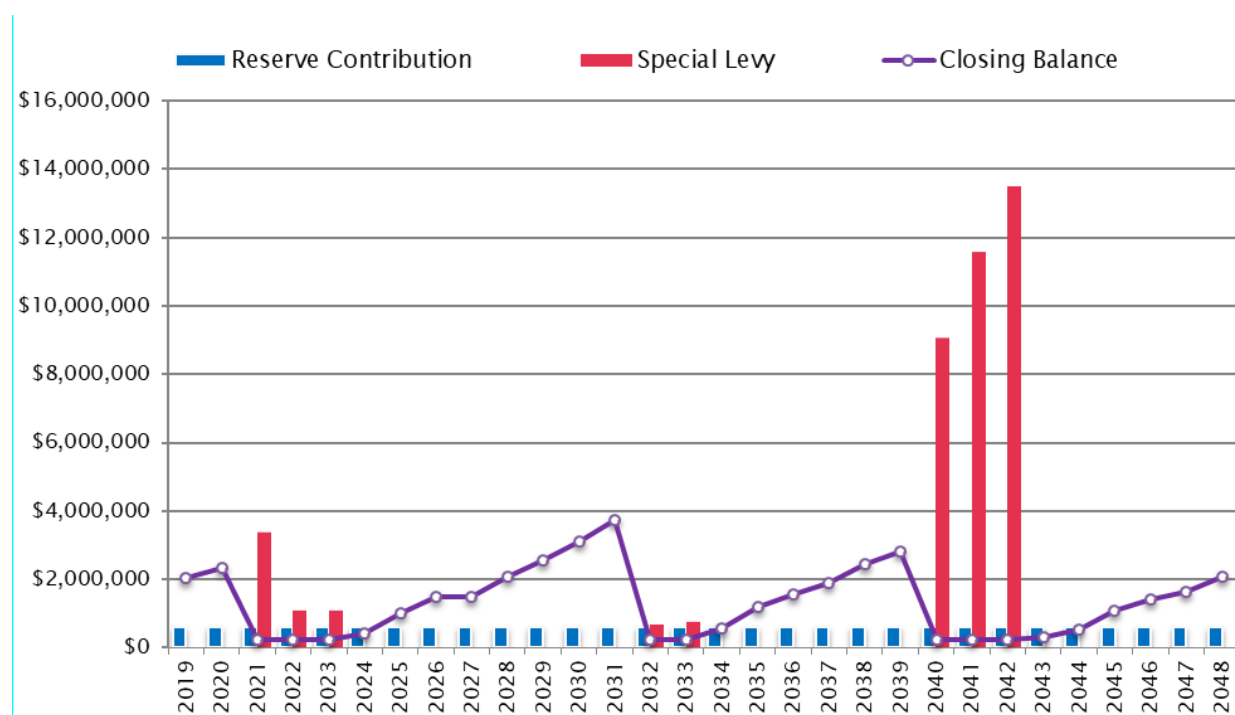


Figure 6.1 CRF balance, contribution and special levies based on the current funding.

If the Strata Corporation wishes to reduce the number and size of special levies, then increases will need to be made over the upcoming years.

6.4 Alternative Funding Scenario #1

Alternative funding scenario #1 is based on an initial increase in contribution to \$200,000 with a 3% annual increase in subsequent years.

FISCAL YEAR	OPENING BALANCE	RESERVE CONTRIBUTION	SPECIAL LEVY	RESERVE INCOME	RENEWAL COSTS	CONTINGENCY COSTS	CLOSING BALANCE
2019	\$1,492,432	\$200,000	\$0	\$29,849	\$63,000	\$2,000	\$1,657,281
2020	\$1,657,281	\$206,000	\$0	\$33,146	\$362,200	\$2,000	\$1,532,226
2021	\$1,532,226	\$212,180	\$4,593,889	\$30,645	\$6,141,200	\$2,000	\$225,740
2022	\$225,740	\$218,545	\$1,492,970	\$4,515	\$1,714,030	\$2,000	\$225,740
2023	\$225,740	\$225,102	\$1,500,384	\$4,515	\$1,728,000	\$2,000	\$225,740
2024	\$225,740	\$231,855	\$162,730	\$4,515	\$397,100	\$2,000	\$225,740
2025	\$225,740	\$238,810	\$0	\$4,515	\$34,760	\$2,000	\$432,305
2026	\$432,305	\$245,975	\$0	\$8,646	\$134,000	\$2,000	\$550,926
2027	\$550,926	\$253,354	\$30,942	\$11,019	\$618,500	\$2,000	\$225,740
2028	\$225,740	\$260,955	\$0	\$4,515	\$61,100	\$2,000	\$428,109

Alternative funding scenario #1 eliminates some of the smaller levies, but it is not adequate to offset all the special levies over the 30-year planning horizon. The graph below shows the annual contribution to the CRF, the closing balance of the CRF, and the size of the special levies forecast for the next 30 years.

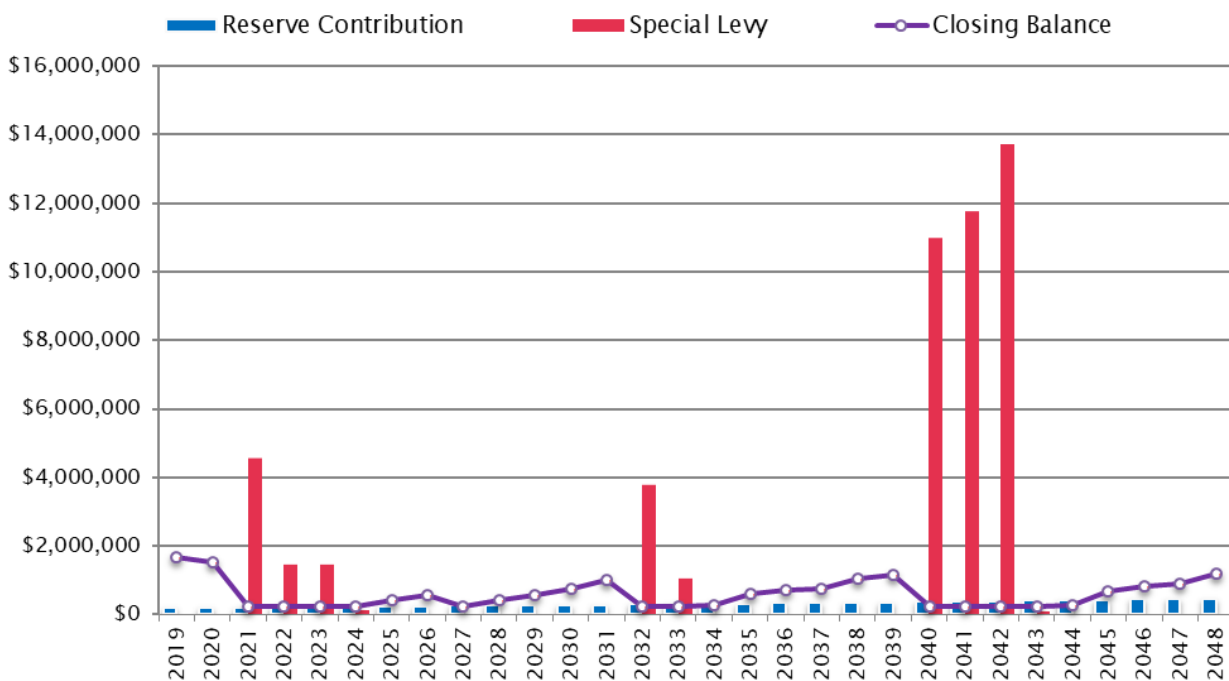


Figure 6.2 CRF balance, contribution and special levies based on Alternative #1.

The initial increase coupled with the annual percentage increase would reduce the number and size of special levies over the next 30 years, however, it would not be able to fully offset the forecasted capital expenditures over the next 5 to 10 years.

6.5 Alternative Funding Scenario #2

Alternative funding scenario #2 is based on an increase in funding to \$500,000 per year.

FISCAL YEAR	OPENING BALANCE	RESERVE CONTRIBUTION	SPECIAL LEVY	RESERVE INCOME	RENEWAL COSTS	CONTINGENCY COSTS	CLOSING BALANCE
2019	\$1,492,432	\$500,000	\$0	\$29,849	\$63,000	\$2,000	\$1,957,281
2020	\$1,957,281	\$500,000	\$0	\$39,146	\$362,200	\$2,000	\$2,132,226
2021	\$2,132,226	\$500,000	\$3,694,070	\$42,645	\$6,141,200	\$2,000	\$225,740
2022	\$225,740	\$500,000	\$1,211,515	\$4,515	\$1,714,030	\$2,000	\$225,740
2023	\$225,740	\$500,000	\$1,225,485	\$4,515	\$1,728,000	\$2,000	\$225,740
2024	\$225,740	\$500,000	\$0	\$4,515	\$397,100	\$2,000	\$331,155
2025	\$331,155	\$500,000	\$0	\$6,623	\$34,760	\$2,000	\$801,018
2026	\$801,018	\$500,000	\$0	\$16,020	\$134,000	\$2,000	\$1,181,038
2027	\$1,181,038	\$500,000	\$0	\$23,621	\$618,500	\$2,000	\$1,084,159
2028	\$1,084,159	\$500,000	\$0	\$21,683	\$61,100	\$2,000	\$1,542,742

Alternative funding scenario #2 again eliminates some of the smaller levies, but it is not adequate to offset all the special levies over the 30-year planning horizon. The graph below shows the annual contribution to the CRF, the closing balance of the CRF, and the size of the special levies forecast for the next 30 years.

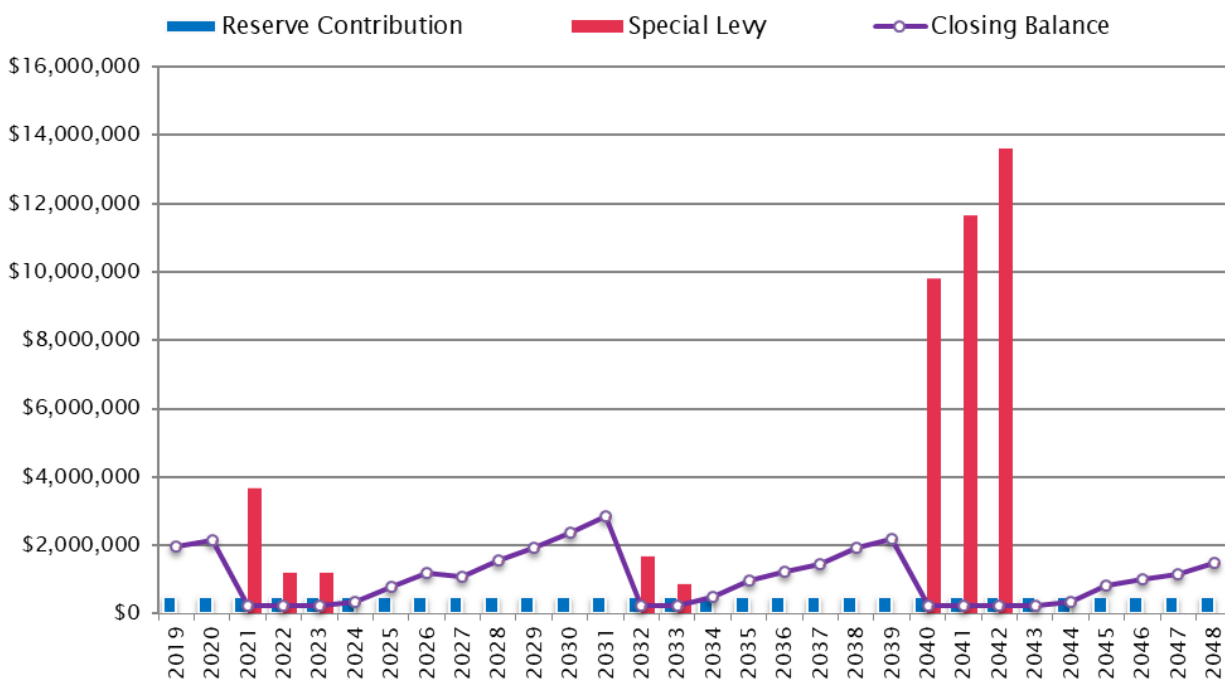


Figure 6.3 CRF balance, contribution and special levies based on Alternative #2.

The large initial increase moving forward would reduce the number and size of special levies over the next 30 years, however, it would not be able to fully offset the forecasted capital expenditures over the next 5 to 10 years.

6.6 Progressive Funding Scenario

The progressive funding scenario is based on a fixed annual CRF contribution.

FISCAL YEAR	OPENING BALANCE	RESERVE CONTRIBUTION	SPECIAL LEVY	RESERVE INCOME	RENEWAL COSTS	CONTINGENCY COSTS	CLOSING BALANCE
2019	\$1,492,432	\$1,726,000	\$0	\$29,849	\$63,000	\$2,000	\$3,183,281
2020	\$3,183,281	\$1,726,000	\$0	\$63,666	\$362,200	\$2,000	\$4,608,747
2021	\$4,608,747	\$1,726,000	\$0	\$92,175	\$6,141,200	\$2,000	\$283,722
2022	\$283,722	\$1,726,000	\$0	\$5,674	\$1,714,030	\$2,000	\$299,366
2023	\$299,366	\$1,726,000	\$0	\$5,987	\$1,728,000	\$2,000	\$301,353
2024	\$301,353	\$1,726,000	\$0	\$6,027	\$397,100	\$2,000	\$1,634,280
2025	\$1,634,280	\$1,726,000	\$0	\$32,686	\$34,760	\$2,000	\$3,356,206
2026	\$3,356,206	\$1,726,000	\$0	\$67,124	\$134,000	\$2,000	\$5,013,330
2027	\$5,013,330	\$1,726,000	\$0	\$100,267	\$618,500	\$2,000	\$6,219,097
2028	\$6,219,097	\$1,726,000	\$0	\$124,382	\$61,100	\$2,000	\$8,006,379

The Progressive Reserve would eliminate almost all special levies, however, because of the timing of anticipated renewals projects, a fixed annual contribution will not eliminate the anticipated special levy in 2042. The graph below shows the annual contribution to the CRF, the closing balance of the CRF, and the size of the special levies forecast for the next 30 years.

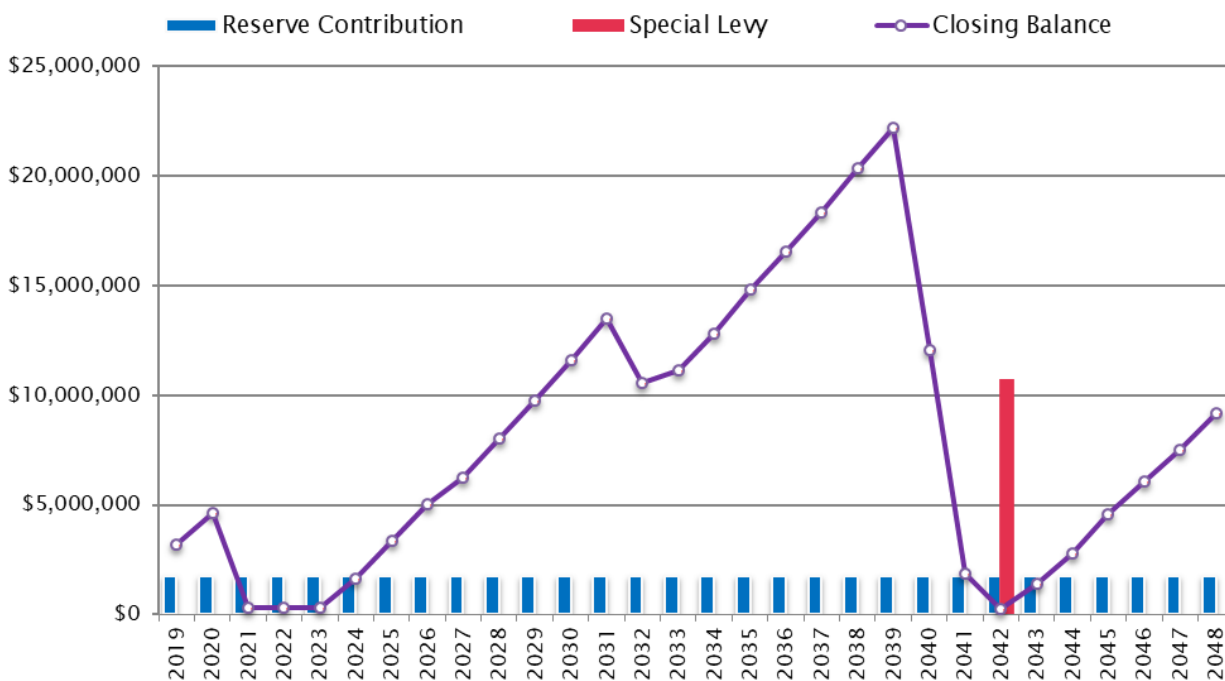


Figure 6.4 CRF balance, contribution and special levy based on a Progressive Reserve calculation.

7 Next Steps

The Depreciation Report Update identifies the possible major maintenance and renewals expenditures that 888 Beach may encounter over the next 30 years. Estimated timelines have been provided to assist the Strata Corporation with the planning process; however, the Depreciation Report Update should be considered a first step when planning for renewals. Funding scenarios have been developed to provide the Strata Corporation with an objective basis for determining appropriate CRF contributions.

888 Beach is a 27 year old complex (as of 2019). The Strata Corporation has completed a considerable number of capital renewals projects over the lifespan of the complex including the hot water tanks, sections of hot water recirculation lines, balcony membranes, roof and deck membranes, window and wall upgrades, swing doors, and exterior sealant.

Over the next 10 years several assets such as the podium waterproofing membrane, fire alarm panels, boilers, and the California Walkways may require renewal; however, the specific timing of these projects should be verified with additional investigations. It is unlikely that the Strata Corporation can avoid special levies in this time period; however, there may be opportunities to reduce the scope of work needed or otherwise manage projects to alleviate the financial impact on individual owners.

The recommendations below are intended to aid the Strata Corporation in the next steps of the renewals planning process.

Recommendations

- **Project Planning:** Review the information in Section 5.2, and begin planning for significant projects, including commissioning assessments, requesting information, and preparing construction budgets, well in advance of the forecasted date of renewal. The planning process will assist the Owners in refining the actual timing, scope of work, and project budget.
- **Major Maintenance Planning:** Review BAMS for a detailed checklist of forecasted major maintenance activities and renewals on an annual basis.
- **Record keeping:** Continue to record significant renewals, repairs, and maintenance activities. These records will be used to improve the forecast at the time of the Depreciation Report Update.
- **CRF Planning:** On a yearly basis, review and update the CRF funding strategy based on the estimated forecasts presented in this Report and update information obtained from assessments, investigations and quotations.
- **Building Enclosure Condition Assessment.** Conduct a Condition Assessment of the building enclosure prior to or in conjunction with the update to the Depreciation Report in three years' time. The condition assessment should inform the renewal timing of enclosure assets such as the walls and windows, as well as the podium waterproofing membrane.
- **Further Investigations.** Conduct additional condition assessments/investigations, as required, to refine the data and confirm assumptions.
- **Updates:** Plan for an update to the Depreciation Report in three years' time

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Appendix A

Glossary of Terms

Glossary

Annual Contribution – Funds allocated to the Reserve Fund each fiscal year. Sometimes referred to as the Annual Allocation. Determining the appropriate size of the Annual Allocation is aided with a Reserve Study (a Depreciation Report in B.C.).

Asset – An integrated assembly of multiple physical components, which requires periodic maintenance, repair and eventual renewal. Typical examples of assets are: roofs, boilers and hallway carpets.

Catch-up Costs – The costs associated with the accumulated backlog of deferred maintenance associated with the assets.

Chronological Age – The age of an asset relative to its date of installation (current year minus year of installation).

Classes of Cost Estimates – Until a project is actually constructed, a cost estimate represents the best judgement of the professional according to their experience and knowledge and the information available at the time. Its completeness and accuracy is influenced by many factors, including the project status and development stage. Estimates have a limited life and are subject to inflation and fluctuating market conditions. The precision of cost estimating is categorized into the following four classes and are as defined in guidelines prepared by the Association of Professional Engineers and Geoscientists of B.C. The percentage figures in parentheses refer to the level of precision or reliability of the cost estimates.

- **Class A Estimate** ($\pm 10\text{-}15\%$): A detailed estimate based on quantity take-offs from final drawings and specifications. It is used to evaluate tenders or as a basis of cost control during day-labour construction.
- **Class B Estimate** ($\pm 15\text{-}25\%$): An estimate prepared after site investigations and studies have been completed, and the major systems defined. It is based on a project brief and preliminary design. It is used for obtaining effective project approval and for budgetary control.
- **Class C Estimate** ($\pm 25\text{-}40\%$): An estimate prepared with limited site information and based on probable conditions affecting the project. It represents the summation of all identifiable project elemental costs and is used for program planning, to establish a more specific definition of client needs and to obtain preliminary project approval.
- **Class D Estimate** ($\pm 50\%$): A preliminary estimate which, due to little or no site information, indicates the approximate magnitude of cost of the proposed project, based on the client's broad requirements. This overall cost estimate may be derived from lump sum or unit costs for a similar project. It may be used in developing long term capital plans and for preliminary discussion of proposed capital projects.

Closing Balance – Alternatively referred to as the Starting Balance. The balance of funds remaining in the reserve account at the end of a fiscal period (Fiscal year end, calendar year or study period). The Closing Balance becomes the Opening Balance for the subsequent fiscal period.

Contingency Costs – An allowance for unexpected or unforeseen costs that may impact monies required for projects to maintain or replace assets. (Not to be confused with costs of Renewal or Major Maintenance projects which are paid for out of the Reserve Fund (otherwise known the Contingency Reserve Fund.)

Contribution Threshold - A dollar value which dictates the size of the Contingency Reserve Fund (CRF) contribution based on whether the accumulated CRF balance is greater than or less than the specified dollar value. For example, the Strata Property Act indicates that if the closing balance of the CRF at the end of the fiscal year is less than 25% of the operating budget for the next fiscal year, then the CRF contribution for the next fiscal year should be a minimum of 10% of the operating budget. In this case, the threshold is 25% of the operating budget.

Current Dollars – Dollars in the year they were actually received or paid, unadjusted for price changes.

Effective Age – An assessment of the age of an asset relative to its condition and how that condition may have accelerated or decelerated the chronological age of the asset (service life minus remaining service life).

Funding Model – A mathematical model used to establish an appropriate funding level for sustaining the assets in a building. Running a number of scenarios out of the funding model using different parameters (such as inflation rates and interest rates) can serve as a sensitivity analysis to determine the financial impact of different funding levels.

Future Dollars – The projected cost of future asset renewal projects, which accounts for inflation and escalation factors.

Get Ahead Costs – These are costs associated with adaptation of the building to counter the forces of retirement associated with different forms of obsolescence, such as:

- Functional obsolescence
- Legal obsolescence
- Style obsolescence

Some of the costs in this category are discretionary spending that result in either a change or an improvement to the existing strata building. This category includes projects to alter the physical plant for changes in use, codes and standards. Some typical examples include:

- Energy retrofits
- Code retrofits
- Hazardous material abatement
- Barrier free access retrofits
- Seismic Upgrades

Keep-up Costs – The monies required for renewal projects as each asset reaches the end of its useful service life. If an asset is not replaced at the end of its useful service life

and is kept in operation, through targeted repairs, then these costs get reclassified into the “catch-up” category.

Major Maintenance – Any maintenance work for common expenses that usually occurs less often than once a year or that do not usually occur. Major maintenance provides for the preservation of assets to ensure that they achieve their full intended service life.

Next Renewal Year - The forecasted date of asset replacement or renewal.

Opening Balance – Alternatively referred to as the Starting Balance. The amount of money in an account at the beginning of a fiscal period. Opening balances are derived from the balance sheet and are used in cash flow calculations in the Funding Model.

Operating Costs – Frequently recurring expenses that arise during the course of a single fiscal year and are paid from the operating budget as opposed to the Reserve Fund.

Operational Plan/Horizon (1 year) – The annual operating period encompasses one fiscal cycle (12 months). The Reserve Contribution in the operating budget should reflect the majority of the projects in the Tactical Plan (5 years) and ideally should also contemplate elements of the Strategic Plan (30 years).

Percent Funded – The ratio, at a particular point of time (typically the beginning of the fiscal year), of the actual or projected Reserve Fund balance to the accrued Reserve Fund balance, expressed as a percentage. For example: If the 100% funded balance is \$100,000 and there is \$76,000 in the Reserve Fund, the Reserve Fund is 76% funded.

Since funds can typically be allocated from one asset to another with ease, this parameter has no real meaning on an individual reserve component basis. The purpose of this parameter is to identify the relative strength or weakness of the entire Reserve Fund at a particular point in time. The value of this parameter is to provide a more stable measure of Reserve Fund strength, since cash in reserve may mean very different things to different governing bodies or Owner groups.

- **Poor Level.** When the Percent Funded falls to 0% - 30%, the current reserves may be considered to be at a ‘poor’ level. At this funding level, Special Levies are common. This is also commonly known as the Unfunded or Special Levy Model. The Owner Group does not have a Reserve Fund balance that will cover expected renewal costs and the only recourse is to raise funds by Special Levies to cover those costs when they become due.
- **Fair Level.** If the Percent Funded level is 31 to 70% then the current reserve may be considered to be in a mid-range level.
- **Good Level.** If the Percent Funded level is 70% or higher this is likely to be considered ‘strong’ because cash flow problems are rare.

Renewal – The replacement of an Asset as it reaches the end of its useful service life.

Renewal Cost – The cost required to replace an Asset, which is paid from the Reserve Fund, Special Levy or combination thereof.

Reserve Contribution – See Annual Contribution.

Reserve Fund – Also known as the Contingency Reserve Fund (CRF). The account in which the accumulated Annual Contributions are deposited and from which costs are withdrawn for Renewal projects and Major Maintenance projects.

Reserve Income – The interest earned from investing the money deposited in the Reserve Fund.

Reserve Study – Also referred to as a Reserve Fund Study or Depreciation Report in BC.

- A long-range financial planning tool that identifies the current status of the Owners' Reserve Fund and recommends a stable and equitable funding plan to offset the costs of anticipated future major expenditures associated with replacement of the assets and major maintenance.
- The purpose of the Reserve Study is to provide a plan for appropriate funding for renewal and major maintenance work.
- While Reserve Studies provide analysis of the timing, costs and funding for renewal projects, they should ideally be supported by a maintenance plan that assists the Owners to plan for maintenance activities so that assets achieve their predicted service lives.

Service Life - The estimated period of time over which an asset (and its components or assembly) provides adequate performance and function.

Special Levy – Also referred to as a "Special Assessment". A financial levy to be paid by the Owner group to finance large-scale projects for major maintenance, repairs, renewal and rehabilitation of an asset, which occur as result of a shortfall in available funds and requires special decision making and approval procedures. A Reserve Study contains funding scenarios that assist the Owners in long-range financial planning.

Statutory Funding Model - A funding model which uses the Strata Property Act and Regulations to determine the minimum amount of money to contribute to the Contingency Reserve Fund on an annual basis.

Strategic Horizon – The longest of the three planning horizons, which typically covers the full study period of 30 years and identifies the long-term needs of the assets.

Style Obsolescence – When an asset is no longer desirable because it has fallen out of popular fashion, its style is obsolete. Some assets, particularly interior furnishings, reflect fashion cycles and can become out-dated.

Tactical Plan/Horizon – A period of planning for asset Renewal projects and Major Maintenance projects, which typically extends five years from the current year.

Appendix B

Asset Inventory

888 Beach Avenue

Asset Inventory

Structural

Foundations

Struct 01 - Concrete Foundation



Location

Below-grade concrete parkade.

Description

Concrete slab-on-grade.

Information

Service Life:	75
Installed Year:	1992
Chronological Age:	27
Effective Age:	27
Next Renewal Year:	2067

Walls & Columns

Struct 02 - Concrete Walls and Columns



Location

Throughout the complex.

Description

Reinforced concrete walls and columns supporting floor and roof structures.

Information

Service Life:	75
Installed Year:	1992
Chronological Age:	27
Effective Age:	27
Next Renewal Year:	2067

Floors & Beams

Struct 03 - CIP Concrete Suspended Slabs



Location

Throughout the building.

Description

Concrete suspended slabs, with conventional reinforcing.

Information

Service Life:	75
Installed Year:	1992
Chronological Age:	27
Effective Age:	27
Next Renewal Year:	2067

888 Beach Avenue Asset Inventory

Enclosure

Roofs & Decks

Encl 01 - Protected SBS Membrane Decks and Roofs (IRMA Assembly) with Traffic-Bearing Surface or Ballast



Location

Renewed townhouse/tower roofs and decks.

Description

SBS membrane overlaid with insulation, protection board, soft landscaping, and/or pavers, ballast, etc. as a traffic-bearing surface. Targeted roof and deck membrane replacements have been completed over the years, and the renewals of these areas are shown as components of this asset.

Information

Service Life:	30
Installed Year:	2010
Chronological Age:	9
Effective Age:	9
Next Renewal Year:	2040

Encl 02 - Protected Sheet Applied Rubber Waterproofing Membrane



Location

Portions of Garden, Ocean, and Beach Tower roofs and decks.

Description

Sheet applied reinforced membrane overlaid with combination of drainage mat, insulation, pavers and/or ballast.

Information

Service Life:	30
Installed Year:	1992
Chronological Age:	27
Effective Age:	28
Next Renewal Year:	2021

Encl 03 - Protected Sheet Applied Rubber Podium Waterproofing Membrane



Location

Interior courtyard common areas, original townhouse decks, and pond areas.

Description

Sheet applied reinforced membrane overlaid with combination of drainage mat, insulation, pavers and/or landscaping overburden. A portion of the podium membrane on the exterior of Beach Tower was replaced in 2018. Several townhouse planters and decks on the podium have been replaced since 2012. The podium membrane has recently been replaced (2019) outside of Ocean Tower lobby as well as the patio membrane at Townhouse 7.

Information

Service Life:	30
Installed Year:	1992
Chronological Age:	27
Effective Age:	28
Next Renewal Year:	2021

888 Beach Avenue Asset Inventory

Encl 04 - Stucco Clad Soffit



Location

Underside of balconies, walkway soffits, and select overhangs.

Description

Stucco cladding over supporting structure.

Information

Service Life: 40
Installed Year: 1992
Chronological Age: 27
Effective Age: 19
Next Renewal Year: 2040

Fall Protection

Encl 05 - Anchor Fall Protection Equipment



Location

Tower roofs and decks.

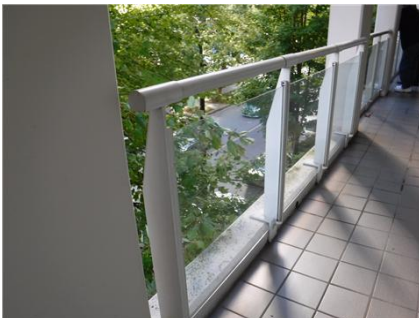
Description

Safety anchoring system to complete various work and maintenance on the exterior of the complex.

Information

Service Life: 40
Installed Year: 1992
Chronological Age: 27
Effective Age: 27
Next Renewal Year: 2032

Encl 06 - Guardrail Glazed Aluminum



Location

Balcony, deck, and walkway perimeters.

Description

Aluminum posts and glass infill panels functioning as a protective barrier at the open sides of stairs, landings, balconies, decks, raised walkways or other locations to prevent accidental falls from one level to another.

Information

Service Life: 40
Installed Year: 1992
Chronological Age: 27
Effective Age: 37
Next Renewal Year: 2022

Encl 07 - Guardrail Aluminum



Location

Courtyard.

Description

Aluminum posts and pickets functioning as a protective barrier at the open sides of stairs, landings, balconies, decks, raised walkways or other locations to prevent accidental falls from one level to another.

Information

Service Life: 30
Installed Year: 1992
Chronological Age: 27
Effective Age: 28
Next Renewal Year: 2021

888 Beach Avenue Asset Inventory

Encl 08 - Davit Bases and Anchor Fall Protection Equipment



Location

Beach Tower main roof.

Description

Safety anchoring system for work on exterior walls and roofs. Fall protection equipment and davits are checked annually.

Information

Service Life: 40
Installed Year: 1992
Chronological Age: 27
Effective Age: 27
Next Renewal Year: 2032

Walls

Encl 09 - Clay Masonry Veneer Wall



Location

All elevations of townhouses and lower levels of towers.

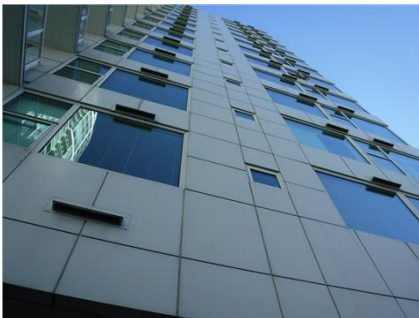
Description

Clay masonry units applied as a veneer with a drained and vented cavity over exterior sheathing membrane.

Information

Service Life: 40
Installed Year: 1992
Chronological Age: 27
Effective Age: 19
Next Renewal Year: 2040

Encl 10 - Composite Metal Panel Wall



Location

All elevations of towers.

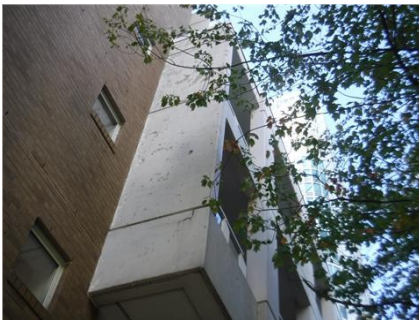
Description

Metal panel system with integral framing and anchorage to create a cavity over a sheathing membrane.

Information

Service Life: 40
Installed Year: 1992
Chronological Age: 27
Effective Age: 19
Next Renewal Year: 2040

Encl 11 - Concrete Wall



Location

All elevations of towers and select elevations of townhouses.

Description

Coated poured-in-place architectural concrete wall.

Information

Service Life: 75
Installed Year: 1992
Chronological Age: 27
Effective Age: 27
Next Renewal Year: 2067

888 Beach Avenue Asset Inventory

Encl 12 - Profiled Sheet Metal Cladding Wall



Location

Rooftop parapet walls and Mechanical room enclosures at Ocean, Beach, and Garden Towers.

Description

Prefinished steel cladding fastened with framing and anchorage system, exposed fasteners. Select areas on Ocean tower had new corrugated metal panels installed over EIFS cladding during the 2018 maintenance plan.

Information

Service Life:	40
Installed Year:	1992
Chronological Age:	27
Effective Age:	19
Next Renewal Year:	2040

Glazing Systems

Encl 13 - Aluminum Framed Window



Location

All elevations towers and townhouses.

Description

Aluminum framed, non-thermally broken windows with double insulating glazing units, and awning operators. Windows are arranged in either punched and strip window configurations. Approximately 30% of all IGU's have been replaced, and are replaced annually, as needed. Sealant was installed at all mitre joints, transitions in the aluminum frames as well as between IGUs and frames in the complex as part of a maintenance plan between 2012 and 2018.

Information

Service Life:	40
Installed Year:	1992
Chronological Age:	27
Effective Age:	19
Next Renewal Year:	2040

Encl 14 - Pressure Cap Skylight



Location

South elevation townhouse roofs.

Description

Aluminum pressure plate skylight system with double glazed insulating glazing units.

Information

Service Life:	40
Installed Year:	1992
Chronological Age:	27
Effective Age:	19
Next Renewal Year:	2040

888 Beach Avenue Asset Inventory

Encl 15 - Glass Block Window



Location

Select locations on the lower levels of the north and south elevations, including the California walkways, and the rooftop of Garden Tower.

Description

Glass block windows.

Information

Service Life: 40
Installed Year: 1992
Chronological Age: 27
Effective Age: 19
Next Renewal Year: 2040

Encl 16 - Curtain Wall - Stick Capped



Location

Ground floor common areas.

Description

Curtain wall, stick built assembly, capped 4 sides, with double insulating glazing units.

Information

Service Life: 40
Installed Year: 1992
Chronological Age: 27
Effective Age: 19
Next Renewal Year: 2040

Encl 17 - Aluminum Storefront



Location

Ground floor commercial areas and townhouse roof top windows adjacent to skylights.

Description

Aluminum framed, non-thermally broken, storefront system with insulating glazing units, and no operators.

Information

Service Life: 40
Installed Year: 1992
Chronological Age: 27
Effective Age: 19
Next Renewal Year: 2040

Doors

Encl 18 - Aluminum Framed Glazed Swing Door



Location

Lobby and commercial space access doors.

Description

Aluminum frame swing door with insulated glazing units. Replacement of seven (7) automatic door openers have been completed (2019) at lobby entrances and P1 parkade entrances.

Information

Service Life: 30
Installed Year: 1992
Chronological Age: 27
Effective Age: 9
Next Renewal Year: 2040

888 Beach Avenue

Asset Inventory

Encl 19 - Aluminum Framed Sliding Glass Door



Location

Suite balcony and deck access doors.

Description

Sliding glass doors, double insulating glazing units, aluminum framing.

Information

Service Life: 30
 Installed Year: 1992
 Chronological Age: 27
 Effective Age: 9
 Next Renewal Year: 2040

Encl 20 - Steel Swing Door



Location

Parkade and stairwell exit doors.

Description

Hollow steel slab swing doors.

Information

Service Life: 25
 Installed Year: 1992
 Chronological Age: 27
 Effective Age: 23
 Next Renewal Year: 2021

Encl 21 - Metal Clad Swing Door



Location

Townhouse courtyard single and double swing doors.

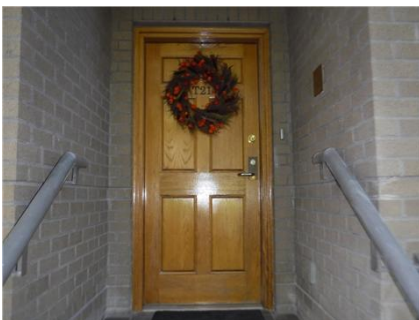
Description

Metal clad wood frame swing door with insulating glazing units. Various metal swing doors have been replaced over the years, as required.

Information

Service Life: 30
 Installed Year: 1992
 Chronological Age: 27
 Effective Age: 28
 Next Renewal Year: 2021

Encl 22 - Wood Swing Door



Location

Townhouse and other miscellaneous exterior entry doors.

Description

Solid wood swing doors. Approximately 10 of the original townhouse entry doors were replaced with fibreglass doors in 2014.

Information

Service Life: 25
 Installed Year: 1992
 Chronological Age: 27
 Effective Age: 23
 Next Renewal Year: 2021

888 Beach Avenue

Asset Inventory

Encl 23 - Fiberglass Frame Glazed Swing Door



Location

Select single and double townhouse doors (T5-T11 and T23-26).

Description

Fiberglass frame swing doors with insulating glazing units. Doors are being replaced with fibreglass framed doors, as required.

Information

Service Life: 25
Installed Year: 2013
Chronological Age: 6
Effective Age: 4
Next Renewal Year: 2040

Balconies

Encl 24 - Exposed Urethane Balcony Membrane - Concrete Substrate



Location

Balconies.

Description

Liquid applied urethane membrane applied over concrete balcony. The term 'balcony' refers to an exterior horizontal surface that is intended for pedestrian use, but which projects from the building such that it is not located over occupied space.

Information

Service Life: 25
Installed Year: 2012
Chronological Age: 7
Effective Age: 3
Next Renewal Year: 2041

Encl 25 - Tiled California Walkways and Remaining Original Balconies



Location

California walkways between Beach Tower and Garden Tower along the north elevation townhouses and the remaining original townhouse balconies.

Description

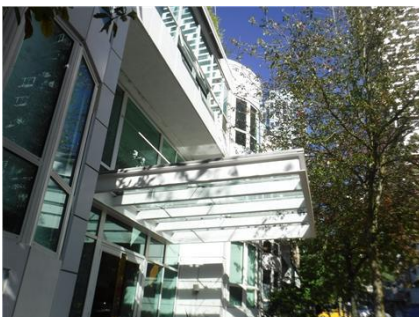
Tiles on thin-set mortar applied to concrete balcony surface. Select locations appear to have a urethane based waterproofing membrane located under the tiles.

Information

Service Life: 20
Installed Year: 1992
Chronological Age: 27
Effective Age: 17
Next Renewal Year: 2022

Canopies

Encl 26 - Metal Frame and Glass Canopy



Location

Tower lobby doors and commercial space entry doors.

Description

Canopy constructed with metal framing and single glazing.

Information

Service Life: 40
Installed Year: 1992
Chronological Age: 27
Effective Age: 19
Next Renewal Year: 2040

888 Beach Avenue

Asset Inventory

Parking Garage

Encl 27 - Open-grid Overhead Parkade Gate



Location

Parkade entrances.

Description

Pre-finished metal grid overhead gate with motor drive and hardware for underground parkade. One gate was replaced in 2013.

Information

Service Life:	25
Installed Year:	1992
Chronological Age:	27
Effective Age:	22
Next Renewal Year:	2022

Encl 28 - Slab-on-Grade



Location

Parkade Level P1.

Description

Concrete slab on grade.

Information

Service Life:	75
Installed Year:	1992
Chronological Age:	27
Effective Age:	27
Next Renewal Year:	2067

Encl 29 - Sectional Overhead Door - Metal



Location

Townhouse garages.

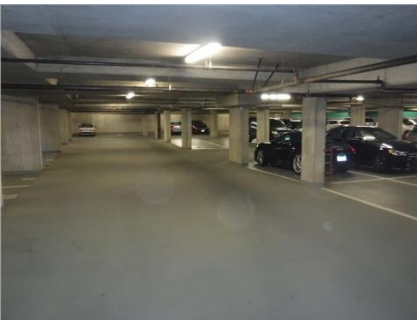
Description

Pre-finished metal sectional overhead single-car garage door with motor drive and hardware.

Information

Service Life:	25
Installed Year:	1992
Chronological Age:	27
Effective Age:	22
Next Renewal Year:	2022

Encl 30 - Parking Slab with Traffic-bearing Membrane



Location

Suspended slabs within the parkade; Levels P1-P3.

Description

Traffic-bearing membrane on concrete parkade suspended floor slabs. Traffic bearing membrane was installed from 2004-2008.

Information

Service Life:	25
Installed Year:	2008
Chronological Age:	11
Effective Age:	11
Next Renewal Year:	2033

888 Beach Avenue

Asset Inventory

General & Inspections

Encl 31 - Sealant



Location

Interfaces and service penetrations at the exterior walls, roofs, and other locations.

Description

Sealant of various types (predominantly silicone) located at joints between building enclosure assemblies, as well as around components and penetrations within building enclosure assemblies. Sealant renewals occurred between 2012 and 2019, 2015 was used as a blended year for the age of the sealant. Sealant at Townhouse exterior walls (courtyard and street facing) renewed in 2019.

Information

Service Life:	20
Installed Year:	2015
Chronological Age:	4
Effective Age:	-1
Next Renewal Year:	2040

Encl 32 - General & Inspections



Location

Throughout the site.

Description

Miscellaneous interior and exterior components, such as service penetrations and interface details, not related to any particular assembly. Warranty and general reviews.

Information

Service Life:	75
Installed Year:	1992
Chronological Age:	27
Effective Age:	27
Next Renewal Year:	2067

Electrical

Power Supply

Elec 01 - Distribution Transformer



Location

All electrical rooms in parkade.

Description

Federal Pioneer along with other manufacturer transformers ranging from 45 kVa to 600kVa, 3 phase, dry-type, coil, and core units with vibration dampers and NEMA enclosures.

Information

Service Life:	40
Installed Year:	1992
Chronological Age:	27
Effective Age:	27
Next Renewal Year:	2032

888 Beach Avenue

Asset Inventory

Elec 02 - Emergency Generator



Location

Emergency generator room.

Description

Kohler, 500KW, 600KVA, 3 phase, 347/600V, 1800 rpm, diesel AC generator with a separate fuel tank to provide power.

Information

Service Life: 35
 Installed Year: 1992
 Chronological Age: 27
 Effective Age: 27
 Next Renewal Year: 2027

Elec 03 - Unit Substation



Location

Main electrical room.

Description

Federal Pioneer, 15KV, 120/208V & 347/600V, 3 phase, dry type transformer; main breaker, load break switches and metering compartments contained within dual radial unit substation to provide primary electrical service.

Information

Service Life: 35
 Installed Year: 1992
 Chronological Age: 27
 Effective Age: 27
 Next Renewal Year: 2027

Elec 04 - Tank - Fuel Oil Storage



Location

Emergency generator room.

Description

Steel single wall fuel storage tank adjacent to the emergency generator, connected to genset. Tank is approximately 720L based on the previous depreciation report by Halsall and Associates.

Information

Service Life: 15
 Installed Year: 1992
 Chronological Age: 27
 Effective Age: 12
 Next Renewal Year: 2022

Distribution

Elec 05 - Electrical Distribution



Location

All electrical rooms in parkade.

Description

Federal Pioneer 2500A, 347/600V (in main electrical room), 1200A 120/208V (in smaller electrical rooms), 3 phase switchgear units; downstream switchboards, panelboards, breakers, switches, disconnects and wiring to mechanical, lighting and power loads throughout the building [and to individual suites through BC Hydro owned metering

Information

Service Life: 40
 Installed Year: 1992
 Chronological Age: 27
 Effective Age: 27
 Next Renewal Year: 2032

888 Beach Avenue

Asset Inventory

devices].

Light Fixtures

Elec 06 - Exterior Light Fixtures



Location

Mounted to walls, and soffits, and throughout the complex.

Description

A variety of fixture types, including wall, pole and post mounted, street, pathway, and recessed soffit pot lighting. A variety of lamp types, including fluorescent, compact fluorescent, halogen, incandescent, LED, etc. for exterior direct, indirect and accent lighting applications. A variety of light fixture controls, including switches, motion sensors, timers, and photocells. Lighting at the tops of each tower was replaced in 2019.

Information

Service Life: 20
 Installed Year: 2000
 Chronological Age: 19
 Effective Age: -1
 Next Renewal Year: 2040

Elec 07 - Interior Light Fixtures



Location

All common areas throughout the building.

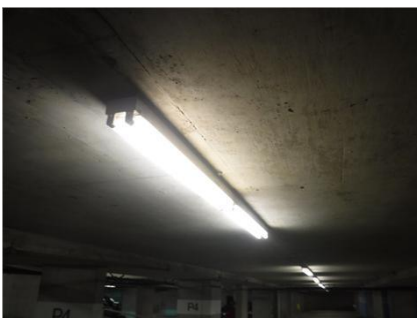
Description

A variety of fixture types, including fixed surface (pendant, track, and sconce) and recessed (pot, troffer, and cove). A variety of lamp types, including fluorescent, compact fluorescent, halogen, incandescent, LED, etc. for interior direct, indirect and accent lighting applications. A variety of light fixture controls, including switches, motion sensors, timers, dimmers, and photocells. Replacement of bulbs and ballasts is currently occurring on an as needed basis.

Information

Service Life: 20
 Installed Year: 2000
 Chronological Age: 19
 Effective Age: 15
 Next Renewal Year: 2024

Elec 08 - Interior Light Fixtures - Parkade



Location

Parkade.

Description

Primarily LED 4ft fixtures evenly spaced throughout the parkade. Select T8 fluorescent lamps may still exist.

Information

Service Life: 20
 Installed Year: 2014
 Chronological Age: 5
 Effective Age: 5
 Next Renewal Year: 2034

888 Beach Avenue Asset Inventory

Security

Elec 09 - Enterphone System



Location

Lobby entrances and front of parkade gate.

Description

Flush mounted, enterphone panels with associated key pads and display panels.

Information

Service Life:	25
Installed Year:	2017
Chronological Age:	2
Effective Age:	2
Next Renewal Year:	2042

Elec 10 - Proximity Access Control



Location

Lobbies, parking garage, elevators, and common area entrances.

Description

Local proximity access control system components include fob/card devices for building occupants, fob/card readers, RTE sensors/buttons, electric strikes, and door controllers. Network level components include door control panel, communication boards, backup batteries, RTE board, conduit, cable, and connectors.

Information

Service Life:	12
Installed Year:	2017
Chronological Age:	2
Effective Age:	2
Next Renewal Year:	2029

Elec 11 - Security Surveillance



Location

Strategically located throughout the complex.

Description

Cameras, multiplexer, monitors, and storage media to deter and track activity on and within building premises. Additional cameras were installed in 2017.

Information

Service Life:	14
Installed Year:	2016
Chronological Age:	3
Effective Age:	3
Next Renewal Year:	2030

888 Beach Avenue

Asset Inventory

Mechanical

Controls and End Devices

Mech 01 - Controls - Boiler Electronic



Location

Rooftop and parkade mechanical rooms with boilers.

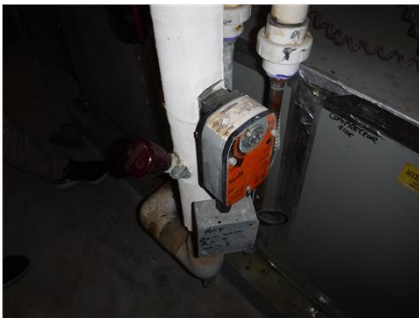
Description

Electronic control panel to optimize boiler operation and efficiency.

Information

Service Life:	15
Installed Year:	1992
Chronological Age:	27
Effective Age:	12
Next Renewal Year:	2022

Mech 02 - Controls - Electronic Actuators



Location

Mechanical rooms throughout the complex.

Description

Electronic motor-driven control devices on valves, dampers, etc. to control heating, air-conditioning, domestic hot water system and boilers etc.

Information

Service Life:	10
Installed Year:	1992
Chronological Age:	27
Effective Age:	7
Next Renewal Year:	2022

Mech 03 - Controls - HVAC Instrumentation



Location

Common areas and service rooms throughout the building.

Description

Honeywell thermostats, programmable thermostats, flow gauges, thermometers, metering equipment, gauges, and other field devices to monitor and regulate pressure and temperature in the HVAC and plumbing distribution systems.

Information

Service Life:	20
Installed Year:	1992
Chronological Age:	27
Effective Age:	17
Next Renewal Year:	2022

Mech 04 - Gas Detection - Parkade



Location

Mounted to columns throughout the parkade.

Description

Armstrong AMC-1022 electronic sensing devices for detection of dangerous gases, carbon monoxide (CO), (propane), and (combustible fuels) produced by vehicles and to activate the exhaust fans accordingly.

Information

Service Life:	10
Installed Year:	1992
Chronological Age:	27
Effective Age:	7
Next Renewal Year:	2022

888 Beach Avenue

Asset Inventory

Plumbing & Drainage

Mech 05 - Piping - Domestic Water Distribution



Location

Connected to fixtures throughout the building.

Description

K and L copper piping for vertical/horizontal mains system and distribution piping within the suites. Soldered connections. The hot water supply riser and recirculation riser in Garden Tower were replaced in 2013 and 2008 respectively. Hot water recirculation lines were replaced in Beach Tower in 2015 on one elevation. Hot water recirculation lines were replaced in Ocean Tower in 2018 between floors 3 and 8 on one elevation.

Information

Service Life:	28
Installed Year:	1992
Chronological Age:	27
Effective Age:	15
Next Renewal Year:	2032

Mech 06 - Pump - Domestic Water Booster



Location

Sprinkler rooms under Ocean and Beach Towers.

Description

Franklin Electric duplex system with 2 HP lead pump, 1/2 HP lag pump (Ocean Tower). Original electrical duplex system with 2-5 HP lead pump, and 1 HP lag pump (Beach Tower). One booster pump was replaced in March 2019 with a new VFD pump.

Information

Service Life:	14
Installed Year:	1992
Chronological Age:	27
Effective Age:	11
Next Renewal Year:	2022

Mech 07 - Tank - Expansion -DHW - Diaphragm



Location

Parkade Mechanical room under Beach Tower.

Description

Well-Rite floor mounted diaphragm expansion tanks for domestic water system.

Information

Service Life:	20
Installed Year:	1992
Chronological Age:	27
Effective Age:	17
Next Renewal Year:	2022

888 Beach Avenue

Asset Inventory

Mech 08 - Valves - Cross Connection & Backflow Prevention



Location

Sprinkler rooms under Beach and Ocean Towers.

Description

Various types and sizes of backflow prevention valves, including vacuum breakers, double check, reduced pressure valves on systems. Various valves are replaced as required.

Information

Service Life: 20
Installed Year: 1992
Chronological Age: 27
Effective Age: 17
Next Renewal Year: 2022

Mech 09 - Valves - Plumbing Flow Control and Directional



Location

Mechanical rooms on rooftops and in the parkade.

Description

Various types and sizes of valves, including pressure reducing valves, isolation valves, two-way and three-way valves, circuit flow control valves and check valves to regulate the flow of water through domestic plumbing systems. Select valves were replaced in 2015.

Information

Service Life: 20
Installed Year: 1992
Chronological Age: 27
Effective Age: 7
Next Renewal Year: 2032

Mech 10 - Boiler - DHW - Heating - Gas Fired



Location

Mechanical room on parkade Level P2 under Beach Tower.

Description

Lochinvar coppertube natural gas fired, domestic service hot water heater, 500,000 BTU input, 410,000 BTU output. Direct vent/chimney. Water heaters are connected to storage tanks.

Information

Service Life: 14
Installed Year: 2003
Chronological Age: 16
Effective Age: 11
Next Renewal Year: 2022

Mech 11 - Drainage - Sanitary



Location

Connected to waste fixtures throughout the building.

Description

Cast iron piping, p-traps, and fittings, with mechanical joints.

Information

Service Life: 50
Installed Year: 1992
Chronological Age: 27
Effective Age: 27
Next Renewal Year: 2042

888 Beach Avenue

Asset Inventory

Mech 12 - Drainage - Storm - Internal



Location

Throughout the building.

Description

Trench drains, catch basins and associated piping systems for rainwater runoff. Roof drains may be included with the roof assets.

Information

Service Life:	40
Installed Year:	1992
Chronological Age:	27
Effective Age:	27
Next Renewal Year:	2032

Mech 13 - Fixtures - Toilets/Sinks/showers



Location

Pool common area washrooms.

Description

Floor or wall mounted bathroom fixtures.

Information

Service Life:	20
Installed Year:	1992
Chronological Age:	27
Effective Age:	19
Next Renewal Year:	2020

Mech 14 - Pump - DHW - Circulation and Recirculation



Location

Mechanical rooms and spaces throughout the complex.

Description

Various manufacturer 1/2 HP, pipe-mounted bronze body domestic hot water circulation pumps. Circulating hot water from boilers to tanks and recirculating hot water from system. Pumps are periodically replaced or repaired on an as needed basis. Age of asset is blended based on dates of pumps installed during the site review.

Information

Service Life:	10
Installed Year:	2008
Chronological Age:	11
Effective Age:	7
Next Renewal Year:	2022

Mech 15 - Pumps - Sanitary Lift and Control Panel



Location

Parkade Level P4.

Description

Northwest Tech-Con Systems Ltd, Duplex, 2-2.5 HP, sump pumps and control panels for sanitary lift/drainage.

Information

Service Life:	15
Installed Year:	2018
Chronological Age:	1
Effective Age:	1
Next Renewal Year:	2033

888 Beach Avenue

Asset Inventory

Mech 16 - Pumps - Storm Lift and Control Panel



Location

Parkade Level P4.

Description

Northwest Tech-Con Systems Ltd, Duplex, 2-2.5 HP, sump pumps and control panels for storm lift/drainage.

Information

Service Life:	15
Installed Year:	2018
Chronological Age:	1
Effective Age:	1
Next Renewal Year:	2033

Mech 17 - Tank - DHW - Storage (and DHW Heating)



Location

Parkade and rooftop mechanical rooms for each tower.

Description

Lochnivar glass-lined 200 gallon hot water storage tanks connected to domestic boiler system.

Information

Service Life:	8
Installed Year:	2018
Chronological Age:	1
Effective Age:	1
Next Renewal Year:	2026

Mech 18 - Piping - Gas Distribution



Location

Connected to gas fixtures throughout the complex.

Description

Gas distribution system consisting of threaded sch 40 steel piping from meter to appliance.

Information

Service Life:	50
Installed Year:	1992
Chronological Age:	27
Effective Age:	27
Next Renewal Year:	2042

Heating & Cooling

Mech 19 - Boiler - Hydronic - Gas Fired



Location

Rooftop mechanical rooms in Beach and Ocean Towers.

Description

Mighty Therm natural gas fired hot water boilers, atmospherically vented.

Information

Service Life:	20
Installed Year:	2012
Chronological Age:	7
Effective Age:	7
Next Renewal Year:	2032

888 Beach Avenue

Asset Inventory

Mech 20 - Chemical Treatment Equipment



Location

Mechanical room on parkade Level P2 in Beach Tower.

Description

Pot feeder with chemicals, metering pumps and other associated equipment to provide corrosion protection to boilers, loops, and piping.

Information

Service Life: 8
 Installed Year: 1992
 Chronological Age: 27
 Effective Age: 3
 Next Renewal Year: 2024

Mech 21 - Heat Exchanger - Brazen Plate



Location

Mechanical room on parkade Level P2 in Beach Tower.

Description

Brazen plate heat exchangers to separate secondary plumbing systems from the main heating loop.

Information

Service Life: 20
 Installed Year: 2018
 Chronological Age: 1
 Effective Age: 1
 Next Renewal Year: 2038

Mech 22 - Piping - Hydronic Loop



Location

Rooftop and parkade mechanical rooms in all Towers.

Description

Hydronic heating water supply and return system consisting of insulated piping.

Information

Service Life: 30
 Installed Year: 1992
 Chronological Age: 27
 Effective Age: 23
 Next Renewal Year: 2026

Mech 23 - Tank - Expansion - Hydronic - Diaphragm



Location

Rooftop mechanical room in Garden Tower.

Description

Amtrol floor mounted diaphragm expansion tank for hydronic heating system.

Information

Service Life: 20
 Installed Year: 1992
 Chronological Age: 27
 Effective Age: 17
 Next Renewal Year: 2022

888 Beach Avenue

Asset Inventory

Mech 24 - Valves - HVAC Flow Control and Directional



Location

Rooftop and parkade mechanical rooms.

Description

Various types and sizes of valves, including pressure reducing valves, isolation valves, two-way and three-way valves, circuit flow control valves, and check valves to regulate the flow of water through heating systems.

Information

Service Life: 20
Installed Year: 1992
Chronological Age: 27
Effective Age: 17
Next Renewal Year: 2022

Mech 25 - A/C Split System



Location

Parkade Levels P1 and P2.

Description

Mitsubishi Electrical R410a condensing split system for air conditioning to electrical rooms. wall mounted indoor units, with wall mounted controllers.

Information

Service Life: 15
Installed Year: 2018
Chronological Age: 1
Effective Age: 1
Next Renewal Year: 2033

Mech 26 - Gas Chimney Vent - Wall type



Location

Exterior of suites where fireplaces have been installed.

Description

Gas appliance vent with approved collars, fittings, vent terminal, and guard. Select vents were replaced in 2014 as part of targeted repairs.

Information

Service Life: 20
Installed Year: 1992
Chronological Age: 27
Effective Age: 17
Next Renewal Year: 2022

Mech 27 - Baseboard - Electric



Location

Strategically placed throughout the complex.

Description

Standard grade, wall mounted, electric convector baseboard heaters with electrical fins for localized space heating and integral thermostat control.

Information

Service Life: 40
Installed Year: 1992
Chronological Age: 27
Effective Age: 27
Next Renewal Year: 2032

888 Beach Avenue Asset Inventory

Ventilation and Air-conditioning

Mech 28 - Exhaust Fan - Parkade - Propellor



Location

Corners of the parkade on all levels.

Description

Belt driven propellor exhaust fan mounted in exterior wall.

Information

Service Life:	20
Installed Year:	1992
Chronological Age:	27
Effective Age:	17
Next Renewal Year:	2022

Mech 29 - Exhaust Fan - Small Service - Cabinet



Location

Mechanical, electrical, and storage rooms throughout the parkade and common areas.

Description

Various direct drive fans, ceiling and cabinet fans, and centrifugal inline blower fans.

Information

Service Life:	12
Installed Year:	1992
Chronological Age:	27
Effective Age:	9
Next Renewal Year:	2022

Mech 30 - Indoor Air Handler - Gas Fired



Location

Rooftop mechanical rooms in Beach and Ocean Towers.

Description

Engineered Air 10,100 (9,500 in Beach Tower) CFM indoor unit, belt-driven, centrifugal fan with natural gas fired (600,000 BTU max) heating to supply tempered make-up air to the interior spaces.

Information

Service Life:	20
Installed Year:	1992
Chronological Age:	27
Effective Age:	17
Next Renewal Year:	2022

Mech 31 - Make Up Air Unit - Indoor - Gas Fired



Location

Rooftop mechanical room in Garden Tower.

Description

Engineered Air 1,400 CFM indoor unit, belt-driven, centrifugal fan with natural gas fired (125,000 BTU max) heating to supply tempered make-up air to the interior spaces.

Information

Service Life:	25
Installed Year:	2017
Chronological Age:	2
Effective Age:	2
Next Renewal Year:	2042

888 Beach Avenue

Asset Inventory

Mech 32 - Dehumidifying Pool Heater



Location

Mechanical room on parkade Level P2 under Beach Tower.

Description

Zephyr dehumidifying pool heater and air handling package, nominal 2,800 cfm capacity, belt-driven, centrifugal fans, for circulating and drying air to the interior pool spaces and heating the pool water.

Information

Service Life: 20
Installed Year: 1992
Chronological Age: 27
Effective Age: 17
Next Renewal Year: 2022

Mech 33 - Air Handler - Make Up Air Unit



Location

Mechanical room on parkade Level P2 below Beach Tower.

Description

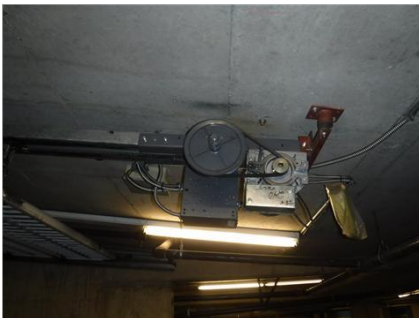
Roof mounted air handler, with a heating coil from the adjacent boilers (refer to previous Halsall Depreciation Report for more information), to supply make-up air to the interior of the building.

Information

Service Life: 20
Installed Year: 1992
Chronological Age: 27
Effective Age: 17
Next Renewal Year: 2022

Other

Mech 34 - Overhead Gate Motor



Location

Parkade ramps.

Description

Various 1/2 HP AC motor and door operator mechanism. Door not included in this asset.

Information

Service Life: 7
Installed Year: 1992
Chronological Age: 27
Effective Age: 6
Next Renewal Year: 2020

Mech 35 - Trash Chute



Location

Tower hallway vestibules.

Description

Trash Chute in each of the Towers.

Information

Service Life: 30
Installed Year: 1992
Chronological Age: 27
Effective Age: 27
Next Renewal Year: 2022

888 Beach Avenue

Asset Inventory

Elevator

Traction

Elev 01 - Geared Traction, Overhead



Location

Elevator rooms on the top floor of each tower.

Description

Geared overhead traction passenger elevators Manufactured by Dover. Dover MP1 controls, Leroy Somer motor generator set, TKE HD-LM operators (installed 2014 on all elevators), Hollister Whitney Rope Grippers (installed 2014 on all elevators), 2000-3000 lb capacity depending on elevator, speed 450fpm Beach Tower, and 400fpm Ocean and Garden Towers.

Information

Service Life:	25
Installed Year:	1992
Chronological Age:	27
Effective Age:	21
Next Renewal Year:	2023

Hydraulic

Elev 02 - Handicap Lift



Location

Pool stairwell.

Description

Mechanical lift platform to allow wheel chair access to upper level.

Information

Service Life:	30
Installed Year:	1992
Chronological Age:	27
Effective Age:	26
Next Renewal Year:	2023

Car Interiors

Elev 03 - Elevator Cabs & Hoistway



Location

Elevator cabs and travelling hoistways.

Description

Single speed side opening doors; TKE HD-LM door operators; Infrared door reopening devices; One (1) car operating panel per elevator; car and hall pushbuttons; wood panel walls; LED lighting; tile flooring; firefighter's emergency operation; standby power provisions, hands free voice communication. Cab interiors were renovated in 2017.

Information

Service Life:	25
Installed Year:	1992
Chronological Age:	27
Effective Age:	21
Next Renewal Year:	2023

888 Beach Avenue

Asset Inventory

Fire Safety

Fire Safety

Fire 01 - Pressurization/Smoke Control Dampers



Location

Bottom level and top level of Beach and Ocean Tower stairwells.

Description

Motorized smoke dampers with fans for control of building pressure and smoke in a building. Fans range from 3,000-6,500 CFM.

Information

Service Life:	20
Installed Year:	1992
Chronological Age:	27
Effective Age:	17
Next Renewal Year:	2022

Controls

Fire 02 - Fire Alarm Panel - Addressable



Location

Main lobbies of the 3 towers, parkade gate entry, and Parkade Level P1.

Description

Simplex 4100 supervised units with annunciator and LED light display. Exterior panel near Beach Tower was replaced in 2016. All fire panel interior components were upgraded in 2010 based on the 2013 depreciation report by Halsall.

Information

Service Life:	20
Installed Year:	1992
Chronological Age:	27
Effective Age:	17
Next Renewal Year:	2022

Detection

Fire 03 - Fire Detection & Alarm



Location

Mounted to walls and ceilings in various strategic locations throughout the complex.

Description

Smoke detectors, heat detectors, flow switches, tamper switches, horns, pull stations and other fixed apparatus field devices to detect fire and smoke conditions and initiate timely response. Smoke detectors are replaced on an as needed basis. A number of detectors were replaced in 2017.

Information

Service Life:	10
Installed Year:	1992
Chronological Age:	27
Effective Age:	7
Next Renewal Year:	2022

888 Beach Avenue

Asset Inventory

Suppression

Fire 04 - Dry Sprinkler Compressor



Location

Sprinkler room under Ocean Tower.

Description

Teco compressor with 1/2 HP motor to maintain the pressure of air in the dry fire sprinkler lines.

Information

Service Life:	14
Installed Year:	1992
Chronological Age:	27
Effective Age:	13
Next Renewal Year:	2020

Fire 05 - Sprinkler & Standpipe - Wet



Location

Mounted to ceilings and walls throughout the common areas, hallways, and suites.

Description

Standard upright, pendant sidewall sprinkler heads, flow switches and indicating devices, gauges, steel distribution lines.

Information

Service Life:	100
Installed Year:	1992
Chronological Age:	27
Effective Age:	27
Next Renewal Year:	2092

Fire 06 - Fire & Jockey Pump



Location

Sprinkler room under Ocean Tower.

Description

Motor control centre connected to 60HP fire pump and 3 HP jockey pump, which work in tandem to supply water flow and pressure to the sprinkler system and standpipe system.

Information

Service Life:	30
Installed Year:	1992
Chronological Age:	27
Effective Age:	27
Next Renewal Year:	2022

Fire 07 - Portable Fire Extinguisher



Location

Mounted to walls in various strategic locations throughout the buildings.

Description

Wall mounted, manually operated, 5lbs and 10lbs ABC type, pressurized vessels for controlled discharge of chemicals to extinguish small fires. Extinguishers are replaced on an as needed basis.

Information

Service Life:	24
Installed Year:	2014
Chronological Age:	5
Effective Age:	5
Next Renewal Year:	2038

888 Beach Avenue

Asset Inventory

Fire 08 - Sprinkler System - Dry



Location

Throughout the parkade and unconditioned mechanical space.

Description

Exposed dry sprinklers, upright and sidewall sprinkler heads, steel piping.

Information

Service Life: 100
Installed Year: 1992
Chronological Age: 27
Effective Age: 27
Next Renewal Year: 2092

Fire 09 - Sprinkler Valve Assembly - Dry



Location

Sprinkler room under Ocean Tower.

Description

Gem dry sprinkler valves (x4), trim and gauges, steel piping.

Information

Service Life: 40
Installed Year: 1992
Chronological Age: 27
Effective Age: 27
Next Renewal Year: 2032

Egress

Fire 10 - Emergency Egress Equipment



Location

Mounted to walls and ceilings near doors and in various strategic locations throughout the buildings.

Description

Exit lights and emergency lighting equipment to facilitate evacuation from the interior of the building in the event of an emergency.

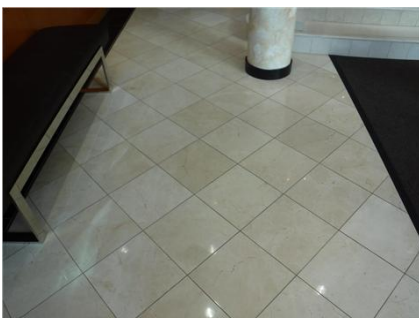
Information

Service Life: 20
Installed Year: 1992
Chronological Age: 27
Effective Age: 17
Next Renewal Year: 2022

Interior Finishes

Floors

Finish 01 - Marble Floor Tile



Location

Tower lobbies.

Description

Marble floor tile on thin set mortar with grout. All marble floors in the complex were refinished and restored in 2017.

Information

Service Life: 40
Installed Year: 1992
Chronological Age: 27
Effective Age: 27
Next Renewal Year: 2032

888 Beach Avenue Asset Inventory

Finish 02 - Resilient Sheet Flooring



Location

Fitness room.

Description

Vinyl tile or vinyl sheet adhered to the substrate.

Information

Service Life: 20
Installed Year: 2013
Chronological Age: 6
Effective Age: 6
Next Renewal Year: 2033

Finish 03 - Sheet Carpet - Glued Down



Location

Common corridors.

Description

Synthetic, low level loop, textile sheet floor covering glued over floor substrate.

Information

Service Life: 15
Installed Year: 2008
Chronological Age: 11
Effective Age: 10
Next Renewal Year: 2024

Finish 04 - Ceramic Floor Tile



Location

Parkade lobbies, pool area.

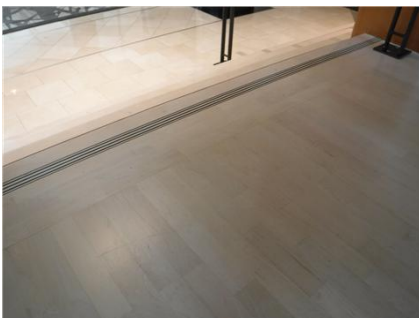
Description

Cut stone floor tile on thin set mortar with grout.

Information

Service Life: 40
Installed Year: 1992
Chronological Age: 27
Effective Age: 27
Next Renewal Year: 2032

Finish 05 - Wood Flooring



Location

Library and meeting room areas in Beach and Ocean Towers.

Description

Wood laminate flooring. Wood floor in Beach Tower was replaced in 2017 due to a flood.

Information

Service Life: 20
Installed Year: 1992
Chronological Age: 27
Effective Age: 15
Next Renewal Year: 2024

888 Beach Avenue

Asset Inventory

Finish 06 - Painted Concrete Flooring



Location

Service rooms and stairwells throughout the complex.

Description

Paint on exposed concrete floor surfaces. Elastomeric waterproofing membrane has been applied to several of the service rooms in the complex. Three service rooms were re-waterproofed with new elastomeric waterproofing membrane in 2013. This asset also includes painting of the steel staircase in the pool room.

Information

Service Life: 8
Installed Year: 1992
Chronological Age: 27
Effective Age: 3
Next Renewal Year: 2024

Finish 07 - Marble Columns



Location

Tower lobbies.

Description

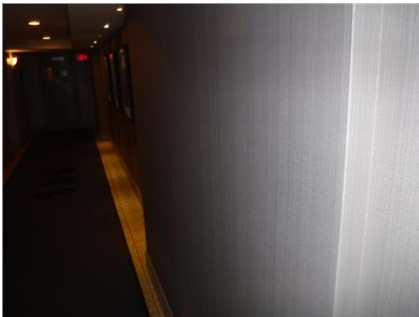
Faux marble columns.

Information

Service Life: 40
Installed Year: 1992
Chronological Age: 27
Effective Age: 27
Next Renewal Year: 2032

Walls

Finish 08 - Fabric Wall Covering



Location

Common corridors.

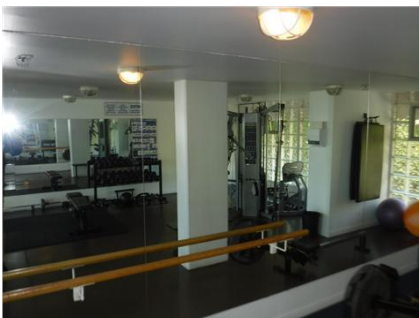
Description

Decorative fabric sheet wall covering adhered to a gypsum wallboard substrate.

Information

Service Life: 25
Installed Year: 1992
Chronological Age: 27
Effective Age: 20
Next Renewal Year: 2024

Finish 09 - Mirror



Location

Fitness room.

Description

Mirrored glass with structural fasteners to the substrate.

Information

Service Life: 40
Installed Year: 1992
Chronological Age: 27
Effective Age: 27
Next Renewal Year: 2032

888 Beach Avenue

Asset Inventory

Finish 10 - Tiled Wall



Location

Pool area bathrooms.

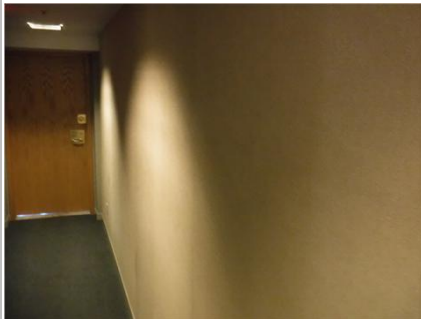
Description

Stone mortared to substrate or installed using structural fasteners. Refurbishment of bathrooms planned in 2019-2020.

Information

Service Life: 35
Installed Year: 1992
Chronological Age: 27
Effective Age: 35
Next Renewal Year: 2019

Finish 11 - Paint



Location

Common corridors and amenity spaces.

Description

Primers and multiple pigmented coating finishes applied to interior gypsum wallboard and mill work trim details. Paint is touched up annually.

Information

Service Life: 15
Installed Year: 2017
Chronological Age: 2
Effective Age: 2
Next Renewal Year: 2032

Finish 12 - Wood Paneling



Location

Tower lobbies.

Description

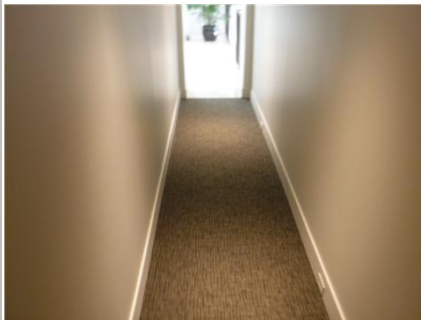
Decorative wood paneling; solid or wood veneer on substrate sheathing and structural framing.

Information

Service Life: 40
Installed Year: 1992
Chronological Age: 27
Effective Age: 27
Next Renewal Year: 2032

Architectural Woodwork

Finish 14 - Baseboard, Molding, and Casing



Location

Common corridors and amenity spaces.

Description

Linear components constructed out of painted or finished wood or composite. Includes synthetic cove at wall to floor interface.

Information

Service Life: 40
Installed Year: 1992
Chronological Age: 27
Effective Age: 27
Next Renewal Year: 2032

888 Beach Avenue

Asset Inventory

Finish 15 - Carpentry and Millwork



Location

Beach and Ocean Tower libraries and meeting areas.

Description

Shop fabricated custom casework, built-in counter-tops with laminate, composite or stone surface, wood veneer or composite cabinets.

Information

Service Life: 40
 Installed Year: 1992
 Chronological Age: 27
 Effective Age: 27
 Next Renewal Year: 2032

Doors

Finish 16 - Interior Swing Door - General



Location

All common area and interior service doors throughout the towers and townhouse buildings.

Description

Solid or hollow core wood or hollow metal swing door hung in framed opening including hardware.

Information

Service Life: 40
 Installed Year: 1992
 Chronological Age: 27
 Effective Age: 27
 Next Renewal Year: 2032

Amenities

Equipment

Amen 01 - Computer Equipment



Location

Beach Tower lobby and Ocean Tower office/meeting room.

Description

Computer, monitor, printer, keyboard and associated electronic devices required for general operations and management of the facility.

Information

Service Life: 6
 Installed Year: 2016
 Chronological Age: 3
 Effective Age: 3
 Next Renewal Year: 2022

Amen 02 - Domestic Appliances



Location

Mechanical space with maintenance staff area on Parkade Level P1.

Description

Refrigerators, water cooler, and microwave oven of miscellaneous brands.

Information

Service Life: 15
 Installed Year: 1992
 Chronological Age: 27
 Effective Age: 12
 Next Renewal Year: 2022

888 Beach Avenue

Asset Inventory

Amen 03 - Fitness Equipment



Location

Gym in Beach Tower.

Description

Various fitness machines and equipment including, rowing machines, weight machines, free weights, treadmills, ellipticals, stationary bikes, and a stairmaster.

Information

Service Life: 10
Installed Year: 2016
Chronological Age: 3
Effective Age: 3
Next Renewal Year: 2026

Furnishings

Amen 04 - Central Mailboxes



Location

Tower lobbies.

Description

Flush or surface mounted, front or rear loading, brushed aluminum finish, and extruded aluminum trim.

Information

Service Life: 40
Installed Year: 1992
Chronological Age: 27
Effective Age: 27
Next Renewal Year: 2032

Amen 05 - Office Furniture



Location

Tower lobbies and amenity areas.

Description

Desk, chairs, tables, couches, etc. Select items were not replaced as part of the 2017 lobby renovations and may need replacement sooner than indicated.

Information

Service Life: 15
Installed Year: 2017
Chronological Age: 2
Effective Age: 2
Next Renewal Year: 2032

Amen 06 - Public Signage



Location

Mounted to walls throughout the complex and parkade.

Description

Variety of permanently displayed information placards in the common areas of the building. Various signage replaced as required.

Information

Service Life: 40
Installed Year: 1992
Chronological Age: 27
Effective Age: 27
Next Renewal Year: 2032

888 Beach Avenue

Asset Inventory

Pool, Spa & Sauna

Amen 07 - Dry Sauna



Location

Beach Tower pool area.

Description

Wood paneling, wood benches, wood door, electric heater, and timer control.

Information

Service Life: 20
Installed Year: 2013
Chronological Age: 6
Effective Age: 7
Next Renewal Year: 2032

Amen 08 - Pool/Spa Tank



Location

Pool room in Beach Tower.

Description

Reinforced concrete/ shotcrete for tank lined with marcite (high density plaster), ceramic tile and grout trim. Pool tile refinishing planned for 2019.

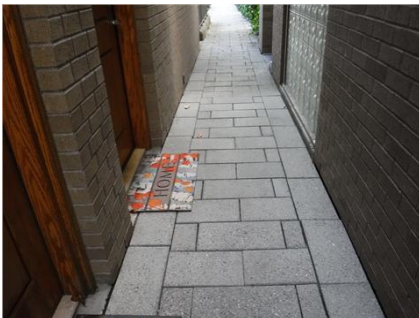
Information

Service Life: 30
Installed Year: 2017
Chronological Age: 2
Effective Age: 2
Next Renewal Year: 2047

Sitework

Hard Landscaping

Site 01 - Interlocking Unit Paving Walkway



Location

Walkways and patios.

Description

Precast concrete unit pavers with a combination of chip seal joint filler and jointing sand, bedding sand. Pavers are typically put onto a compacted gravel base.

Information

Service Life: 40
Installed Year: 1992
Chronological Age: 27
Effective Age: 38
Next Renewal Year: 2021

Site 02 - Water Feature



Location

Interior Courtyard

Description

Pond to retain water including liner, tiles, concrete topping.

Information

Service Life: 15
Installed Year: 1992
Chronological Age: 27
Effective Age: 13
Next Renewal Year: 2021

888 Beach Avenue Asset Inventory

Site 03 - Water Feature Circulation & Filtration



Location

Pool water filtration system on Parkade Level P1.

Description

Submersible recirculating pump, distribution piping, valves, and filtration for water treatment.

Information

Service Life: 10
Installed Year: 1992
Chronological Age: 27
Effective Age: 8
Next Renewal Year: 2021

Site 04 - Glass Block Privacy Screens



Location

Between townhouse patios in courtyard.

Description

Glass block windows with concrete structural support.

Information

Service Life: 30
Installed Year: 1992
Chronological Age: 27
Effective Age: 28
Next Renewal Year: 2021

Site 05 - Outdoor Furniture



Location

Random locations throughout the interior courtyard.

Description

Miscellaneous outdoor furniture such as benches and tables.

Information

Service Life: 5
Installed Year: 1992
Chronological Age: 27
Effective Age: 3
Next Renewal Year: 2021

Site 06 - Paving Driveway



Location

Parkade entrance.

Description

Poured in place concrete paving.

Information

Service Life: 40
Installed Year: 1992
Chronological Age: 27
Effective Age: 38
Next Renewal Year: 2021

888 Beach Avenue

Asset Inventory

Site 07 - Grounds-keeping Equipment



Location

Parkade Level P1.

Description

John Deere x720 tractor for moving garbage bins. Major repairs completed in 2018. Tractor assumed to have been purchased in 2010.

Information

Service Life: 20
 Installed Year: 2010
 Chronological Age: 9
 Effective Age: 9
 Next Renewal Year: 2030

Site 08 - Ceramic Tile



Location

Townhouse exterior entry stairs.

Description

Tile on mortar bed and substrate with grout and sealant at interfaces. Front step tiles have already been replaced on TH5-13.

Information

Service Life: 25
 Installed Year: 1992
 Chronological Age: 27
 Effective Age: 23
 Next Renewal Year: 2021

Soft Landscaping

Site 09 - Irrigation System



Location

Sprinklers throughout interior courtyard area with a controller on Parkade Level P1.

Description

Controller with time clock, network of pipes, valves, and irrigation heads distributed around the soft landscaping.

Information

Service Life: 20
 Installed Year: 1992
 Chronological Age: 27
 Effective Age: 18
 Next Renewal Year: 2021

Site 10 - Soft Landscaping



Location

Interior Courtyard.

Description

Lawn, ground cover, shrubs, perennials, and small trees (up to 30').

Information

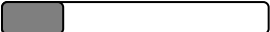
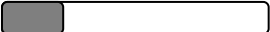
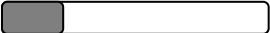
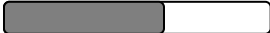
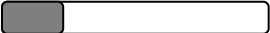
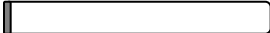
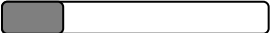
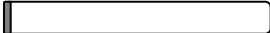
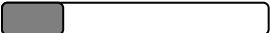
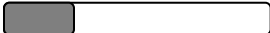
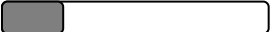
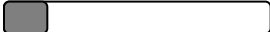
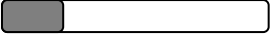
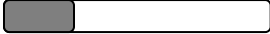
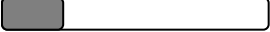
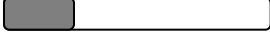
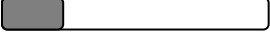
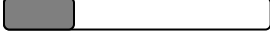
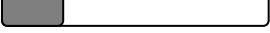
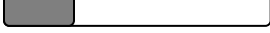
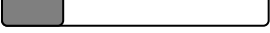
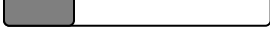
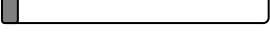
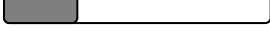
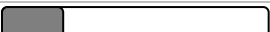
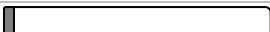
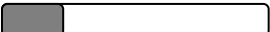
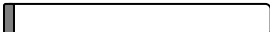
Service Life: 30
 Installed Year: 1992
 Chronological Age: 27
 Effective Age: 28
 Next Renewal Year: 2021

Appendix C

Asset Service Life Summary

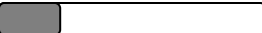
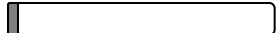
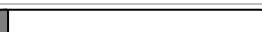
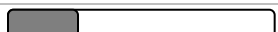
888 Beach Avenue

Asset Service Life Summary

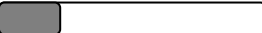
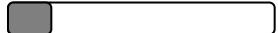
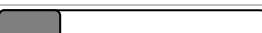
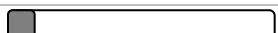
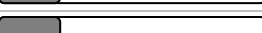
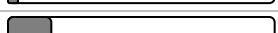
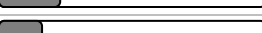
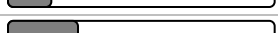
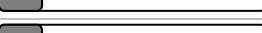
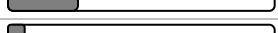
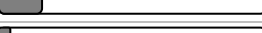
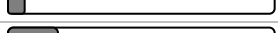
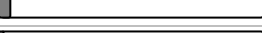
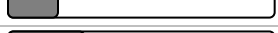
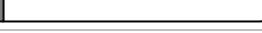
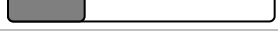
ASSET ID	ASSET NAME	CHRONOLOGICAL AGE	ESTIMATED REMAINING SERVICE LIFE
STRUCTURAL			
Struct 01	Concrete Foundation	27 	48 
Struct 02	Concrete Walls and Columns	27 	48 
Struct 03	CIP Concrete Suspended Slabs	27 	48 
ENCLOSURE			
Encl 01	Protected SBS Membrane Decks and Roofs (IRMA Assembly) with Traffic-Bearing Surface or Ballast	9 	21 
Encl 02	Protected Sheet Applied Rubber Waterproofing Membrane	27 	2 
Encl 03	Protected Sheet Applied Rubber Podium Waterproofing Membrane	27 	2 
Encl 04	Stucco Clad Soffit	27 	21 
Encl 05	Anchor Fall Protection Equipment	27 	13 
Encl 06	Guardrail Glazed Aluminum	27 	3 
Encl 07	Guardrail Aluminum	27 	2 
Encl 08	Davit Bases and Anchor Fall Protection Equipment	27 	13 
Encl 09	Clay Masonry Veneer Wall	27 	21 
Encl 10	Composite Metal Panel Wall	27 	21 
Encl 11	Concrete Wall	27 	48 
Encl 12	Profiled Sheet Metal Cladding Wall	27 	21 
Encl 13	Aluminum Framed Window	27 	21 
Encl 14	Pressure Cap Skylight	27 	21 
Encl 15	Glass Block Window	27 	21 
Encl 16	Curtain Wall - Stick Capped	27 	21 
Encl 17	Aluminum Storefront	27 	21 
Encl 18	Aluminum Framed Glazed Swing Door	27 	21 
Encl 19	Aluminum Framed Sliding Glass Door	27 	21 
Encl 20	Steel Swing Door	27 	2 
Encl 21	Metal Clad Swing Door	27 	2 
Encl 22	Wood Swing Door	27 	2 
Encl 23	Fiberglass Frame Glazed Swing Door	6 	21 
Encl 24	Exposed Urethane Balcony Membrane - Concrete Substrate	7 	22 
Encl 25	Tiled California Walkways and Remaining Original Balconies	27 	3 
Encl 26	Metal Frame and Glass Canopy	27 	21 
Encl 27	Open-grid Overhead Parkade Gate	27 	3 
Encl 28	Slab-on-Grade	27 	48 

888 Beach Avenue

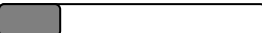
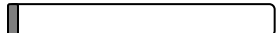
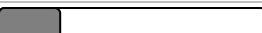
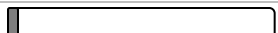
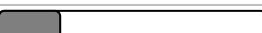
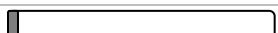
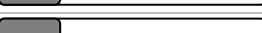
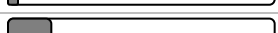
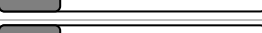
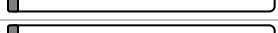
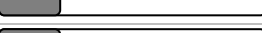
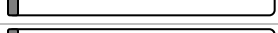
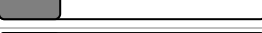
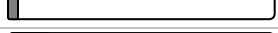
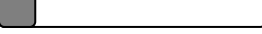
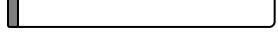
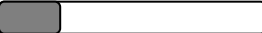
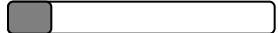
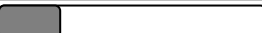
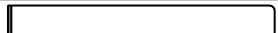
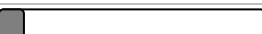
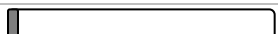
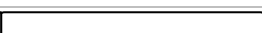
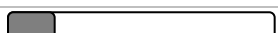
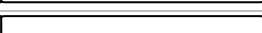
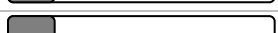
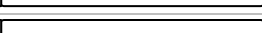
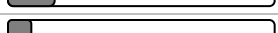
Asset Service Life Summary

ASSET ID	ASSET NAME	CHRONOLOGICAL AGE	ESTIMATED REMAINING SERVICE LIFE
Encl 29	Sectional Overhead Door - Metal	27 	3 
Encl 30	Parking Slab with Traffic-bearing Membrane	11 	14 
Encl 31	Sealant	4 	21 
Encl 32	General & Inspections	27 	48 

ELECTRICAL

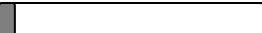
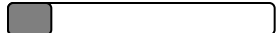
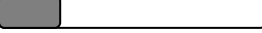
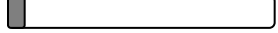
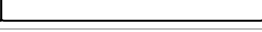
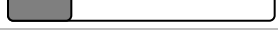
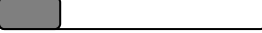
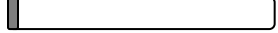
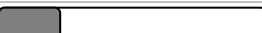
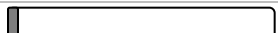
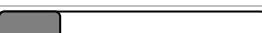
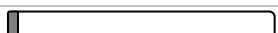
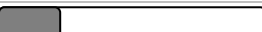
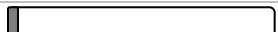
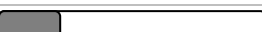
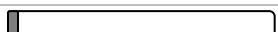
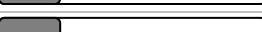
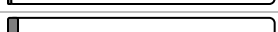
Elec 01	Distribution Transformer	27 	13 
Elec 02	Emergency Generator	27 	8 
Elec 03	Unit Substation	27 	8 
Elec 04	Tank - Fuel Oil Storage	27 	3 
Elec 05	Electrical Distribution	27 	13 
Elec 06	Exterior Light Fixtures	19 	21 
Elec 07	Interior Light Fixtures	19 	5 
Elec 08	Interior Light Fixtures - Parkade	5 	15 
Elec 09	Enterphone System	2 	23 
Elec 10	Proximity Access Control	2 	10 
Elec 11	Security Surveillance	3 	11 

MECHANICAL

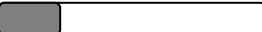
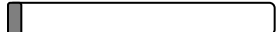
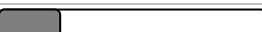
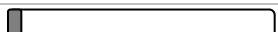
Mech 01	Controls - Boiler Electronic	27 	3 
Mech 02	Controls - Electronic Actuators	27 	3 
Mech 03	Controls - HVAC Instrumentation	27 	3 
Mech 04	Gas Detection - Parkade	27 	3 
Mech 05	Piping - Domestic Water Distribution	27 	13 
Mech 06	Pump - Domestic Water Booster	27 	3 
Mech 07	Tank - Expansion -DHW - Diaphragm	27 	3 
Mech 08	Valves - Cross Connection & Backflow Prevention	27 	3 
Mech 09	Valves - Plumbing Flow Control and Directional	27 	13 
Mech 10	Boiler - DHW - Heating - Gas Fired	16 	3 
Mech 11	Drainage - Sanitary	27 	23 
Mech 12	Drainage - Storm - Internal	27 	13 
Mech 13	Fixtures - Toilets/Sinks/Showers	27 	1 
Mech 14	Pump - DHW - Circulation and Recirculation	11 	3 
Mech 15	Pumps - Sanitary Lift and Control Panel	1 	14 
Mech 16	Pumps - Storm Lift and Control Panel	1 	14 
Mech 17	Tank - DHW - Storage (and DHW Heating)	1 	7 
Mech 18	Piping - Gas Distribution	27 	23 

888 Beach Avenue

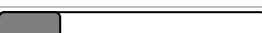
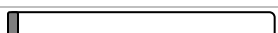
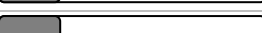
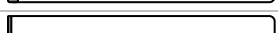
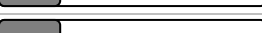
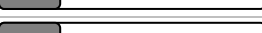
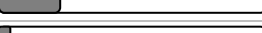
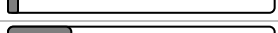
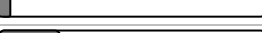
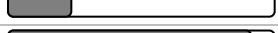
Asset Service Life Summary

ASSET ID	ASSET NAME	CHRONOLOGICAL AGE	ESTIMATED REMAINING SERVICE LIFE
Mech 19	Boiler - Hydronic - Gas Fired	7 	13 
Mech 20	Chemical Treatment Equipment	27 	5 
Mech 21	Heat Exchanger - Brazed Plate	1 	19 
Mech 22	Piping - Hydronic Loop	27 	7 
Mech 23	Tank - Expansion - Hydronic - Diaphragm	27 	3 
Mech 24	Valves - HVAC Flow Control and Directional	27 	3 
Mech 25	A/C Split System	1 	14 
Mech 26	Gas Chimney Vent - Wall type	27 	3 
Mech 27	Baseboard - Electric	27 	13 
Mech 28	Exhaust Fan - Parkade - Propellor	27 	3 
Mech 29	Exhaust Fan - Small Service - Cabinet	27 	3 
Mech 30	Indoor Air Handler - Gas Fired	27 	3 
Mech 31	Make Up Air Unit - Indoor - Gas Fired	2 	23 
Mech 32	Dehumidifying Pool Heater	27 	3 
Mech 33	Air Handler - Make Up Air Unit	27 	3 
Mech 34	Overhead Gate Motor	27 	1 
Mech 35	Trash Chute	27 	3 

ELEVATOR

Elev 01	Geared Traction, Overhead	27 	4 
Elev 02	Handicap Lift	27 	4 
Elev 03	Elevator Cabs & Hoistway	27 	4 

FIRE SAFETY

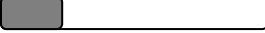
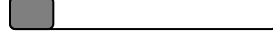
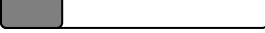
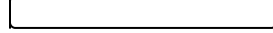
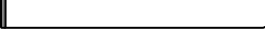
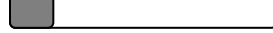
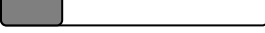
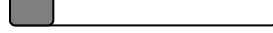
Fire 01	Pressurization/Smoke Control Dampers	27 	3 
Fire 02	Fire Alarm Panel - Addressable	27 	3 
Fire 03	Fire Detection & Alarm	27 	3 
Fire 04	Dry Sprinkler Compressor	27 	1 
Fire 05	Sprinkler & Standpipe - Wet	27 	73 
Fire 06	Fire & Jockey Pump	27 	3 
Fire 07	Portable Fire Extinguisher	5 	19 
Fire 08	Sprinkler System - Dry	27 	73 
Fire 09	Sprinkler Valve Assembly - Dry	27 	13 
Fire 10	Emergency Egress Equipment	27 	3 

INTERIOR FINISHES

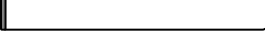
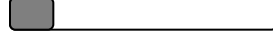
Finish 01	Marble Floor Tile	27 	13 
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888 Beach Avenue

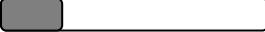
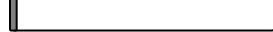
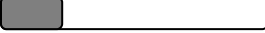
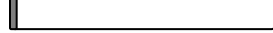
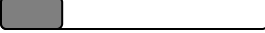
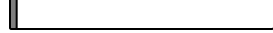
Asset Service Life Summary

ASSET ID	ASSET NAME	CHRONOLOGICAL AGE	ESTIMATED REMAINING SERVICE LIFE
Finish 02	Resilient Sheet Flooring	6 	14 
Finish 03	Sheet Carpet - Glued Down	11 	5 
Finish 04	Ceramic Floor Tile	27 	13 
Finish 05	Wood Flooring	27 	5 
Finish 06	Painted Concrete Flooring	27 	5 
Finish 07	Marble Columns	27 	13 
Finish 08	Fabric Wall Covering	27 	5 
Finish 09	Mirror	27 	13 
Finish 10	Tiled Wall	27 	0 
Finish 11	Paint	2 	13 
Finish 12	Wood Paneling	27 	13 
Finish 14	Baseboard, Molding, and Casing	27 	13 
Finish 15	Carpentry and Millwork	27 	13 
Finish 16	Interior Swing Door - General	27 	13 

AMENITIES

Amen 01	Computer Equipment	3 	3 
Amen 02	Domestic Appliances	27 	3 
Amen 03	Fitness Equipment	3 	7 
Amen 04	Central Mailboxes	27 	13 
Amen 05	Office Furniture	2 	13 
Amen 06	Public Signage	27 	13 
Amen 07	Dry Sauna	6 	13 
Amen 08	Pool/Spa Tank	2 	28 

SITEWORK

Site 01	Interlocking Unit Paving Walkway	27 	2 
Site 02	Water Feature	27 	2 
Site 03	Water Feature Circulation & Filtration	27 	2 
Site 04	Glass Block Privacy Screens	27 	2 
Site 05	Outdoor Furniture	27 	2 
Site 06	Paving Driveway	27 	2 
Site 07	Grounds-keeping Equipment	9 	11 
Site 08	Ceramic Tile	27 	2 
Site 09	Irrigation System	27 	2 
Site 10	Soft Landscaping	27 	2 

Appendix D

Disclosures and Disclaimers

Disclosures and Disclaimers

Condition of the Assets

The method of determining the physical condition of the assets is based on a visual review of a representative sampling of the assets in readily accessible locations, discussions with facility representatives, and review of readily available reference documents. No destructive testing or exploratory openings are carried out on any of the assets and the equipment is not disassembled, operated, or subject to re-commissioning tests. The physical review is not a full “condition assessment” since operating, testing, or exploratory openings are excluded from the scope of services.

Cost Estimating for Assets

- All estimates of costs are provided in future year dollars.
- All estimates of costs are Class D estimates intended for planning purposes and not for accounting or tender use. See Glossary of Terms for definition of Class D estimates.
- Actual costs will vary depending on several factors. The estimates assume economies of scale will be achieved by bundling work tasks together into larger renewal, repair, or rehabilitation projects. Small tasks performed individually may exceed the estimates presented.
- Soft costs, such as consulting services and contingency allowances are not included in the budget estimates. When developing cost estimates for projects in greater detail for budgeting, each project should include appropriate soft costs - such as Owner contingency, permit fees, engineering fees, etc. Depending on the sizes, scope and timing of individual projects, the magnitude of the soft costs will vary.
- Construction costs are subject to the vagaries of the marketplace. At the time of tender, costs may vary depending on the time of the year, contractor availability, and other factors.
- The estimates must be updated over time, further developed for scope of work and confirmed by competitive tender before any contracts are awarded.
- Detailed repair specifications are required to be prepared in order to confirm scopes of work and costs.
- The estimates do not include allowances for site specific access requirements or environmental concerns, which should be addressed on a project-by-project basis.
- Consideration may sometimes need to be given to costs arising from the impact of projects on occupancy use and facility operations.
- Replacement costs are typically based on like-for-like with a similar asset unless code or other circumstances require the replacement cost to include an upgrade.

Maintenance of the Assets:

The maintenance checklists are not exhaustive and are intended as a framework for the ongoing refinement of the maintenance program.

- Work must only be carried out by appropriately qualified personnel who have the necessary and sufficient knowledge about the maintenance tasks and maintenance intervals.
- The manufacturers' latest printed instructions should take precedence in the event of any conflict with the maintenance checklists.
- The Owners' maintenance staff and/or service contractors are responsible to verify what is contained in the manufacturers' documentation regarding recommended maintenance procedures and intervals.
- The maintenance checklists and maintenance intervals should be reviewed annually and adjusted, as required, to reflect the service environment, feedback from contractors, etc.

Specialist and Non-Specialist Reviews

Our personnel collect the asset inventory data for all the different systems, including mechanical, plumbing, fire safety, elevator, electrical, interior finishes, and sitework. Our scope of services is to identify the assets within each system, determine their age and report on their reasonable service life-cycles according to accepted industry standards. RDH personnel do not make observations with regard to specialty building system conditions unless specifically addressed in our proposal.

Forecasting the Useful Service Life of Assets

The service life of assets can be affected by a variety of circumstances, including the following:

- The quality of the maintenance conducted on an asset will affect the service life of the asset. Poor maintenance can lead to a reduced service life and may result in the premature failure of an asset.
- Insurable losses (force majeure), such as earthquakes, fires, and floods can shorten the life of an asset. These events are not considered in a Depreciation Report.
- Asset service life in a Depreciation Report is determined according to accepted industry standards.

Funding Models

The funding models for Depreciation Reports are based on a 30-year horizon and use "future year dollars termed" methodology. This methodology projects the costs (in future year dollars) over the planning horizon and not beyond the terminus year of the planning horizon. The current year is the starting year of the planning horizon. The term,

therefore, matches the initial horizon and does not respect a shifting horizon. This means that in year 1 the funding scenarios will look forward for 30 years.

For example, in 2012 the model looks forward to 2042. In year two, it will be accurate for 29 years, as it is only looking forward to year 2042. When an update study is performed in three years, the revised funding scenarios will look forward 30 years from 2015 to 2045. Renewal and major maintenance projects that occur beyond the 30-year planning horizon are not considered in the scenarios; that is, those projects that occur beyond 30 years are unfunded in the funding scenarios.

Appendix E

Funding Scenario Cash Flow Tables

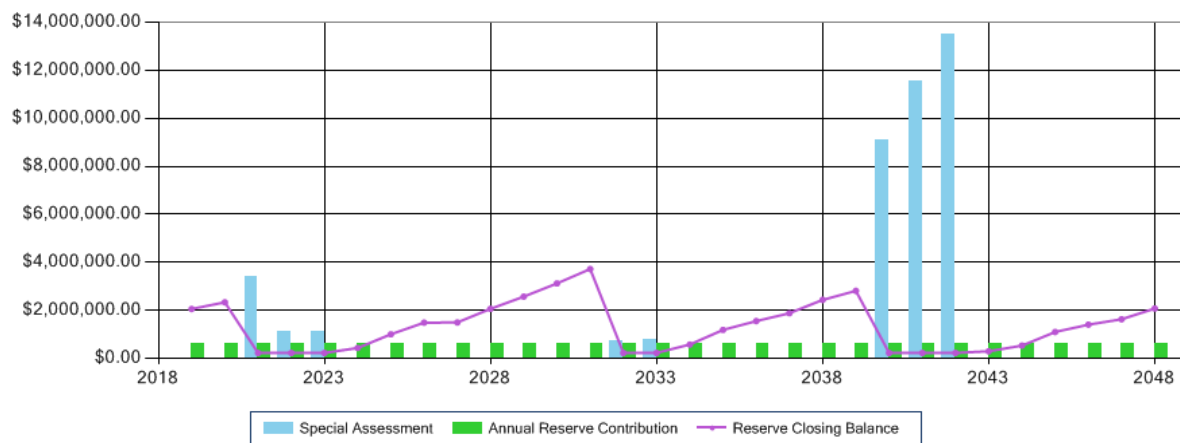
Funding Model - 2019 - Current Funding Model \$600,000

Funding Model Name	2019 - Current Funding Model \$600,000	Initial Catch-Up Cost	\$0
Building	888 Beach Avenue	Operating Budget	\$2,257,540
Start Year	2019	Starting Reserve Balance	\$1,492,432
Interest/Investment Rate	2.0 %	Contribution Threshold	\$0
Estimated Contingency Allowance	\$2,000	Contribution Below Threshold	\$600,000
Tax Rate	0.0 %	Contribution Above Threshold	\$600,000
Planning Horizon (Years)	30	Reserve Contribution Increase	0.00 %
Number of Units	259	Monthly Avg. Unit Contribution	\$193

Year	Opening Balance	Reserve Contribution	Additional Funding	Reserve Income	Keep-Up	Contingency Costs	Tax Liability	Closing Balance	Percent Funded
2019	\$1,492,432	\$600,000	\$0	\$29,849	\$63,000	\$2,000	\$0	\$2,057,281	11.67 %
2020	\$2,057,281	\$600,000	\$0	\$41,146	\$362,200	\$2,000	\$0	\$2,334,226	12.24 %
2021	\$2,334,226	\$600,000	\$3,388,029	\$46,685	\$6,141,200	\$2,000	\$0	\$225,740	1.53 %
2022	\$225,740	\$600,000	\$1,111,515	\$4,515	\$1,714,030	\$2,000	\$0	\$225,740	1.54 %
2023	\$225,740	\$600,000	\$1,125,485	\$4,515	\$1,728,000	\$2,000	\$0	\$225,740	1.55 %
2024	\$225,740	\$600,000	\$0	\$4,515	\$397,100	\$2,000	\$0	\$431,155	2.74 %
2025	\$431,155	\$600,000	\$0	\$8,623	\$34,760	\$2,000	\$0	\$1,003,018	5.78 %
2026	\$1,003,018	\$600,000	\$0	\$20,060	\$134,000	\$2,000	\$0	\$1,487,078	7.84 %
2027	\$1,487,078	\$600,000	\$0	\$29,742	\$618,500	\$2,000	\$0	\$1,496,320	7.44 %
2028	\$1,496,320	\$600,000	\$0	\$29,926	\$61,100	\$2,000	\$0	\$2,063,147	9.43 %
2029	\$2,063,147	\$600,000	\$0	\$41,263	\$130,000	\$2,000	\$0	\$2,572,410	10.88 %
2030	\$2,572,410	\$600,000	\$0	\$51,448	\$100,800	\$2,000	\$0	\$3,121,058	12.24 %
2031	\$3,121,058	\$600,000	\$0	\$62,421	\$61,230	\$2,000	\$0	\$3,720,249	13.55 %
2032	\$3,720,249	\$600,000	\$725,986	\$74,405	\$4,892,900	\$2,000	\$0	\$225,740	0.91 %
2033	\$225,740	\$600,000	\$779,885	\$4,515	\$1,382,400	\$2,000	\$0	\$225,740	0.90 %
2034	\$225,740	\$600,000	\$0	\$4,515	\$253,170	\$2,000	\$0	\$575,085	2.16 %
2035	\$575,085	\$600,000	\$0	\$11,502	\$0	\$2,000	\$0	\$1,184,587	4.15 %
2036	\$1,184,587	\$600,000	\$0	\$23,692	\$253,000	\$2,000	\$0	\$1,553,278	5.13 %
2037	\$1,553,278	\$600,000	\$0	\$31,066	\$301,410	\$2,000	\$0	\$1,880,934	5.87 %
2038	\$1,880,934	\$600,000	\$0	\$37,619	\$80,900	\$2,000	\$0	\$2,435,653	7.15 %
2039	\$2,435,653	\$600,000	\$0	\$48,713	\$270,000	\$2,000	\$0	\$2,812,366	7.82 %
2040	\$2,812,366	\$600,000	\$9,070,287	\$56,247	\$12,311,160	\$2,000	\$0	\$225,740	0.88 %
2041	\$225,740	\$600,000	\$11,565,885	\$4,515	\$12,168,400	\$2,000	\$0	\$225,740	1.53 %
2042	\$225,740	\$600,000	\$13,500,785	\$4,515	\$14,103,300	\$2,000	\$0	\$225,740	19.09 %
2043	\$225,740	\$600,000	\$0	\$4,515	\$532,800	\$2,000	\$0	\$295,455	35.21 %
2044	\$295,455	\$600,000	\$0	\$5,909	\$367,900	\$2,000	\$0	\$531,464	87.70 %
2045	\$531,464	\$600,000	\$0	\$10,629	\$42,000	\$2,000	\$0	\$1,098,093	159.83 %
2046	\$1,098,093	\$600,000	\$0	\$21,962	\$314,550	\$2,000	\$0	\$1,403,505	288.19 %
2047	\$1,403,505	\$600,000	\$0	\$28,070	\$401,200	\$2,000	\$0	\$1,628,375	1,050.56 %
2048	\$1,628,375	\$600,000	\$0	\$32,568	\$183,100	\$2,000	\$0	\$2,075,843	100.00 %

Funding Model - 2019 - Current Funding Model \$600,000

GRAPHIC REPRESENTATION



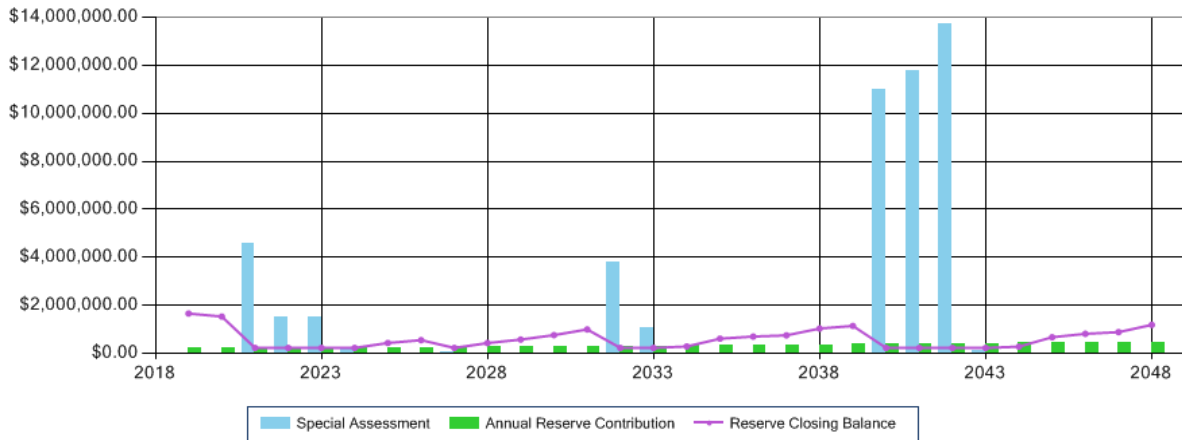
Funding Model - 2019 - Alternate Funding Model #1 \$200,000 with 3% Annual Increase

Funding Model Name	2019 - Alternate Funding Model #1 \$200,000 with 3% Annual Increase	Initial Catch-Up Cost	\$0
Building	888 Beach Avenue	Operating Budget	\$2,257,540
Start Year	2019	Starting Reserve Balance	\$1,492,432
Interest/Investment Rate	2.0 %	Contribution Threshold	\$0
Estimated Contingency Allowance	\$2,000	Contribution Below Threshold	\$200,000
Tax Rate	0.0 %	Contribution Above Threshold	\$200,000
Planning Horizon (Years)	30	Reserve Contribution Increase	3.00 %
Number of Units	259	Monthly Avg. Unit Contribution	\$64

Year	Opening Balance	Reserve Contribution	Additional Funding	Reserve Income	Keep-Up	Contingency Costs	Tax Liability	Closing Balance	Percent Funded
2019	\$1,492,432	\$200,000	\$0	\$29,849	\$63,000	\$2,000	\$0	\$1,657,281	9.40 %
2020	\$1,657,281	\$206,000	\$0	\$33,146	\$362,200	\$2,000	\$0	\$1,532,226	8.03 %
2021	\$1,532,226	\$212,180	\$4,593,889	\$30,645	\$6,141,200	\$2,000	\$0	\$225,740	1.53 %
2022	\$225,740	\$218,545	\$1,492,970	\$4,515	\$1,714,030	\$2,000	\$0	\$225,740	1.54 %
2023	\$225,740	\$225,102	\$1,500,384	\$4,515	\$1,728,000	\$2,000	\$0	\$225,740	1.55 %
2024	\$225,740	\$231,855	\$162,730	\$4,515	\$397,100	\$2,000	\$0	\$225,740	1.43 %
2025	\$225,740	\$238,810	\$0	\$4,515	\$34,760	\$2,000	\$0	\$432,305	2.49 %
2026	\$432,305	\$245,975	\$0	\$8,646	\$134,000	\$2,000	\$0	\$550,926	2.90 %
2027	\$550,926	\$253,354	\$30,942	\$11,019	\$618,500	\$2,000	\$0	\$225,740	1.12 %
2028	\$225,740	\$260,955	\$0	\$4,515	\$61,100	\$2,000	\$0	\$428,109	1.95 %
2029	\$428,109	\$268,783	\$0	\$8,562	\$130,000	\$2,000	\$0	\$573,455	2.42 %
2030	\$573,455	\$276,847	\$0	\$11,469	\$100,800	\$2,000	\$0	\$758,971	2.97 %
2031	\$758,971	\$285,152	\$0	\$15,179	\$61,230	\$2,000	\$0	\$996,072	3.62 %
2032	\$996,072	\$293,707	\$3,810,940	\$19,921	\$4,892,900	\$2,000	\$0	\$225,740	0.91 %
2033	\$225,740	\$302,518	\$1,077,367	\$4,515	\$1,382,400	\$2,000	\$0	\$225,740	0.90 %
2034	\$225,740	\$311,593	\$0	\$4,515	\$253,170	\$2,000	\$0	\$286,678	1.07 %
2035	\$286,678	\$320,941	\$0	\$5,734	\$0	\$2,000	\$0	\$611,353	2.14 %
2036	\$611,353	\$330,569	\$0	\$12,227	\$253,000	\$2,000	\$0	\$699,149	2.30 %
2037	\$699,149	\$340,486	\$0	\$13,983	\$301,410	\$2,000	\$0	\$750,209	2.34 %
2038	\$750,209	\$350,701	\$0	\$15,004	\$80,900	\$2,000	\$0	\$1,033,014	3.03 %
2039	\$1,033,014	\$361,222	\$0	\$20,660	\$270,000	\$2,000	\$0	\$1,142,896	3.17 %
2040	\$1,142,896	\$372,059	\$11,001,087	\$22,858	\$12,311,160	\$2,000	\$0	\$225,740	0.88 %
2041	\$225,740	\$383,220	\$11,782,665	\$4,515	\$12,168,400	\$2,000	\$0	\$225,740	1.53 %
2042	\$225,740	\$394,717	\$13,706,068	\$4,515	\$14,103,300	\$2,000	\$0	\$225,740	19.09 %
2043	\$225,740	\$406,559	\$123,727	\$4,515	\$532,800	\$2,000	\$0	\$225,740	26.90 %
2044	\$225,740	\$418,755	\$0	\$4,515	\$367,900	\$2,000	\$0	\$279,110	46.05 %
2045	\$279,110	\$431,318	\$0	\$5,582	\$42,000	\$2,000	\$0	\$672,010	97.81 %
2046	\$672,010	\$444,257	\$0	\$13,440	\$314,550	\$2,000	\$0	\$813,158	166.97 %
2047	\$813,158	\$457,585	\$0	\$16,263	\$401,200	\$2,000	\$0	\$883,806	570.19 %
2048	\$883,806	\$471,313	\$0	\$17,676	\$183,100	\$2,000	\$0	\$1,187,695	100.00 %

Funding Model - 2019 - Alternate Funding Model #1 \$200,000 with 3% Annual Increase

GRAPHIC REPRESENTATION



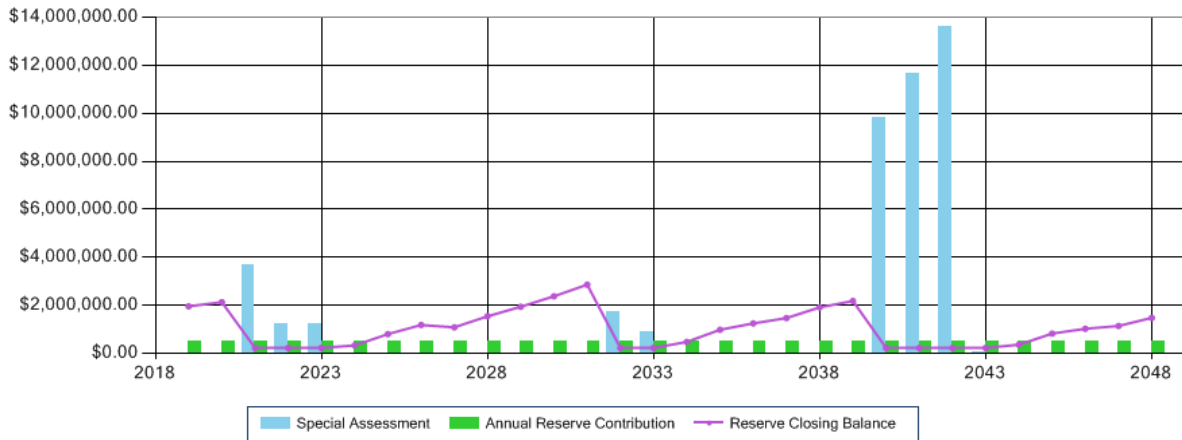
Funding Model - 2019 - Alternate Funding Model #2 \$500,000

Funding Model Name	2019 - Alternate Funding Model #2 \$500,000	Initial Catch-Up Cost	\$0
Building	888 Beach Avenue	Operating Budget	\$2,257,540
Start Year	2019	Starting Reserve Balance	\$1,492,432
Interest/Investment Rate	2.0 %	Contribution Threshold	\$0
Estimated Contingency Allowance	\$2,000	Contribution Below Threshold	\$500,000
Tax Rate	0.0 %	Contribution Above Threshold	\$500,000
Planning Horizon (Years)	30	Reserve Contribution Increase	0.00 %
Number of Units	259	Monthly Avg. Unit Contribution	\$161

Year	Opening Balance	Reserve Contribution	Additional Funding	Reserve Income	Keep-Up	Contingency Costs	Tax Liability	Closing Balance	Percent Funded
2019	\$1,492,432	\$500,000	\$0	\$29,849	\$63,000	\$2,000	\$0	\$1,957,281	11.11 %
2020	\$1,957,281	\$500,000	\$0	\$39,146	\$362,200	\$2,000	\$0	\$2,132,226	11.18 %
2021	\$2,132,226	\$500,000	\$3,694,070	\$42,645	\$6,141,200	\$2,000	\$0	\$225,740	1.53 %
2022	\$225,740	\$500,000	\$1,211,515	\$4,515	\$1,714,030	\$2,000	\$0	\$225,740	1.54 %
2023	\$225,740	\$500,000	\$1,225,485	\$4,515	\$1,728,000	\$2,000	\$0	\$225,740	1.55 %
2024	\$225,740	\$500,000	\$0	\$4,515	\$397,100	\$2,000	\$0	\$331,155	2.10 %
2025	\$331,155	\$500,000	\$0	\$6,623	\$34,760	\$2,000	\$0	\$801,018	4.61 %
2026	\$801,018	\$500,000	\$0	\$16,020	\$134,000	\$2,000	\$0	\$1,181,038	6.23 %
2027	\$1,181,038	\$500,000	\$0	\$23,621	\$618,500	\$2,000	\$0	\$1,084,159	5.39 %
2028	\$1,084,159	\$500,000	\$0	\$21,683	\$61,100	\$2,000	\$0	\$1,542,742	7.05 %
2029	\$1,542,742	\$500,000	\$0	\$30,855	\$130,000	\$2,000	\$0	\$1,941,597	8.21 %
2030	\$1,941,597	\$500,000	\$0	\$38,832	\$100,800	\$2,000	\$0	\$2,377,629	9.32 %
2031	\$2,377,629	\$500,000	\$0	\$47,553	\$61,230	\$2,000	\$0	\$2,861,952	10.42 %
2032	\$2,861,952	\$500,000	\$1,701,450	\$57,239	\$4,892,900	\$2,000	\$0	\$225,740	0.91 %
2033	\$225,740	\$500,000	\$879,885	\$4,515	\$1,382,400	\$2,000	\$0	\$225,740	0.90 %
2034	\$225,740	\$500,000	\$0	\$4,515	\$253,170	\$2,000	\$0	\$475,085	1.78 %
2035	\$475,085	\$500,000	\$0	\$9,502	\$0	\$2,000	\$0	\$982,587	3.44 %
2036	\$982,587	\$500,000	\$0	\$19,652	\$253,000	\$2,000	\$0	\$1,247,238	4.11 %
2037	\$1,247,238	\$500,000	\$0	\$24,945	\$301,410	\$2,000	\$0	\$1,468,773	4.58 %
2038	\$1,468,773	\$500,000	\$0	\$29,375	\$80,900	\$2,000	\$0	\$1,915,249	5.62 %
2039	\$1,915,249	\$500,000	\$0	\$38,305	\$270,000	\$2,000	\$0	\$2,181,554	6.06 %
2040	\$2,181,554	\$500,000	\$9,813,716	\$43,631	\$12,311,160	\$2,000	\$0	\$225,740	0.88 %
2041	\$225,740	\$500,000	\$11,665,885	\$4,515	\$12,168,400	\$2,000	\$0	\$225,740	1.53 %
2042	\$225,740	\$500,000	\$13,600,785	\$4,515	\$14,103,300	\$2,000	\$0	\$225,740	19.09 %
2043	\$225,740	\$500,000	\$30,285	\$4,515	\$532,800	\$2,000	\$0	\$225,740	26.90 %
2044	\$225,740	\$500,000	\$0	\$4,515	\$367,900	\$2,000	\$0	\$360,355	59.46 %
2045	\$360,355	\$500,000	\$0	\$7,207	\$42,000	\$2,000	\$0	\$823,562	119.87 %
2046	\$823,562	\$500,000	\$0	\$16,471	\$314,550	\$2,000	\$0	\$1,023,483	210.16 %
2047	\$1,023,483	\$500,000	\$0	\$20,470	\$401,200	\$2,000	\$0	\$1,140,753	735.96 %
2048	\$1,140,753	\$500,000	\$0	\$22,815	\$183,100	\$2,000	\$0	\$1,478,468	100.00 %

Funding Model - 2019 - Alternate Funding Model #2 \$500,000

GRAPHIC REPRESENTATION



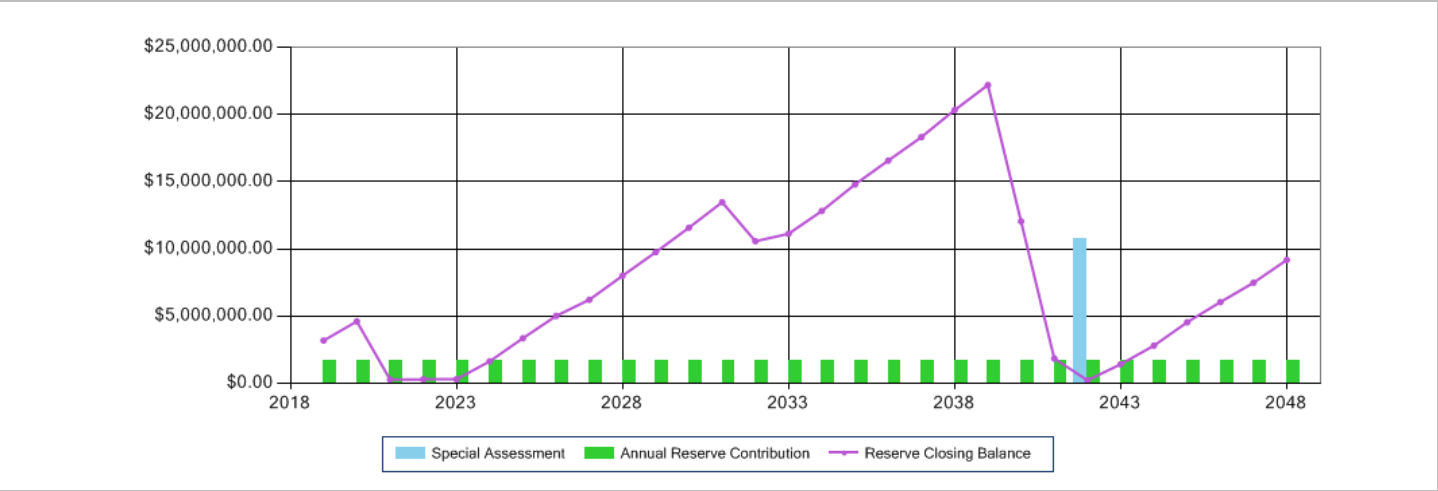
Funding Model - 2019 - Progressive Funding Model \$1,726,000

Funding Model Name	2019 - Progressive Funding Model \$1,726,000	Initial Catch-Up Cost	\$0
Building	888 Beach Avenue	Operating Budget	\$2,257,540
Start Year	2019	Starting Reserve Balance	\$1,492,432
Interest/Investment Rate	2.0 %	Contribution Threshold	\$0
Estimated Contingency Allowance	\$2,000	Contribution Below Threshold	\$1,726,000
Tax Rate	0.0 %	Contribution Above Threshold	\$1,726,000
Planning Horizon (Years)	30	Reserve Contribution Increase	0.00 %
Number of Units	259	Monthly Avg. Unit Contribution	\$555

Year	Opening Balance	Reserve Contribution	Additional Funding	Reserve Income	Keep-Up	Contingency Costs	Tax Liability	Closing Balance	Percent Funded
2019	\$1,492,432	\$1,726,000	\$0	\$29,849	\$63,000	\$2,000	\$0	\$3,183,281	18.07 %
2020	\$3,183,281	\$1,726,000	\$0	\$63,666	\$362,200	\$2,000	\$0	\$4,608,747	24.16 %
2021	\$4,608,747	\$1,726,000	\$0	\$92,175	\$6,141,200	\$2,000	\$0	\$283,722	1.92 %
2022	\$283,722	\$1,726,000	\$0	\$5,674	\$1,714,030	\$2,000	\$0	\$299,366	2.04 %
2023	\$299,366	\$1,726,000	\$0	\$5,987	\$1,728,000	\$2,000	\$0	\$301,353	2.07 %
2024	\$301,353	\$1,726,000	\$0	\$6,027	\$397,100	\$2,000	\$0	\$1,634,280	10.40 %
2025	\$1,634,280	\$1,726,000	\$0	\$32,686	\$34,760	\$2,000	\$0	\$3,356,206	19.34 %
2026	\$3,356,206	\$1,726,000	\$0	\$67,124	\$134,000	\$2,000	\$0	\$5,013,330	26.46 %
2027	\$5,013,330	\$1,726,000	\$0	\$100,267	\$618,500	\$2,000	\$0	\$6,219,097	30.93 %
2028	\$6,219,097	\$1,726,000	\$0	\$124,382	\$61,100	\$2,000	\$0	\$8,006,379	36.60 %
2029	\$8,006,379	\$1,726,000	\$0	\$160,128	\$130,000	\$2,000	\$0	\$9,760,506	41.30 %
2030	\$9,760,506	\$1,726,000	\$0	\$195,210	\$100,800	\$2,000	\$0	\$11,578,916	45.43 %
2031	\$11,578,916	\$1,726,000	\$0	\$231,578	\$61,230	\$2,000	\$0	\$13,473,264	49.09 %
2032	\$13,473,264	\$1,726,000	\$0	\$269,465	\$4,892,900	\$2,000	\$0	\$10,573,829	43.05 %
2033	\$10,573,829	\$1,726,000	\$0	\$211,477	\$1,382,400	\$2,000	\$0	\$11,126,906	44.56 %
2034	\$11,126,906	\$1,726,000	\$0	\$222,538	\$253,170	\$2,000	\$0	\$12,820,274	48.20 %
2035	\$12,820,274	\$1,726,000	\$0	\$256,405	\$0	\$2,000	\$0	\$14,800,679	51.87 %
2036	\$14,800,679	\$1,726,000	\$0	\$296,014	\$253,000	\$2,000	\$0	\$16,567,692	54.71 %
2037	\$16,567,692	\$1,726,000	\$0	\$331,354	\$301,410	\$2,000	\$0	\$18,321,636	57.21 %
2038	\$18,321,636	\$1,726,000	\$0	\$366,433	\$80,900	\$2,000	\$0	\$20,331,168	59.70 %
2039	\$20,331,168	\$1,726,000	\$0	\$406,623	\$270,000	\$2,000	\$0	\$22,191,792	61.72 %
2040	\$22,191,792	\$1,726,000	\$0	\$443,836	\$12,311,160	\$2,000	\$0	\$12,048,468	47.19 %
2041	\$12,048,468	\$1,726,000	\$0	\$240,969	\$12,168,400	\$2,000	\$0	\$1,845,037	12.57 %
2042	\$1,845,037	\$1,726,000	\$10,723,102	\$36,901	\$14,103,300	\$2,000	\$0	\$225,740	19.09 %
2043	\$225,740	\$1,726,000	\$0	\$4,515	\$532,800	\$2,000	\$0	\$1,421,455	169.42 %
2044	\$1,421,455	\$1,726,000	\$0	\$28,429	\$367,900	\$2,000	\$0	\$2,805,984	463.03 %
2045	\$2,805,984	\$1,726,000	\$0	\$56,120	\$42,000	\$2,000	\$0	\$4,544,104	661.44 %
2046	\$4,544,104	\$1,726,000	\$0	\$90,882	\$314,550	\$2,000	\$0	\$6,044,436	1,241.15 %
2047	\$6,044,436	\$1,726,000	\$0	\$120,889	\$401,200	\$2,000	\$0	\$7,488,124	4,831.04 %
2048	\$7,488,124	\$1,726,000	\$0	\$149,762	\$183,100	\$2,000	\$0	\$9,178,786	100.00 %

Funding Model - 2019 - Progressive Funding Model \$1,726,000

GRAPHIC REPRESENTATION



Appendix F

RDH Qualifications

Maintenance and Planning (MaP)

Our Maintenance and Planning (MaP) group works with your owner group to plan and develop strategies for the long- and short-term needs of your building—everything from roof maintenance to boiler replacement. As the acronym suggests, our services are designed so that we can provide you with a comprehensive roadMaP for the management of your assets.

RDH staff have broad practical experience assisting building owners with all aspects of planning for the long term stewardship of their building(s). Our reserve fund analysts, engineers, architects, and technologists have a wide variety of formal training—including building science, structural engineering, and mechanical engineering. We believe that by using a team approach, we can ensure an appropriate level of thoroughness and quality. We have prepared hundreds of Depreciation Reports and are recognized as industry leaders.

Depreciation Reports

A Depreciation Report is a long-range financial planning tool. It's used to identify funding requirements for costs associated with future repair, renewal, and replacement projects. The report establishes where you need to focus resources and is a good place to start developing your roadMaP.

The first step in preparing the report is to compile an inventory of all of your building's assets (roofs, boilers, carpets, etc.). Using the inventory as a foundation, we estimate the remaining life of each asset, forecast the replacement costs in future-year dollars, and display the financial analysis with graphs and cash flow tables.

Building Asset Management Software (BAMS)

All of this information is accessible through our propriety online BAM Software—we do the groundwork and provide the critical information so that you can leverage the Software to track and report on maintenance, repair, and renewal activities. Alternatively, we can follow up and manage the activities on your behalf.

The Software tool also empowers you to create your own funding scenarios so you can evaluate different funding levels and find a solution that works specifically for your building. Where a Depreciation Report identifies what items you need to spend money on and when you need to spend it, this tool helps you optimize the way you spend your money. Ultimately, we can help you track what work is completed versus what is outstanding so that you are better able to produce reports and make informed decisions.





Mark Will | B.A. Econ.

Managing Principal, Vancouver Regional Manager

- B.A., Economics
- Has worked in project management since 1997
- Member of the Board of Directors, Condominium Home Owner's Association (CHOA)
- Member of Professional Association of Managing Agents (PAMA)



Jason Dunn | B.Arch.Sc., CCCA

Principal, Senior Project Manager

- B.Arch.Sc., Building Science Option
- Certified Construction Contract Administrator, CSC
- Has worked in building science consulting since 2004



Jesse Listoen | Dipl.T.

Associate, Project Manager

- Dipl.T., Architectural & Building Engineering Technology (Building Science Option)
- 5+ years' experience in maintenance and planning consulting and has been involved in the preparation 70+ depreciation reports



Brandon Carreira | Dipl.T.

Project Manager

- MaP Service Area Leader
- Dipl.T., Architectural & Building Engineering Technology (Building Science Option)
- Has worked in maintenance and planning consulting since 2011
- Prepared 150+ Depreciation Reports and has been involved with 200+ MaP projects



David Taguchi | Eng.L., RRO

Associate, Building Science Specialist

- Eng.L., Engineers & Geoscientists of British Columbia
- RRO, Roofing Consultants Institute Inc.
- Member of Applied Science Technologists and Technicians of British Columbia
- Has 19 years of Building Science Experience



Alex Seto | Dipl.T.

Building Science Technologist

- Dipl.T., Architectural & Building Engineering Technology (Building Science Option)
- Has worked in maintenance and planning consulting since 2012



Jackie Wong | Dipl.T.
Building Science Technologist

- Dipl.T., Architectural & Building Engineering Technology (Building Science Option)
- Has worked in maintenance and planning consulting since 2016



Talen Springer | EIT
Building Science Engineer (EIT)

- B.A.Sc., Civil Engineering
- Has worked in maintenance and planning consulting since 2016



Preston Wu | Dipl.T.
Maintenance and Planning Technologist

- Dipl.T., Architectural & Building Engineering Technology (Building Science Option)
- Has worked in maintenance and planning consulting since 2016



Cameron Skoglund | GradTech.
Maintenance and Planning Technologist

- GradTech., ASTTBC
- Has worked in maintenance and planning consulting since 2017



Torrance Beamish | B.F.A., Dipl.T.
Building Science Technologist

- Dipl.T., Architectural & Building Engineering Technology (Building Science Option)
- Has worked in maintenance and planning consulting since 2017



Yan Marineau-Brachmann | B.A.Sc.
Building Science Engineer (EIT)

- B.A.Sc., Civil Engineering
- Has worked in maintenance and planning consulting since 2018

Administrators and Client Support



Vanessa Jumawan

Maintenance and Planning Coordinator

- Has worked in administration within engineering/architecture since 2008
- Preparation of Depreciation Report estimates and proposals



Anna Qiu

Maintenance and Planning Project Assistant

- Certificate, Business Administration
- Has worked in administration within engineering/architecture firms since 2004
- BAMS user account setup and maintenance

Software Support and Programmer



Matthew Branch | P.Eng.

Software Developer

- B.Sc., Civil Engineering
- Registered professional engineer, APEGBC
- Has worked in engineering data analysis since 2000

Acknowledgements



Serge Desmarais | B.Arch. Architect AIBC, CP

Principal (In Memoriam), Senior Building Science Specialist

RDH gratefully acknowledges the contributions of Serge Desmarais as the building science technical lead for the MaP group.

- Registered Architect AIBC, Certified Professional
- 30+ years' experience in building design and construction capital renewal projects
- RDH 2004 - 2017

Appendix G

Insurance Certificate

Ref. No. 320008109489

CERTIFICATE OF INSURANCE

Aon Reed Stenhouse Inc.
401 West Georgia Street, Suite 1200
PO Box 3228 STN. TERMINAL
Vancouver BC V6B 3X8
tel 604-688-4442 fax 604-682-4026

Re: Evidence of Insurance:

To Whom It May Concern
Suite 400, 4333 Still Creek Drive
Burnaby, BC V5C 6S6

Insurance as described herein has been arranged on behalf of the Insured named herein under the following policy(ies) and as more fully described by the terms, conditions, exclusions and provisions contained in the said policy(ies) and any endorsements attached thereto.

Insured

RDH Building Science Inc.
Suite 400, 4333 Still Creek Drive
Burnaby, BC V5C 6S6

Coverage

Commercial General Liability	Insurer	Zurich Insurance Company Ltd	
Policy #	8850746		
Effective	02-May-2019	Expiry	02-May-2020
Limits of Liability	Bodily Injury & Property Damage, Each Occurrence \$1,000,000 Products and Completed Operations, Aggregate \$1,000,000 Non-Owned Automobile Liability \$1,000,000 Tenant's Legal Liability - All Risks \$1,000,000 Legal Liability for Damage to Hired Automobiles \$100,000 Policy may be subject to a general aggregate and other aggregates where applicable		
Architects & Engineers Professional Liability	Insurer	Lloyd's Underwriters	
Policy #	PSDEF1900249		
Effective	02-May-2019	Expiry	02-May-2020
Limits of Liability	Subject to aggregate where applicable		

Terms and / or Additional Coverage

Professional Liability
Limit: \$1,000,000 Per Claim Limit / \$2,000,000 Aggregate Limit

THE POLICY CONTAINS A CLAUSE THAT MAY LIMIT THE AMOUNT PAYABLE
OR, IN THE CASE OF AUTOMOBILE INSURANCE,
THE POLICY CONTAINS A PARTIAL PAYMENT OF LOSS CLAUSE

Ref. No. 320008109489

CERTIFICATE OF INSURANCE

Commercial General Liability

Products and Completed Operations
Broad Form Property Damage
Cross Liability
Contractual Liability
Owners and Contractors Protective
Contractual Liability included

THIS CERTIFICATE CONSTITUTES A STATEMENT OF THE FACTS AS OF THE DATE OF ISSUANCE AND ARE SO REPRESENTED AND WARRANTED ONLY TO THE INSURED. OTHER PERSONS RELYING ON THIS CERTIFICATE DO SO AT THEIR OWN RISK.

Aon Reed Stenhouse Inc.



Dated : 10-May-2019
Issued By : McLean, Chris J.
Tel : 1-604-688-4442

THE POLICY CONTAINS A CLAUSE THAT MAY LIMIT THE AMOUNT PAYABLE
OR, IN THE CASE OF AUTOMOBILE INSURANCE,
THE POLICY CONTAINS A PARTIAL PAYMENT OF LOSS CLAUSE

Appendix H

Strategic Plan

888 Beach Avenue
Major Maintenance and Renewals Schedule

Accuracy of Budget Cost Estimates:

1. Budget costs in this report are provided in both current year dollars(without inflation or escalation factors) and future year dollars(with inflation or escalation factors).
2. All budget costs are preliminary estimates intended for planning purposes and not for accounting use.
3. Actual costs will vary depending on several factors. The budget estimates assume economies of scale will be achieved by bundling work items together into larger projects. Small projects done individually may exceed the budget estimates.
4. Each project should include appropriate cost line-items when developing an overall project budget.
5. Labour and material costs are subject to the vagaries of the marketplace. At the time of tender, costs may vary depending on the time of the year and/or contractor availability.
6. The budget estimates must be updated over time and confirmed by competitive tender before any contracts are awarded.
7. Detailed repair specifications are required to be prepared in order to confirm scopes of work and costs.
8. Soft costs, such as consulting services and contingency allowances are not included in the budget estimates. Depending on the sizes, scope and timing of individual projects, the magnitude of the soft costs will vary.
9. Cost savings may be realized depending on the use of in-house labor or 3rd party-contractors.
10. The estimates do not include allowances for site specific access requirements and environmental concerns, which should be addressed on a project-by-project basis.
11. Consideration may sometimes need to be given to costs arising from the impact of projects on occupancy use and facility operations.

Asset Ref ID	Maint. Ref ID	Maintenance Description	Frequency	Current Cost	Next Event	Future Cost	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047		
STRUCTURAL																																						
FOUNDATIONS																																						
Struct 01	R01	Concrete foundation is durable and is not deemed to be a renewal asset.	75 Yrs	\$0	2067	\$0																																
WALLS & COLUMNS																																						
Struct 02	R02	Concrete walls and columns are durable and are not deemed to be renewable assets.	75 Yrs	\$0	2067	\$0																																
FLOORS & BEAMS																																						
Struct 03	R04	Concrete slabs are durable and are not deemed to be renewable assets.	75 Yrs	\$0	2067	\$0																																

Asset Ref ID	Maint. Ref ID	Maintenance Description	Frequency	Current Cost	Next Event	Future Cost	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047		
ENCLOSURE																																						
ROOFS & DECKS																																						
Encl 01	R01	Replace roof membrane assembly and associated components from 2012-2014 renewals.	30 Yrs	\$540,000	2041	\$830,000																								•								
Encl 01	R02	Replace roof membrane assembly and associated components from 2015-2018 renewals.	30 Yrs	\$540,000	2042	\$850,000																									•							
Encl 01	R03	Replace roof membrane assemblies and associated components from all previous renewals completed prior to 2012.	30 Yrs	\$180,000	2040	\$270,000																							•									
Encl 02	R01	Replace roof membrane assembly and associated components.	30 Yrs	\$120,000	2021	\$120,000				•																												
Encl 03	R01	Replace renewed podium areas at townhouse podium decks and planters. Some of the pavers and overburden may be salvageable.	30 Yrs	\$804,000	2042	\$1,300,000																									•							
Encl 03	R02	Replace podium membrane assembly and associated components. Some of the pavers and overburden may be salvageable.	30 Yrs	\$3,537,600	2021	\$3,700,000				•																												

888 Beach Avenue
Major Maintenance and Renewals Schedule

Asset Ref ID	Maint. Ref ID	Maintenance Description	Frequency	Current Cost	Next Event	Future Cost	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047		
ENCLOSURE																																						
Encl 04	J01	Clean soffit surfaces to remove atmospheric dirt, vegetative growth and other stains as required.	3 Yrs	\$0	2022	\$0					•			•			•			•		•			•						•			•				
Encl 04	R01	Clean and renew acrylic stucco finish coat as required.	10 Yrs	\$7,538	2022	\$8,000					•									•																		
Encl 04	R02	Replace stucco clad soffit and associated components.	40 Yrs	\$241,200	2040	\$370,000																							•									
FALL PROTECTION																																						
Encl 05	R01	Replace components of fall protection system, as required.	40 Yrs	\$30,000	2032	\$39,000															•																	
Encl 06	J02	Review guardrails for structural adequacy including attachments.	10 Yrs	\$5,000	2030	\$6,200													•										•									
Encl 06	R02	Replace or re-certify exterior guardrails in conjunction with balcony and deck replacements at Beach Tower.	40 Yrs	\$207,000	2040	\$310,000																							•									
Encl 06	R03	Replace or re-certify exterior guardrails in conjunction with balcony and deck replacements at Ocean and Garden Towers.	40 Yrs	\$207,000	2041	\$320,000																									•							
Encl 06	R04	Replace or re-certify original exterior guardrails in conjunction with remaining balcony, deck, and walkway replacements.	40 Yrs	\$103,500	2022	\$110,000					•																											
Encl 07	R02	Replace or re-certify exterior guardrails in conjunction with the podium replacement.	30 Yrs	\$174,000	2021	\$180,000				•																												
Encl 08	R01	Replace components of fall protection system, as required.	40 Yrs	\$20,000	2032	\$26,000															•																	
WALLS																																						
Encl 09	J02	Locally repoint mortar joints in clay masonry veneer wall, as required.	5 Yrs	\$21,920	2022	\$23,000					•					•					•					•					•				•			
Encl 09	R01	Phase 2: Replace sections of clay masonry veneer cladding along with associated flashing and sealants as required.	40 Yrs	\$596,772	2041	\$920,000																								•								
Encl 09	R01	Phase 3: Replace sections of clay masonry veneer cladding along with associated flashing and sealants as required.	40 Yrs	\$596,772	2042	\$940,000																									•							
Encl 09	R02	Phase 1: Replace sections of clay masonry veneer cladding along with associated flashing and sealants as required.	40 Yrs	\$596,772	2040	\$900,000																							•									
Encl 10	J01	Clean all exterior cladding surfaces, as required, to remove atmospheric dirt and other surface staining (cost includes brick and concrete wall assemblies).	3 Yrs	\$0	2022	\$0					•			•			•			•		•			•			•				•			•			
Encl 10	J02	Review all metal finishes. Touch up paint as required (cost includes corrugated metal panel walls).	2 Yrs	\$10,000	2022	\$11,000					•		•		•		•		•		•		•		•		•		•		•		•		•			
Encl 10	J03	Review exterior surfaces of the metal panels for signs of distress, such as corrosion, misalignment, discolouration.	2 Yrs	\$0	2022	\$0					•		•		•		•		•		•		•		•		•		•		•		•		•			
Encl 10	R01	Phase 3: Replace metal panels along with associated flashing, vents, and sealants.	40 Yrs	\$1,607,364	2042	\$2,500,000																									•							
Encl 10	R02	Phase 2: Replace metal panels along with associated flashing, vents, and sealants.	40 Yrs	\$1,607,364	2041	\$2,500,000																									•							
Encl 10	R03	Phase 1: Replace metal panels along with associated flashing, vents, and sealants.	40 Yrs	\$1,607,364	2040	\$2,400,000																							•									
Encl 11	J01	Repair of delaminated or spalled concrete should be carried out prior to recoating.	3 Yrs	\$3,750	2022	\$4,000					•			•			•			•		•			•			•				•			•			
Encl 11	R01	Reapplication of the protective coating as required, including preparation of the concrete substrate.	3 Yrs	\$27,000	2022	\$29,000					•			•			•			•		•			•			•				•			•			
Encl 11	R02	Concrete wall is durable and not deemed a renewable asset. Maintenance of the concrete substrate is required for the asset to achieve longevity.	75 Yrs	\$0	2067	\$0																																

888 Beach Avenue

Major Maintenance and Renewals Schedule

Asset Ref ID	Maint. Ref ID	Maintenance Description	Frequency	Current Cost	Next Event	Future Cost	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047
ENCLOSURE																																				
Encl 12	R01	Phase 3: Replace sheet metal cladding along with associated flashing and sealants.	40 Yrs	\$59,400	2042	\$94,000																														
Encl 12	R02	Phase 2: Replace sheet metal cladding along with associated flashing and sealants.	40 Yrs	\$59,400	2041	\$92,000																														
Encl 12	R03	Phase 1: Replace sheet metal cladding along with associated flashing and sealants.	40 Yrs	\$59,400	2040	\$90,000																														
GLAZING SYSTEMS																																				
Encl 13	J03	Replace insulating glazing units (IGUs) with condensation or misting between panes of glass (cost incorporates replacement of IGU's at all window asset types as required). IGU replacements are completed annually, paid from the Structural Fund (part of the annual operating budget). Therefore the annual cost is excluded from the Depreciation Report.	2 Yrs	\$0	2020	\$0																														
Encl 13	R01	Phase 3: Replace aluminum framed windows and associated components.	40 Yrs	\$3,392,400	2042	\$5,300,000																														
Encl 13	R02	Phase 2: Replace aluminum framed windows and associated components.	40 Yrs	\$3,392,400	2041	\$5,200,000																														
Encl 13	R03	Phase 1: Replace aluminum framed windows and associated components.	40 Yrs	\$3,392,400	2040	\$5,100,000																														
Encl 14	R02	Replace pressure cap skylight and associated components.	40 Yrs	\$88,750	2040	\$130,000																														
Encl 15	J02	Repoint mortar joints in glass block windows and complete localized repairs, as required.	5 Yrs	\$8,640	2022	\$9,200																														
Encl 15	R01	Phase 3: Replace glass block windows.	40 Yrs	\$77,220	2042	\$120,000																														
Encl 15	R01	Phase 2: Replace glass block windows.	40 Yrs	\$77,220	2041	\$120,000																														
Encl 15	R02	Phase 1: Replace glass block windows.	40 Yrs	\$77,220	2040	\$120,000																														
Encl 16	R02	Phase 3: Replace or refurbish curtain wall assembly.	40 Yrs	\$68,970	2042	\$110,000																														
Encl 16	R02	Phase 2: Replace or refurbish curtain wall assembly.	40 Yrs	\$68,970	2041	\$110,000																														
Encl 16	R03	Phase 1: Replace or refurbish curtain wall assembly.	40 Yrs	\$68,970	2040	\$100,000																														
Encl 17	R02	Phase 2: Replace storefront window system.	40 Yrs	\$44,880	2041	\$69,000																														
Encl 17	R02	Phase 3: Replace storefront window system.	40 Yrs	\$44,880	2042	\$71,000																														
Encl 17	R03	Phase 1: Replace storefront window system.	40 Yrs	\$44,880	2040	\$68,000																														
DOORS																																				
Encl 18	R01	Phase 3: Replace aluminum frame swing doors.	30 Yrs	\$14,784	2042	\$23,000																														
Encl 18	R01	Phase 2: Replace aluminum frame swing doors.	30 Yrs	\$14,784	2041	\$23,000																														
Encl 18	R02	Phase 1: Replace aluminum frame swing doors.	30 Yrs	\$14,784	2040	\$22,000																														
Encl 19	R01	Phase 3: Replace sliding glass doors and associated components.	30 Yrs	\$724,997	2042	\$1,100,000																														
Encl 19	R02	Phase 2: Replace sliding glass doors and associated components.	30 Yrs	\$724,997	2041	\$1,100,000																														
Encl 19	R03	Phase 1: Replace sliding glass doors and associated components.	30 Yrs	\$724,997	2040	\$1,100,000																														
Encl 20	R01	Repaint steel door finish.	8 Yrs	\$1,950	2030	\$2,400																														

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Major Maintenance and Renewals Schedule

Asset Ref ID	Maint. Ref ID	Maintenance Description	Frequency	Current Cost	Next Event	Future Cost	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047		
ENCLOSURE																																						
Encl 20	R03	Replace steel swing doors and frames.	25 Yrs	\$20,800	2021	\$22,000				•																								•				
Encl 21	R01	Replace metal clad swing doors.	30 Yrs	\$45,000	2021	\$47,000				•																												
Encl 22	R01	Repaint wood door and frame finish.	6 Yrs	\$7,000	2028	\$8,400											•						•						•					•				
Encl 22	R02	Replace newer (2014) wood swing doors.	25 Yrs	\$12,000	2039	\$18,000																						•										
Encl 22	R03	Replace wood swing doors.	25 Yrs	\$30,000	2021	\$31,000				•																								•				
Encl 23	R01	Replace fiberglass frame glazed swing door.	25 Yrs	\$36,000	2040	\$55,000																							•									
BALCONIES																																						
Encl 24	J01	Repair locally damaged and delaminated balcony membrane prior to re-application of top coat.	10 Yrs	\$16,900	2022	\$18,000					•										•																	
Encl 24	R01	Prepare and re-apply membrane top coat, as required.	10 Yrs	\$135,200	2022	\$140,000					•										•																	
Encl 24	R02	Replace exposed urethane balcony membrane and associated components on Beach Tower.	25 Yrs	\$484,800	2040	\$730,000																							•									
Encl 24	R03	Replace exposed urethane balcony membrane and associated components on Ocean and Garden Towers.	25 Yrs	\$326,400	2041	\$500,000																									•							
Encl 25	R01	Replace balcony tiled finish, including new waterproofing.	20 Yrs	\$240,000	2022	\$250,000					•																					•						
CANOPIES																																						
Encl 26	R01	Repaint exposed metal frame of canopy assemblies.	20 Yrs	\$5,500	2022	\$5,800					•																				•							
Encl 26	R02	Phase 2: Replace metal and glass canopy assembly.	40 Yrs	\$50,820	2041	\$79,000																								•								
Encl 26	R02	Phase 3: Replace metal and glass canopy assembly.	40 Yrs	\$50,820	2042	\$80,000																									•							
Encl 26	R03	Phase 1: Replace metal and glass canopy assembly.	40 Yrs	\$50,820	2040	\$77,000																						•										
PARKING GARAGE																																						
Encl 27	R02	Replacement of sectional overhead door and associated hardware.	25 Yrs	\$5,250	2022	\$5,600					•																								•			
Encl 28	R02	Concrete slab is durable and not deemed a renewable asset. Maintenance of the concrete substrate is required for the asset to achieve longevity.	75 Yrs	\$0	2067	\$0																																
Encl 29	R01	Replacement of sectional overhead door and associated hardware.	25 Yrs	\$15,600	2022	\$17,000					•																								•			
Encl 30	J01	Re-apply traffic demarcation striping and directional signage as required. Frequency will depend on traffic volume and other factors (cost includes slab on grade).	5 Yrs	\$8,000	2022	\$8,500					•				•						•						•					•						
Encl 30	J03	Repair damaged and delaminated membrane prior to re-application of top coat.	10 Yrs	\$81,264	2022	\$86,000					•										•											•						
Encl 30	R01	Re-apply membrane top coat in high traffic areas (e.g. drive aisles).	10 Yrs	\$211,625	2022	\$220,000					•										•											•						
Encl 30	R03	Prepare concrete surface and re-apply traffic-bearing membrane.	25 Yrs	\$1,015,800	2033	\$1,300,000																•																
GENERAL & INSPECTIONS																																						
Encl 31	R01	Locally replace sealants at interfaces between building enclosure assemblies, as required.	5 Yrs	\$25,104	2022	\$27,000					•					•					•					•					•					•		

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Major Maintenance and Renewals Schedule

Asset Ref ID	Maint. Ref ID	Maintenance Description	Frequency	Current Cost	Next Event	Future Cost	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047		
ENCLOSURE																																						
Encl 31	R02	Phase 3: Replace sealants at interfaces between building enclosure assemblies, and at penetrations through assemblies in accordance with sealant renewals plan.	20 Yrs	\$165,686	2042	\$260,000																									•							
Encl 31	R03	Phase 2: Replace sealants at interfaces between building enclosure assemblies, and at penetrations through assemblies in accordance with sealant renewals plan.	20 Yrs	\$165,686	2041	\$260,000																									•							
Encl 31	R04	Phase 1: Replace sealants at interfaces between building enclosure assemblies, and at penetrations through assemblies in accordance with sealant renewals plan.	20 Yrs	\$165,686	2040	\$250,000																								•								
Encl 32	J03	Update depreciation report.	3 Yrs	\$0	2022	\$0					•			•			•			•			•			•			•			•			•			
Encl 32	J08	Perform full condition assessment of all enclosure systems.	6 Yrs	\$25,000	2021	\$26,000				•						•						•						•						•				
Encl 32	R01	This is not a renewable asset.	75 Yrs	\$0	2067	\$0																																

Asset Ref ID	Maint. Ref ID	Maintenance Description	Frequency	Current Cost	Next Event	Future Cost	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047		
ELECTRICAL																																						
POWER SUPPLY																																						
Elec 01	J01	Clean away dust and other detritus. Vacuuming is the recommended method for cleaning. Special attention should be given to cooling ducts within the winding. Low pressure dry air can be used if care is taken to avoid driving the contamination into insulation.	3 Yrs	\$0	2019	\$0		•			•			•			•			•			•			•			•			•			•			
Elec 01	R01	Conduct infrared thermography and ultrasonic scanning tests on distribution transformers. Results may diagnose hidden hazards; contractor should provide certificate for insurance purposes. To be coordinated with maintenance activities.	5 Yrs	\$2,000	2022	\$2,100					•					•					•					•					•				•			
Elec 01	R02	Cyclical replacement of distributions transformers as required.	20 Yrs	\$60,000	2032	\$78,000															•																	
Elec 02	R01	Replace generator hoses.	10 Yrs	\$0	2022	\$0					•										•										•							
Elec 02	R02	Rebuild emergency generator, as required.	17 Yrs	\$15,000	2022	\$16,000					•																	•										
Elec 02	R03	Replace generator battery packs.	4 Yrs	\$0	2020	\$0			•				•				•				•				•				•				•					
Elec 02	R04	Replace emergency generator and transfer switch.	35 Yrs	\$120,000	2027	\$140,000										•																						
Elec 03	J01	Service shutdown event. Inspect, clean, and maintain all unit substation equipment (reference subsequent maintenance tasks). Vacuum to remove accumulated dust. Check oil levels of oil filled equipment.	5 Yrs	\$5,000	2022	\$5,300					•					•					•					•					•				•			
Elec 03	J02	Lubricate all moving contacts.	5 Yrs	\$0	2022	\$0					•					•					•					•					•				•			
Elec 03	J03	Perform mechanical tests in accordance with manufacturer guidelines to verify mechanical integrity of unit substation equipment and main secondary disconnects (e.g. check switches for correct operation and alignment; megger and verify equipment phase colours; inspect candles for damage or cracking, oil leakage and oil level for oil circuit breakers).	5 Yrs	\$0	2022	\$0					•					•					•					•					•				•			
Elec 03	J04	Calibrate electrical relays to match documented (or utility company) settings.	5 Yrs	\$0	2022	\$0					•					•					•					•					•				•			

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Major Maintenance and Renewals Schedule

Asset Ref ID	Maint. Ref ID	Maintenance Description	Frequency	Current Cost	Next Event	Future Cost	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	
ELECTRICAL																																					
Elec 03	J05	Prior to cleaning verify nameplate information; check insulator chips, cracks, and tracking; inspect lightning arrestors and visually inspect contacts and bus.	5 Yrs	\$0	2022	\$0					•					•					•					•					•					•	
Elec 03	J06	Verify that unit substation grounding network is adequate to ensure safety during work and while equipment is in operation.	5 Yrs	\$0	2022	\$0					•					•					•					•					•					•	
Elec 03	J07	Check tightness and torque all electrical connections. To be coordinated with 5-year system shutdown and cleaning.	5 Yrs	\$0	2022	\$0					•					•					•					•					•					•	
Elec 03	R01	Replace unit substation equipment.	35 Yrs	\$280,000	2027	\$330,000										•																					
Elec 04	R01	Replacement of oil storage tank (and addition of secondary containment).	15 Yrs	\$10,000	2022	\$11,000					•															•											
DISTRIBUTION																																					
Elec 05	J01	Check for any exposed wiring and visually inspect wiring, where accessible, for signs of distress. Repair as required.	2 Yrs	\$0	2020	\$0			•		•		•		•		•		•		•		•		•		•		•		•		•		•		
Elec 05	J02	Check raceways and cables for proper mechanical support, check insulation for abrasion or cracks at support points, examine raceway joints for clean and tight connections. Check busducts connections for proper tightness and evidence of overheating, corrosion, arcing or other deterioration. Clean and torque dirty and loose connections.	2 Yrs	\$0	2020	\$0			•		•		•		•		•		•		•		•		•		•		•		•		•		•		
Elec 05	R01	Conduct infrared thermography and ultrasonic scanning tests on all switchgear, distribution panels, cable and bus connections, and other critical equipment. Results may diagnose hidden hazards; contractor should provide certificate for insurance purposes. To be coordinated prior to planned maintenance to identify areas that require immediate attention. Tests should be conducted on energized equipment during peak demand periods if possible.	5 Yrs	\$3,000	2022	\$3,200					•					•					•					•					•					•	
Elec 05	R02	Cyclical replacement of components of the electrical distribution equipment, as required.	40 Yrs	\$300,000	2032	\$390,000															•																
LIGHT FIXTURES																																					
Elec 06	R02	Cyclical replacement of lighting controls (timers, motion sensors, etc.) as required.	6 Yrs	\$0	2022	\$0					•						•					•						•							•		
Elec 06	R04	Cyclical replacement of electronic ballasts and bulbs	10 Yrs	\$4,725	2022	\$5,000					•										•										•						
Elec 06	R05	Replace exterior light fixtures, as required, for aesthetic purposes, to match ballast replacement cycles, or technological obsolescence.	20 Yrs	\$45,000	2040	\$68,000																							•								
Elec 07	R02	Cyclical replacement of lighting controls (timers, motion sensors, etc.) as required.	6 Yrs	\$0	2022	\$0					•						•					•						•								•	
Elec 07	R04	Cyclical replacement of electronic ballasts.	10 Yrs	\$0	2022	\$0					•											•										•					
Elec 07	R05	Replace interior light fixtures, as required, for aesthetic purposes, to match ballast replacement cycles, or technological obsolescence.	20 Yrs	\$70,000	2024	\$77,000							•																			•					
Elec 08	R02	Cyclical replacement of lighting controls (timers, motion sensors, etc.) as required.	6 Yrs	\$0	2022	\$0					•						•					•						•								•	
Elec 08	R04	Cyclical replacement of electronic ballasts.	10 Yrs	\$0	2024	\$0							•									•											•				
Elec 08	R05	Replace interior light fixtures, as required, for aesthetic purposes, to match ballast replacement cycles, or technological obsolescence.	20 Yrs	\$50,000	2034	\$67,000																•															

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ELECTRICAL																																						
SECURITY																																						
Elec 09	R01	Replace enterphone panels, excluding field wiring.	25 Yrs	\$42,000	2042	\$66,000																																
Elec 10	R02	Install or modernize components of the proximity access control system, excluding field wiring, as required by technological obsolescence.	15 Yrs	\$103,600	2029	\$130,000												•																				
Elec 11	R01	Service the multiplex unit, update software as required.	5 Yrs	\$0	2021	\$0				•					•					•					•						•				•			
Elec 11	R02	Modernize components of the security surveillance system, excluding field wiring, as required by technological obsolescence.	14 Yrs	\$30,000	2030	\$37,000													•														•					

Asset Ref ID	Maint. Ref ID	Maintenance Description	Frequency	Current Cost	Next Event	Future Cost	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047		
MECHANICAL																																						
CONTROLS AND END DEVICES																																						
Mech 01	R01	Cyclical replacement of sensors and other field devices, as required.	3 Yrs	\$0	2022	\$0					•			•			•			•			•			•			•			•			•			
Mech 01	R02	Replace boiler control, as required.	15 Yrs	\$10,000	2022	\$11,000					•															•												
Mech 02	R01	Cyclical replacement of electronic actuator controls, as required.	10 Yrs	\$3,000	2022	\$3,200					•										•										•							
Mech 03	R01	Cyclical replacement of miscellaneous HVAC instrumentation, as required.	3 Yrs	\$500	2022	\$530					•			•			•			•			•			•			•			•			•			
Mech 04	R01	Cyclical replacement of gas detection sensors.	5 Yrs	\$1,500	2022	\$1,600					•					•					•					•					•					•		
PLUMBING & DRAINAGE																																						
Mech 05	J01	Check that pipe hangars are properly fastened and dissimilar metals are isolated from one another.	5 Yrs	\$0	2022	\$0					•					•					•					•					•					•		
Mech 05	J02	Check piping and supports for mechanical damage, proper clearance, adequate insulation, and labeling.	5 Yrs	\$0	2022	\$0					•					•					•					•					•					•		
Mech 05	J03	Check integrity of all soldered pipe connections and couplings.	5 Yrs	\$0	2022	\$0					•					•					•					•					•					•		
Mech 05	J04	Comprehensive third party testing and inspection of the copper domestic water distribution system.	20 Yrs	\$10,000	2020	\$10,000			•																													
Mech 05	R01	Replace components of domestic plumbing distribution system, including domestic valves. Extent and timing of renewal will be dependent on the third-party testing of the domestic water distribution piping recommended in tactical plan.	28 Yrs	\$2,072,000	2032	\$2,700,000															•																	
Mech 06	J01	Inspect brushes and remove brush dust from motor.	2 Yrs	\$0	2022	\$0					•		•		•		•		•		•			•		•		•		•		•		•		•		
Mech 06	R01	Replace motor bearings, pump bearings and seals. Inspect mounts and housing, repair as required.	7 Yrs	\$5,000	2020	\$5,100			•							•							•								•							
Mech 06	R02	Replace domestic booster pumps and motor control panel in Ocean Tower.	14 Yrs	\$10,000	2030	\$12,000													•														•					
Mech 06	R03	Replace domestic booster pumps and motor control panel in Beach Tower.	14 Yrs	\$10,000	2022	\$11,000					•														•													
Mech 07	R01	Cyclical replacement of buffer tanks, as required.	20 Yrs	\$5,000	2022	\$5,300					•																				•							

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MECHANICAL																																						
Mech 08	R01	Cyclical replacement of cross connection & back flow prevention valves, as required.	20 Yrs	\$10,000	2022	\$11,000					•																				•							
Mech 09	R01	Cyclical replacement of valves, as required.	20 Yrs	\$6,000	2032	\$7,800															•																	
Mech 10	J01	Tighten electrode mounting clamp.	2 Yrs	\$0	2024	\$0							•		•		•		•		•		•				•		•		•		•		•			
Mech 10	J02	Replace sacrificial anodes in storage tanks.	2 Yrs	\$0	2024	\$0							•		•		•		•		•		•				•		•		•		•		•			
Mech 10	J03	Replace nozzle assembly.	5 Yrs	\$0	2027	\$0										•					•									•					•			
Mech 10	R01	Cyclical replacement of gas fired domestic hot water heaters.	14 Yrs	\$51,000	2022	\$54,000					•														•													
Mech 11	J01	Insert video cameras into main lines to conduct pipe inspection.	5 Yrs	\$3,000	2022	\$3,200					•					•					•					•					•					•		
Mech 11	J02	Jetflush/auger lateral drain lines.	10 Yrs	\$4,000	2022	\$4,200					•										•										•							
Mech 11	R01	Repair components of sanitary drainage collection system, as required.	50 Yrs	\$30,000	2042	\$47,000																									•							
Mech 12	J01	By means of pipe camera service, visually inspect underground piping runs. Look for build up of silts and dirt fines, tree roots, and other obstructions. Look for standing water indicating saturated soil conditions or impermeable conditions. Jet flush or auger to suit.	5 Yrs	\$5,000	2022	\$5,300					•					•					•					•					•					•		
Mech 12	R01	Repair and/or replace components of storm water drainage collection system, as required.	40 Yrs	\$40,000	2032	\$52,000															•																	
Mech 13	R01	Cyclical replacement of bathroom fixtures, as required.	20 Yrs	\$5,000	2020	\$5,100			•																				•									
Mech 14	J01	Inspect brushes and remove brush dust from motor.	2 Yrs	\$0	2020	\$0			•		•		•		•		•		•		•		•		•		•		•		•		•		•			
Mech 14	R01	Cyclical replacement of recirculating pumps, as required.	8 Yrs	\$5,000	2022	\$5,300					•								•								•								•			
Mech 15	J01	Coat exposed shaft of impeller with anti-seize compound.	2 Yrs	\$0	2020	\$0			•		•		•		•		•		•		•		•		•		•		•		•		•		•			
Mech 15	R01	Overhaul sanitary sump pumps.	5 Yrs	\$0	2022	\$0					•					•					•					•					•					•		
Mech 15	R02	Cyclical replacement of sump pumps.	15 Yrs	\$8,000	2033	\$11,000																•																
Mech 16	J01	Coat exposed shaft of impeller with anti-seize compound.	2 Yrs	\$0	2020	\$0			•		•		•		•		•		•		•		•		•		•		•		•		•		•			
Mech 16	R01	Overhaul storm sump pumps.	5 Yrs	\$0	2022	\$0					•					•					•					•					•					•		
Mech 16	R02	Cyclic replacement of sump pump storm lift and control panels.	15 Yrs	\$12,000	2033	\$16,000																•																
Mech 17	J01	Dismantle, inspect, and clean tube bundle on immersion heating tanks.	5 Yrs	\$0	2023	\$0						•					•					•					•					•						
Mech 17	J02	Replace anode rods in hot water heaters.	5 Yrs	\$0	2023	\$0						•					•					•					•					•						
Mech 17	R01	(Cyclical) replacement of domestic hot water storage tanks.	8 Yrs	\$67,500	2026	\$78,000									•								•								•							
Mech 18	R01	Cyclical replacement of fittings and valves, as required.	20 Yrs	\$66,030	2042	\$100,000																									•							
HEATING & COOLING																																						
Mech 19	R01	Cyclic replacement of heating boilers, as required.	20 Yrs	\$120,000	2032	\$160,000															•																	
Mech 20	R01	Cyclical replacement of components of water treatment equipment.	8 Yrs	\$2,000	2024	\$2,200							•								•								•									
Mech 21	R01	Replace plate type heat exchangers.	20 Yrs	\$4,000	2038	\$5,800																					•											
Mech 22	J01	Check fitting for leakage and condensation. Tighten fittings.	2 Yrs	\$0	2020	\$0			•		•		•		•		•		•		•		•		•		•		•		•		•		•			

888 Beach Avenue
Major Maintenance and Renewals Schedule

Asset Ref ID	Maint. Ref ID	Maintenance Description	Frequency	Current Cost	Next Event	Future Cost	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047		
MECHANICAL																																						
Mech 22	R01	Cyclical replacement of valves, as required.	20 Yrs	\$20,000	2026	\$23,000									•																			•				
Mech 23	R01	Cyclic replacement of diaphragm heating expansion tanks, as required.	20 Yrs	\$1,500	2022	\$1,600					•																				•							
Mech 24	R01	Cyclical replacement of valves, as required.	20 Yrs	\$6,000	2022	\$6,400					•																				•							
Mech 25	R01	Replacement of components of split system AC as required.	15 Yrs	\$10,000	2033	\$13,000																•																
Mech 26	R01	Replace wall cap and guard. May require fabrication or restoration due to obsolete replacement parts. Must integrate with listed firebox assembly.	20 Yrs	\$5,000	2022	\$5,300					•																				•							
Mech 27	J01	Check that circuit breakers for electric baseboard heaters are properly labeled for maintenance and servicing.	3 Yrs	\$0	2022	\$0					•			•			•			•			•			•			•			•			•			
Mech 27	J02	Inspect baseboard heaters for signs of distress, such as detachment from the wall substrate, impact damage, loose connections, and potential hazards.	2 Yrs	\$0	2022	\$0					•		•		•		•		•		•		•		•		•		•		•		•		•			
Mech 27	R01	Cyclical replacement of electric baseboard heaters, as required.	40 Yrs	\$5,000	2032	\$6,500															•																	
VENTILATION AND AIR-CONDITIONING																																						
Mech 28	R01	Cyclical replacement of motors, fan blades and bearings on supply and exhaust fans, as required.	3 Yrs	\$0	2020	\$0			•			•			•			•			•			•			•			•			•			•		
Mech 28	R02	Rebuild of fan, as required.	20 Yrs	\$16,000	2022	\$17,000					•																				•							
Mech 29	R01	Cyclical replacement of failed or damaged general purpose exhaust fans, as required.	12 Yrs	\$1,500	2022	\$1,600					•											•													•			
Mech 30	J01	Motor mount - Inspect for damage, cracks, or corrosion.	2 Yrs	\$0	2022	\$0					•		•		•		•		•		•		•		•		•		•		•		•		•			
Mech 30	J02	Conduct measurements and assessment of indoor air quality (IAQ) to ensure that desirable levels are being attained.	5 Yrs	\$0	2022	\$0					•				•				•		•					•				•					•			
Mech 30	R01	Cyclical replacement of pulleys and motors and vibration isolation, as required.	8 Yrs	\$0	2030	\$0												•									•								•			
Mech 30	R02	Cyclical rebuild or replacement of make-up air units.	20 Yrs	\$50,000	2022	\$53,000					•																				•							
Mech 31	J01	Motor mount - Inspect for damage, cracks, or corrosion.	2 Yrs	\$0	2022	\$0					•		•		•		•		•		•		•		•		•		•		•		•		•			
Mech 31	J02	Conduct measurements and assessment of indoor air quality (IAQ) to ensure that desirable levels are being attained.	5 Yrs	\$0	2022	\$0					•				•				•		•					•				•					•			
Mech 31	R01	Cyclical replacement of pulleys and motors and vibration isolation, as required.	8 Yrs	\$0	2022	\$0					•							•									•								•			
Mech 31	R02	Cyclical rebuild or replacement of make-up air units.	25 Yrs	\$25,000	2042	\$39,000																									•							
Mech 32	R01	Cyclical rebuild or replacement of dehumidification unit.	20 Yrs	\$15,000	2022	\$16,000					•																				•							
Mech 33	J01	Motor mount - Inspect for damage, cracks, or corrosion.	2 Yrs	\$0	2022	\$0					•		•		•		•		•		•		•		•		•		•		•		•		•			
Mech 33	J02	Conduct measurements and assessment of indoor air quality (IAQ) to ensure that desirable levels are being attained.	5 Yrs	\$0	2022	\$0					•				•				•		•					•				•					•			
Mech 33	R01	Cyclical replacement of pulleys and motors and vibration isolation, as required.	8 Yrs	\$0	2030	\$0												•									•								•			
Mech 33	R02	Rebuild air make-up units.	20 Yrs	\$5,000	2022	\$5,300					•																				•							
OTHER																																						
Mech 34	R01	Replace motor and drive unit.	7 Yrs	\$10,000	2020	\$10,000			•						•							•							•									
Mech 35	R01	Replace sections of the trash chute, as required.	30 Yrs	\$20,000	2022	\$21,000					•																											

888 Beach Avenue
Major Maintenance and Renewals Schedule

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ELEVATOR																																						
TRACTION																																						
Elev 01	J01	Check and test the overload devices.	2 Yrs	\$0	2020	\$0			•		•		•		•		•		•		•		•		•		•		•		•		•		•			
Elev 01	J02	With test weights, load each elevator to contract capacity and operate the elevator in both directions, making single and two floor runs as well as runs for the full travel.	2 Yrs	\$0	2020	\$0			•		•		•		•		•		•		•		•		•		•		•		•		•		•			
Elev 01	J03	Conduct full load performance test.	2 Yrs	\$0	2020	\$0			•		•		•		•		•		•		•		•		•		•		•		•		•		•			
Elev 01	R01	Replace, repair, or upgrade the following elevator components for code compliance, reliability, accessibility, and safety; firefighter key switches, car door restrictor, hall door retainers, hall door unblocking devices, barrier free upgrades, car top railings, and equipment guarding, as per the recommendations of the 2018 Elevator Maintenance Inspection performed by KJA Consultants Inc. Also included are allowances for vandalism and code changes.	100 Yrs	\$322,000	2020	\$330,000			•																													
Elev 01	R02	Replace elevator machines, controls and drive systems.	30 Yrs	\$1,320,000	2023	\$1,400,000						•																										
HYDRAULIC																																						
Elev 02	R01	Replace handicap lift.	30 Yrs	\$35,000	2023	\$38,000						•																										
CAR INTERIORS																																						
Elev 03	R03	Replace door operator, operating fixtures, upgrade cab interior.	30 Yrs	\$270,000	2023	\$290,000						•																										
Asset Ref ID	Maint. Ref ID	Maintenance Description	Frequency	Current Cost	Next Event	Future Cost	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047		
FIRE SAFETY																																						
FIRE SAFETY																																						
Fire 01	R01	Replace damper operators and seals.	20 Yrs	\$45,000	2022	\$48,000					•																			•								
CONTROLS																																						
Fire 02	J01	Replace battery packs for fire alarm control panels.	5 Yrs	\$1,600	2022	\$1,700					•					•					•					•				•					•			
Fire 02	R01	Replace battery packs.	5 Yrs	\$1,000	2022	\$1,100					•					•					•					•				•					•			
Fire 02	R02	Replace fire alarm annunciator panel, excluding field wiring and field devices near the north elevation parkade entry gate.	30 Yrs	\$30,000	2036	\$42,000																			•													
Fire 02	R03	Replace fire alarm annunciator panels and control panel, excluding field wiring and field devices.	30 Yrs	\$180,000	2022	\$190,000					•																											
DETECTION																																						
Fire 03	R01	Cyclical replacement of speakers, heat detectors, smoke detectors and related modules, excluding field wiring.	10 Yrs	\$100,000	2022	\$110,000					•										•										•							
SUPPRESSION																																						
Fire 04	R01	Replace fire sprinkler compressor.	14 Yrs	\$2,000	2020	\$2,000			•															•														

888 Beach Avenue
Major Maintenance and Renewals Schedule

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FIRE SAFETY																																						
Fire 05	J01	Conduct flow test and pipe line condition (flushing) test to NFPA25.	5 Yrs	\$0	2022	\$0					•					•					•					•				•					•			
Fire 05	J02	Sprinkler Heads - Test extra high temperature on sprinkler heads.	5 Yrs	\$0	2022	\$0					•					•					•					•				•					•			
Fire 05	R01	Phased replacement of sprinkler zone control valves, as required.	20 Yrs	\$0	2022	\$0					•																			•								
Fire 05	R02	Renew compromised portions of piping, gaskets, connections, valves, devices and trim to maintain required function.	5 Yrs	\$0	2022	\$0					•					•					•					•				•					•			
Fire 05	R03	Replace all heads, or submit representative sample of heads for testing by a recognized testing agency at the 50th anniversary, to the satisfaction of the authority having jurisdiction, in accordance with NFPA 25.	10 Yrs	\$0	2042	\$0																								•								
Fire 05	R04	Replace entire system including risers, branch piping, valves, heads, swaybracing, and all related trim, back to Sprinkler Room.	100 Yrs	\$440,200	2092	\$0																																
Fire 06	J01	Conduct flow test.	5 Yrs	\$0	2022	\$0					•					•					•					•					•					•		
Fire 06	R01	Replace jockey pump.	12 Yrs	\$2,000	2022	\$2,100					•											•												•				
Fire 06	R02	Rebuild fire pump.	15 Yrs	\$5,000	2037	\$7,100																			•													
Fire 06	R03	Replace fire pump and motor control centre.	30 Yrs	\$27,000	2022	\$29,000					•																											
Fire 07	J01	Conduct hydrotest on fire extinguishers.	12 Yrs	\$0	2026	\$0									•												•											
Fire 07	R01	Cyclical replacement of fire extinguishers.	12 Yrs	\$8,000	2038	\$12,000																					•											
Fire 08	J01	Sprinkler Piping - Conduct flow test and pipe line condition (flushing) test to NFPA25.	5 Yrs	\$0	2022	\$0					•					•					•					•				•						•		
Fire 08	J02	Sprinkler Heads - Test extra high temperature on sprinkler heads.	5 Yrs	\$0	2022	\$0					•					•					•					•				•						•		
Fire 08	R01	Replace all heads, or submit representative sample of heads for testing by recognized testing agency at the 50th anniversary, to the satisfaction of the authority having jurisdiction, in accordance with NFPA 25.	10 Yrs	\$0	2042	\$0																								•								
Fire 08	R02	Replace damaged sprinkler heads, hangers and leaking gaskets, cages, sway-braces, drains, etc. as required.	5 Yrs	\$0	2022	\$0					•					•					•					•				•						•		
Fire 08	R03	Replace entire system including risers, branch piping, valves, heads, swaybracing, and all related trim, back to Sprinkler Room.	100 Yrs	\$229,100	2092	\$0																																
Fire 09	R01	Phased replacement of sprinkler zone control valves, as required.	20 Yrs	\$0	2022	\$0					•																				•							
Fire 09	R02	Replace gaskets in dry sprinkler valves.	20 Yrs	\$0	2022	\$0					•																				•							
Fire 09	R03	Rebuild dry sprinkler valves.	20 Yrs	\$4,000	2022	\$4,200					•																				•							
Fire 09	R04	Replace sprinkler valves, as required.	40 Yrs	\$12,000	2032	\$16,000															•																	
EGRESS																																						
Fire 10	R01	Cyclical replacement of batteries and lamps in DC battery packs.	5 Yrs	\$0	2022	\$0					•					•					•					•					•					•		
Fire 10	R02	Cyclical replacement of exit signs.	15 Yrs	\$60,000	2022	\$64,000					•															•												

888 Beach Avenue

Major Maintenance and Renewals Schedule

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INTERIOR FINISHES																																						
FLOORS																																						
Finish 01	J01	Recolour or replace tile grout as required.	12 Yrs	\$0	2044	\$0																																
Finish 01	R01	Renew porcelain tile floor.	40 Yrs	\$88,000	2032	\$110,000															•																	
Finish 02	R01	Replace resilient flooring.	20 Yrs	\$7,100	2033	\$9,400																•																
Finish 03	R01	Renew carpet.	15 Yrs	\$130,400	2024	\$140,000							•														•											
Finish 04	J02	Recolour or replace tile grout as required.	12 Yrs	\$0	2022	\$0					•																							•				
Finish 04	R01	Renew tile floors in pool area and washrooms.	40 Yrs	\$52,500	2019	\$53,000		•																										•				
Finish 04	R02	Renew stone floor tile in parkade vestibules, as required.	40 Yrs	\$33,000	2032	\$43,000															•																	
Finish 05	R01	Replace wood flooring, as required (Beach Tower).	20 Yrs	\$4,225	2042	\$6,700																										•						
Finish 05	R02	Replace wood flooring, as required (Ocean Tower).	20 Yrs	\$4,225	2024	\$4,700							•																					•				
Finish 06	R02	Repaint concrete floor surfaces. Repaint faded stair tread safety markings, as required.	8 Yrs	\$36,000	2024	\$40,000							•								•								•									
Finish 07	R01	Renew faux marble columns, as required.	40 Yrs	\$10,000	2032	\$13,000															•																	
WALLS																																						
Finish 08	R01	Replace fabric wall covering.	25 Yrs	\$104,400	2024	\$120,000							•																									
Finish 09	R01	Replace mirrored wall, as required.	40 Yrs	\$8,700	2032	\$11,000															•																	
Finish 10	R01	Replace grout and sealant at stone wall tiles, as required.	10 Yrs	\$0	2029	\$0												•										•										
Finish 10	R02	Replace sections of stone wall finish, as required.	35 Yrs	\$10,440	2019	\$10,000		•																														
Finish 11	R01	Locally repaint interior wall in high traffic area, as required.	5 Yrs	\$13,531	2037	\$19,000																				•					•							
Finish 11	R02	Repaint wall surface including preparation of substrate.	15 Yrs	\$64,950	2032	\$84,000															•														•			
Finish 12	R01	Replace wood paneling.	40 Yrs	\$19,600	2032	\$25,000															•																	
ARCHITECTURAL WOODWORK																																						
Finish 14	R01	Replace sections of damaged baseboard, molding, and casing, as required.	40 Yrs	\$9,000	2032	\$12,000															•																	
Finish 15	R01	Replace damaged components of carpentry and millwork, as required.	40 Yrs	\$9,600	2032	\$12,000															•																	
DOORS																																						
Finish 16	R01	Locally replace interior swing door as required.	40 Yrs	\$69,900	2032	\$90,000															•																	
Asset Ref ID	Maint. Ref ID	Maintenance Description	Frequency	Current Cost	Next Event	Future Cost	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047		
AMENITIES																																						
EQUIPMENT																																						
Amen 01	R01	Replace components of electronic equipment.	6 Yrs	\$3,000	2022	\$3,200					•						•						•						•						•			

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Major Maintenance and Renewals Schedule

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AMENITIES																																						
Amen 02	R01	Replace domestic appliances.	15 Yrs	\$3,000	2022	\$3,200					•															•												
Amen 03	R01	Replace components of fitness equipment, as required.	10 Yrs	\$10,000	2026	\$11,000									•										•										•			
FURNISHINGS																																						
Amen 04	R01	Replace central mail boxes as required.	40 Yrs	\$20,000	2032	\$26,000															•																	
Amen 05	R01	Replace Office furniture and associated component.	15 Yrs	\$50,000	2032	\$65,000															•														•			
Amen 06	R01	Replace damaged and outdated signage, as required.	40 Yrs	\$10,000	2032	\$13,000															•																	
POOL, SPA & SAUNA																																						
Amen 07	R01	Replace heating element.	7 Yrs	\$2,000	2024	\$2,200							•							•								•							•			
Amen 07	R02	Refurbish sauna interior finish and element.	20 Yrs	\$10,000	2032	\$13,000															•																	
Amen 08	J01	Replace bulbs and gaskets in pool and spa lights.	2 Yrs	\$0	2021	\$0				•		•		•		•		•		•		•		•		•		•		•		•		•				
Amen 08	R01	Refinish interior surface of pool and spa tank.	30 Yrs	\$18,000	2047	\$31,000																														•		

Asset Ref ID	Maint. Ref ID	Maintenance Description	Frequency	Current Cost	Next Event	Future Cost	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047		
SITEWORK																																						
HARD LANDSCAPING																																						
Site 01	R03	Replace interlocking pavers at time of podium renewal as required.	40 Yrs	\$468,750	2021	\$490,000				•																												
Site 02	J01	Drain pond and visually review the surface of the membrane, paying close attention to all penetration locations for signs of distress, such as ridges, cracks, and delamination. Clean as required.	5 Yrs	\$0	2020	\$0			•						•					•										•					•			
Site 02	R01	Replacement of pond liner.	15 Yrs	\$60,000	2021	\$62,000				•															•													
Site 03	R01	Replacement of components of circulation & filtration system.	10 Yrs	\$5,000	2021	\$5,200				•										•										•								
Site 04	R01	Replace glass block windows.	30 Yrs	\$52,000	2021	\$54,000				•																												
Site 05	R01	Repaint outdoor furnishing, as required.	5 Yrs	\$1,000	2027	\$1,200										•					•					•					•					•		
Site 05	R02	Replace outdoor furniture, as required.	5 Yrs	\$10,000	2021	\$10,000				•					•						•					•				•					•			
Site 06	R03	Replace poured in place concrete paving for podium renewal as required.	40 Yrs	\$20,400	2021	\$21,000				•																												
Site 07	R01	Replace groundskeeping equipment, as required.	20 Yrs	\$20,000	2030	\$25,000													•																			
Site 08	R01	Replace tiles previously renewed circa 2013.	25 Yrs	\$18,000	2038	\$26,000																					•											
Site 08	R02	Replacement of original tiles.	25 Yrs	\$30,000	2021	\$31,000				•																									•			
SOFT LANDSCAPING																																						
Site 09	J01	Replace the back-up battery in the timer/controller.	2 Yrs	\$0	2020	\$0			•		•		•		•		•		•		•		•		•		•		•		•		•		•			
Site 09	R01	Cyclical replacement of components of irrigation sprinkler system, as required.	30 Yrs	\$40,000	2021	\$42,000				•																												

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SITework																																						
Site 10	R01	Renovate sections of the soft landscaping, as required.	30 Yrs	\$1,212,000	2021	\$1,300,000				•																												