RDH
Making Buildings Better

rdh.com

Depreciation Report | Project 7671.00

Chateau Comox, 1272 Comox Street, Vancouver, BC

To The Owners, Strata Plan LMS280
c/o Mr. Kevin Green, Property Manager
Southview Property Management Inc.
110, 7580 River Road
Richmond BC V6X 1X6

Site Visit April 10, 2014
Submitted January 23, 2015 by
RDH Building Engineering Ltd.
224 W 8th Avenue
Vancouver BC V5Y 1N5

Contents

Appendices

1 Introduction

RDH Building Engineering Ltd. (RDH) was retained by The Owners, Strata Plan LMS280 (the Owners) to prepare a Depreciation Report (the Report) for the building known as Chateau Comox, located at 1272 Comox Street, Vancouver, BC. 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 roofs, domestic water piping, and elevators).

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 at RDH and the Owners.

A site visit was completed on April 10, 2014, and the financial data is based on the 2014/2015 fiscal year. A draft version of the Report was distributed to the strata management on June 27, 2014, and the Report was presented to the council on September 23, 2014. Feedback from the council was incorporated into the Report, and the final Report was issued on January 23, 2015.

The Report is a synopsis of many hundreds of pages of data and has two parts: the summary and the appendices. The summary is intended to provide an overview of the Report, and the appendices provide detailed information to support the summary. 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 Services (BAMS) software, posted on a secure website. The data is owned by the Strata Corporation and can be printed and/or exported on request. RDH has developed the interactive software tool to enable Owners to proactively manage their funding requirements and maintenance obligations, and a variety of other services in addition to the Report are available.

As the physical and financial status of the Assets changes, 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 to reflect changes to their financial status and completed work more frequently at their discretion.

2 Chateau Comox

Chateau Comox is a 23 year old residential building of cast-in-place concrete construction with steel stud infill walls.

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

Key physical parameters of Chateau Comox are summarized in Table 2.1.

TABLE 2.1 KEY PHYSICAL PARAMETERS

Figure 2.1 South elevation

Year of construction/first occupancy (approximate)	1992
Approximate gross floor area, including the parkade (ft^2)	38,700
Total Area of Unit Entitlement	1,972
Stories above grade	8
Total number of strata lots	21

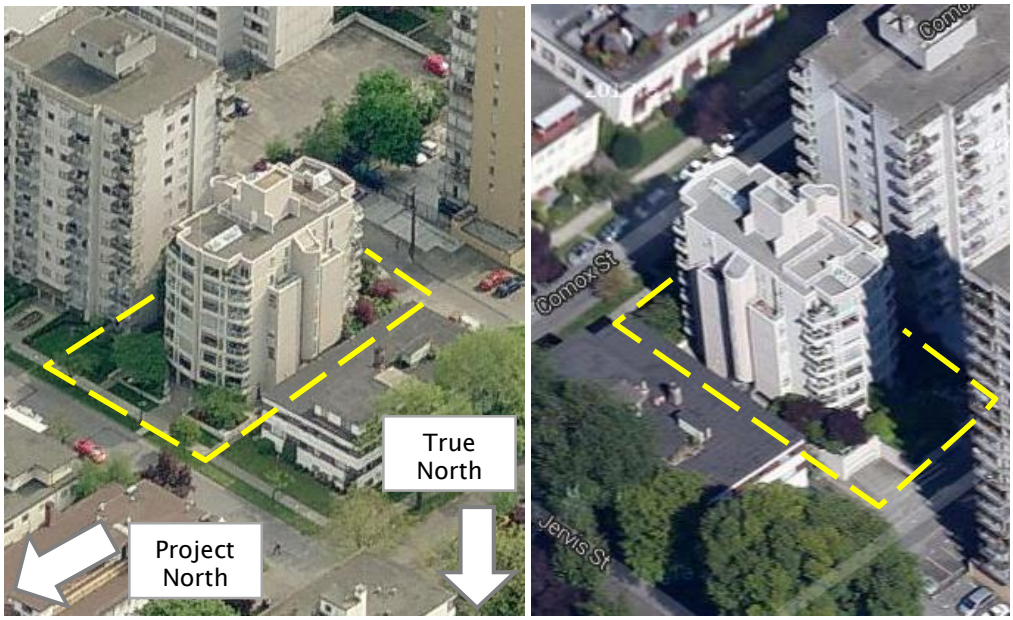


Figure 2.2 Aerial views of Chateau Comox (©2014 Microsoft Corp, Pictometry Bird's Eye © 2012 MDA Geospatial Services Inc.).

Chateau Comox has replaced of portions of the undrained stucco clad walls in two separate phases. Phase 1 was completed in 1999, and included new drained (also known as rainscreen) stucco cladding primarily on the east and west elevation walls. Phase 2 was completed in 2009 portions and included new drained stucco primarily on the north and south elevation walls, and new undrained (face-sealed) stucco walls at protected balcony walls. On all elevations, some areas of original undrained cladding remain.

Figures 2.3 and 2.4 below illustrate with colour-coding the different areas of stucco cladding on two sample elevations.

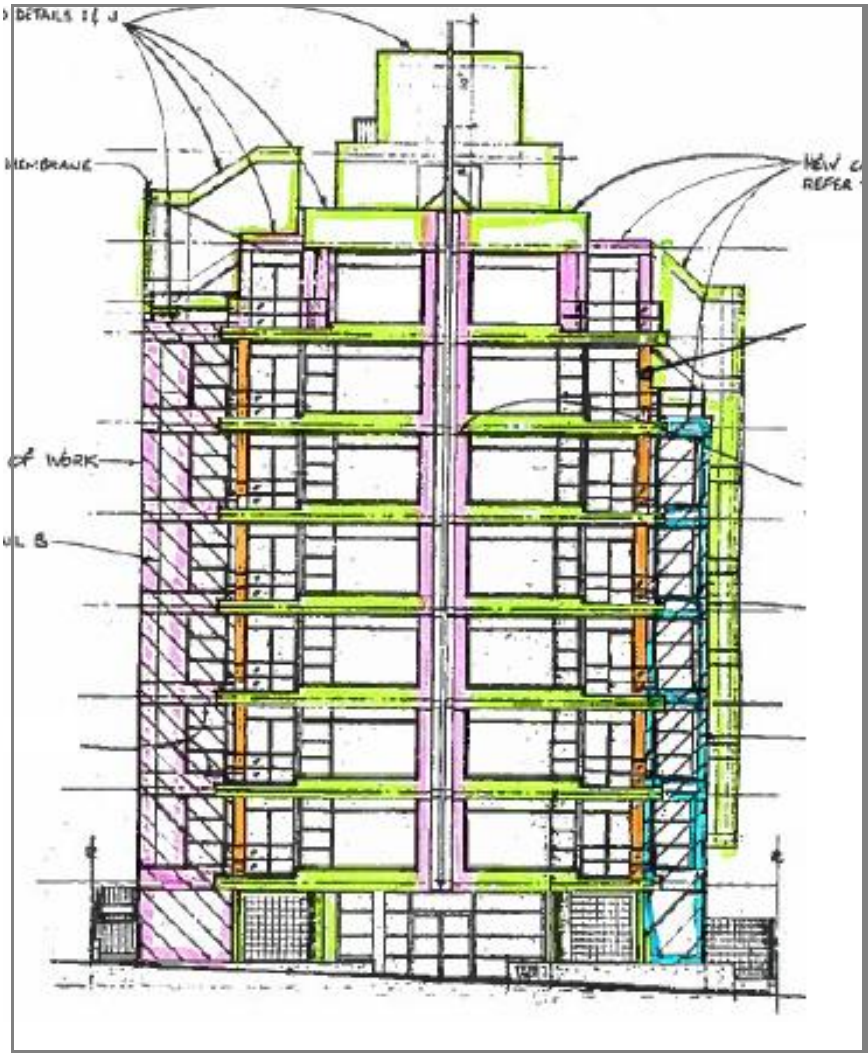


Figure 2.3

North elevation with areas of stucco cladding identified.

Legend:

- *Stucco – Drained (2009)*
- *Stucco – Undrained (2009)*
- *Stucco – Drained (1999)*
- *Concrete Wall with Acrylic Finish*

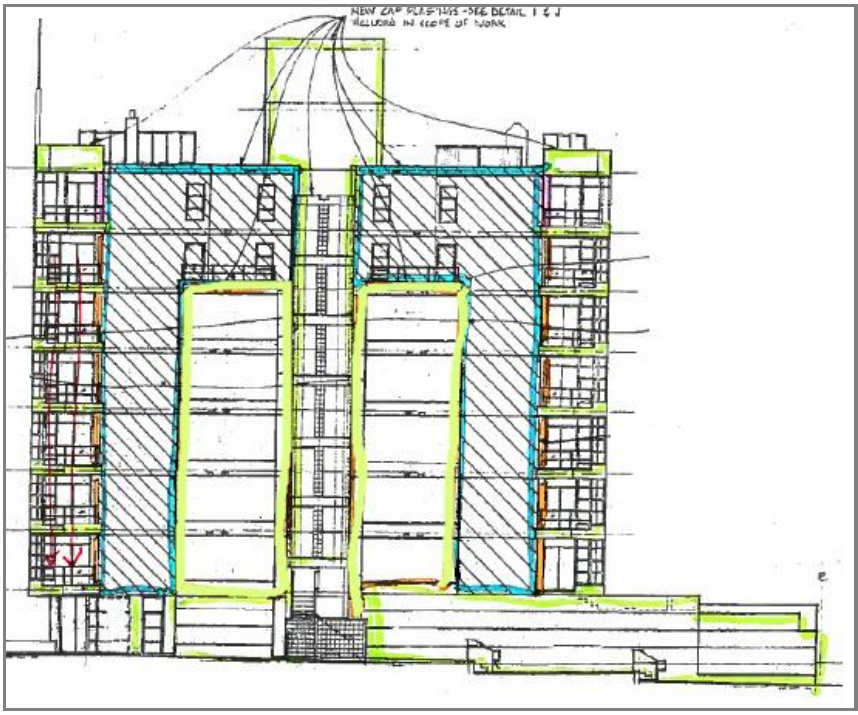


Figure 2.4

West elevation with areas of stucco cladding identified.

Legend:

- *Stucco – Undrained (Original)*
- *Stucco – Drained (1999)*
- *Concrete Wall with Acrylic Finish*

3 Assessments

Depreciation Reports 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 is summarized in Figure 3.1 below:

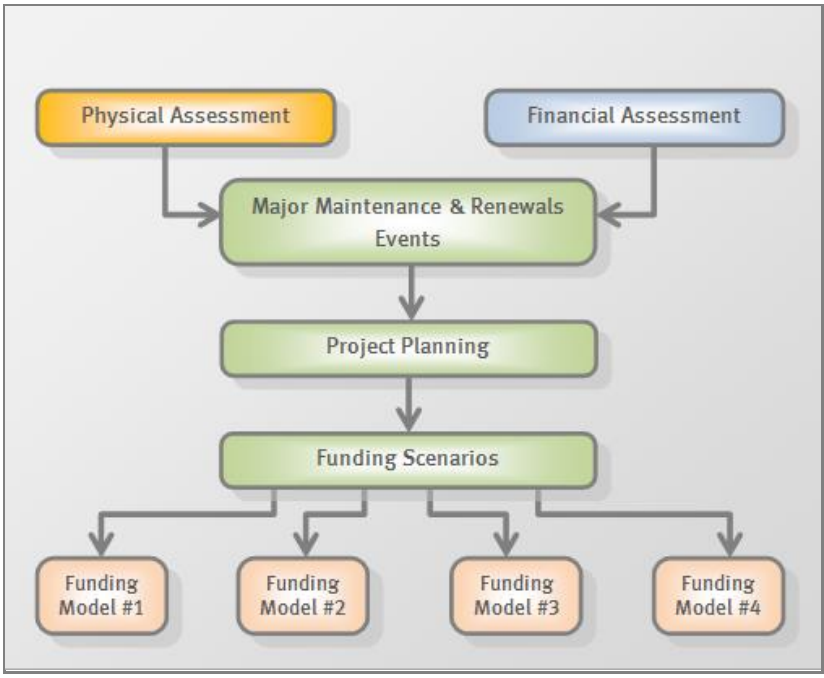


Figure 3.1

Depreciation Report Process

Funding models are built based on the strategic plan (30 years).

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, invoices, and the general ledger,

→ discussions with Strata Corporation representatives,

→ a visual review of the building/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.

Failure of some Assets may be concealed, for example, buried infrastructure such as sanitary drainage lines or building enclosure assets such as behind 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 establishes the chronological age of the Assets.

TABLE 3.1 MAINTENANCE AND RENEWALS HISTORY

Building Enclosure

→ 2013 – Localized repairs to deteriorated wall flashings on northwest corner of the building at floors 1 to 4.

→ 2013 – Power washing of building exterior

→ 2013 – Painting of parkade overhead door

→ 2012 – Commissioning of Building Envelope Condition Survey by Spratt Emanuel

→ 2011 – Replacement of metal grating on parkade overhead door

→ 2010 – Commissioning of 12-Month Warranty Review by Spratt Emanuel

→ 2009 – Replacement of stucco cladding and windows on north and south elevations, and deck on 8th floor east side (including replacement of sliding doors on north elevation units). Replacement of sliding doors on north elevation balconies (living room access) and south elevation (level 8 only). Recoating of balcony membranes on north elevation (all) and south elevation (8th floor only).

→ 2008 – Replacement of low-sloped roof and decks, including flashings and pavers

→ 2007 – Commissioning of Building Envelope Leak Investigation by Spratt Emanuel

→ 1999 – Replacement of stucco cladding on east and west elevations

→ 1999 – Replacement of deck membranes on 7th floor, including flashings

Mechanical → 2014 – Replacement of parkade gate motor → 2013 – Powerflushing of sanitary lines → 2012 – Replacement of water circulation pump → 2011 – Epoxy relining of domestic water distribution system → 2006/2007 – Replacement of domestic hot water heaters → 2004 (to be confirmed) – Replacement of parkade overhead door motor → On-going – Cyclical replacement of valves, pumps, etc.	Electrical → 2014 – Installation of battery charger for emergency generator → 2009 – Replacement of exterior light fixtures in conjunction with stucco replacement → 2011 – Replacement of proximity access control receiving unit Elevator → 2010 – Keying of elevator at 6th floor in conjunction with installation of metal gates → 2006 – Replacement of finishes in elevator cab, including walls, mirrors, and flooring
Interior Finishes → 2014 – Repainting of vestibules from lobby to P1; east stairs; parkade to laneway doors; garbage room doors → 2012 – Repainting of walls and replacement of carpet in various hallways → 2003 – Replacement of lobby carpet and wall tiles → 2002 (to be confirmed) – Replacement of hallway carpets at levels 3-5.	Fire Safety → 2013 – Replacement of relays in fire alarm panel → 2013 – Replacement of dry sprinkler compressor' → 2010 – 6th floor converted to cross over floor → 2008 – Replacement of various fire extinguishers → Ongoing – Cyclical replacement of fire detection and initiation devices and emergency egress equipment
Amenities → 2011, 2013 – Acquisition of various used tables and chairs	Sitework → 2010 – Installation of aluminum metal gates and enclosures at east and west stairwell exits

On April 10, 2014, a representative of RDH Building Engineering Ltd. visited the site to visually review the Assets. While the Depreciation Report 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.

TABLE 3.2 OBSERVATIONS BY SYSTEM	
SYSTEM	OBSERVATION
Building Enclosure	→ Wall areas on the north and south elevations are protected from wetting by balcony overhangs. Wall areas on the upper levels as well as on the

TABLE 3.2 OBSERVATIONS BY SYSTEM	
SYSTEM	OBSERVATION
	east and west elevations do not have overhang protection, and are more exposed to wetting. → In the past, the Strata has adopted a phased approach to replacement of stucco cladding, windows, and sliding doors due to leakage and livability. → Deterioration of the painted coating on the steel stairs and doors at the rooftop level was observed during the time of the review. The steel is corroding and will require replacement if not maintained. → The Strata has an annual insulated glazing unit (IGU) replacement program. → The Strata has reported on-going leakage into the exercise room at the east stairwell, north wall. A solution is currently being investigated.
Electrical	→ T12 fluorescent fixtures are installed throughout the parkade; the Strata has obtained a quote to replace the interior light fixtures. → The building is served by an emergency generator, located at the south east corner of the site.
Mechanical	→ The copper domestic water distribution piping was epoxy lined in 2011. → The building contains central hot water heaters in the rooftop mechanical room; the Strata is considering replacement of hot water tank heaters with instantaneous boilers. (Please note- the Depreciation Report only considers like-for-like replacement, and does not consider the cost for upgrades). → The ceiling supply fan in the exercise (storage) room was never commissioned for service and is not operation. → Gas fireplaces are only located in units on floors 6-8.
Fire Safety	→ The original fire panel is still in place, and while functioning, is considered technologically obsolete. Technological obsolescence increases the difficulty in obtaining replacement components and servicing the equipment. As the panel ages, there is an increased risk of problems. Technological obsolescence makes addressing those problems more challenging.
Interior Finishes	→ Finishes in various hallways have been updated by suite residents so there are a variety of ages. → The exercise (storage) room was completed at the time of construction, however the carpet was removed due to leakage and not replaced, and the ceiling tiles were removed and used elsewhere in the building.

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 opening 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 building in similar materials, in accordance with current market prices.

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	2013/2014 FISCAL YEAR	2014/2015 FISCAL YEAR
Fiscal Year End	30 June	
Building Reproduction Cost	$6,683,000	
Operating Budget (excluding CRF Contribution)	$105,000	$103,000
CRF Contribution	$16,000	$16,000
CRF Opening Balance (beginning of fiscal year)	$67,000	$85,000

Depreciation reports 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 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 Report 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 (±50%), as defined by the Association of Professional Engineers and Geoscientists of British Columbia (APEGBC). 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.

The cost estimates in the Report are a starting point for the capital planning process, and can help strata corporations make preliminary decisions about how and when to implement projects. These cost estimates will be refined as the Strata Corporation makes decisions such as what is included or excluded in a project, and if Assets will be improved or changed.

The current value of many major maintenance and renewals 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). 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 through the online BAMS software. Please contact the strata council or strata manager for additional information on how to access and view this information.

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 or five years (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 funding models of the Report. Costs associated with minor maintenance are included in the Strata Corporation's operating budget.

4.1 Major Maintenance and Renewals Expenditures

Chateau Comox is now approximately 23 years old, and has replaced several assets, including phased replacement of portions of the stucco cladding, windows, and sliding doors (please see Table 3.1 for a detailed list of projects). However, some large renewals expenditures can be anticipated in the next 10 years as the building ages. Table 4.1 below summarizes all major maintenance and renewal costs by system, including costs forecast for the next 30 years.

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	$202,000	$223,000	$1,318,000	$1,887,000
Electrical	$30,000	$34,000	$204,000	$275,000
Mechanical	$78,000	$84,000	$277,000	$388,000
Elevator	$174,000	$185,000	$189,000	$208,000
Fire Safety	$50,000	$54,000	$130,000	$180,000
Interior Finishes	$26,000	$29,000	$107,000	$150,000
Amenities	$7,000	$7,000	$12,000	$15,000
Sitework	$3,000	$4,000	$13,000	$18,000
Building Total	**$570,000**	**$620,000**	**$2,250,000**	**$3,121,000**

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.

Approximately 20% of the Strata Corporation's estimated capital expenditures occur in the next 10 years. The distribution of estimated capital expenditures over the next 10 years is shown in Figure 4.1 below.

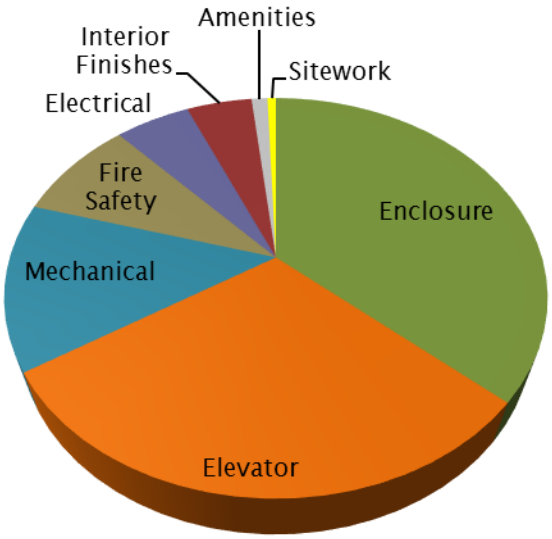


Figure 4.1 Distribution of estimated capital expenditures over 10 years by system.

5 Major Maintenance and Renewals Planning

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.

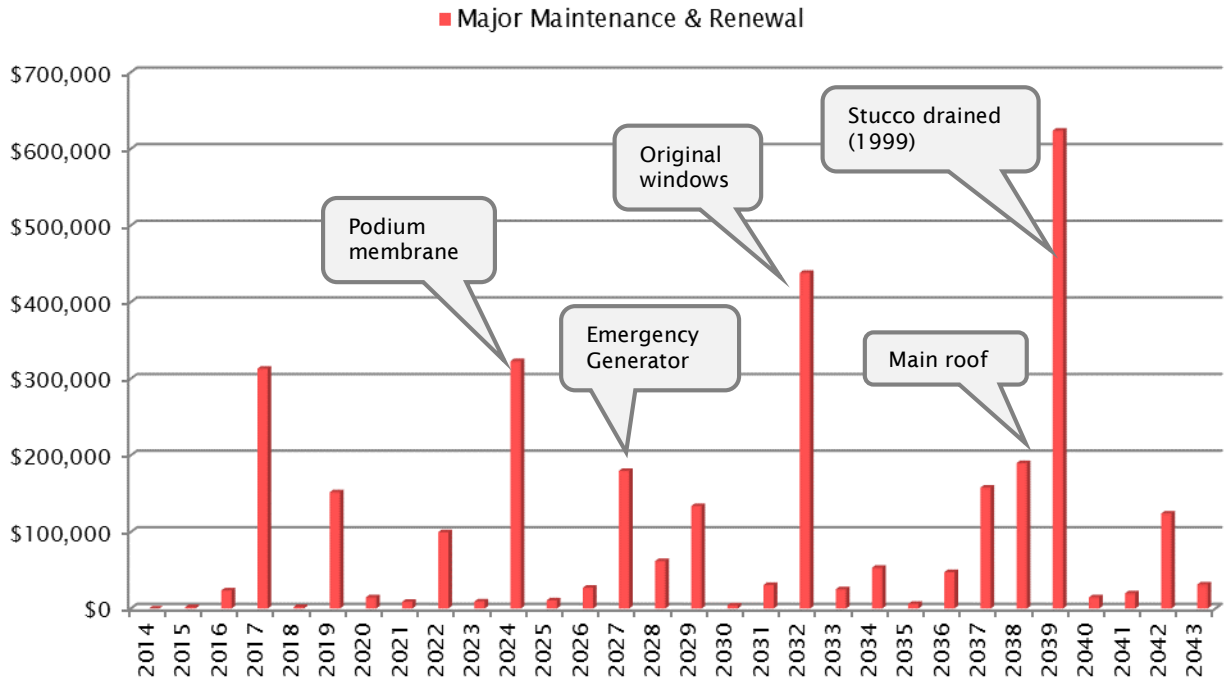


Figure 5.1 Strategic Forecast (30 Years), showing the approximate timing and value of capital expenditures.

Each bar on the graph represents a collection of different major maintenance and renewals activities, each with different values. The labels on the graph summarize large renewals projects forecast for that year. Detailed information about each year, including a description of the maintenance and renewals activities and estimated costs, is also available through the online version of the Depreciation Report, available through BAMS (please contact the strata council for additional information).

The strategic plan represents a reasonable estimate of future projects. The actual timing of projects may 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. Labels summarize renewals and major maintenance activities forecast for that year. The costs associated with project implementation, such as site access, design, and contract administration, are not included.

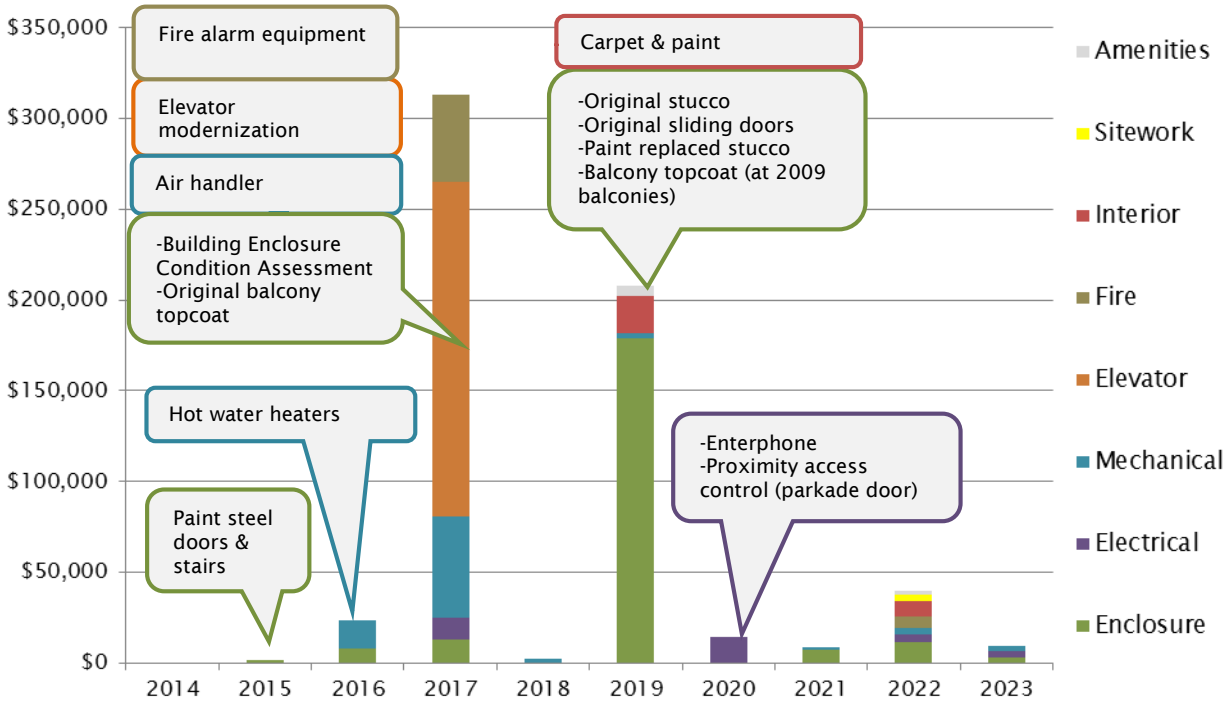


Figure 5.2 Tactical Forecast (10 years), showing the approximate timing and value of capital expenditures.

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 and may be reflected in updates to the Report.

Modernization of the elevator controls has been forecast for 2017. This type of project typically occurs around the 25-year mark in the life of a traction elevator. The Strata may speak to their elevator service contractor to better understand the timing and risks associated with delaying this type of project. In the same year, costs have been included for replacement of the fire alarm panel and a portion of the detection devices. The fire panel is nearing the end of its service life, and in some cases a modernization of the elevator controls may require upgrades to the fire alarm system.

Replacement of the original undrained stucco on the south elevation has been forecast for 2019. Renewal of stucco cladding is only required if water ingress has resulted in deterioration to sheathing and framing concealed within a wall assembly. A periodic review and assessment of these assemblies is suggested to confirm the concealed conditions of the original stucco and modify the estimated remaining service life of the assets in the Depreciation Report. Commissioning of a Building Enclosure Condition Assessment (BECA), a cost for which has been included in 2017, will aid in confirming the concealed conditions.

Repainting the existing stucco has also been included in the same year as the stucco cladding renewal. Painting of the stucco cladding is typically done at 10 year intervals. For undrained assemblies, an elastomeric coating helps reduce the potential for water entering the assembly; for drained assemblies incorporating a drainage plane behind the cladding, it is primarily aesthetic. The Strata can consider repainting in conjunction with the renewal of any remaining undrained stucco to ensure a consistent appearance throughout the building.

To help the Strata Corporation start the project planning process, Table 5.1 below categorizes some of the activities forecast for the next 10 years into different management strategies: major maintenance, condition based renewals, and time based renewals. The categories are based on the risks associated with failure of an Asset. The list below is not comprehensive; more detailed information is available to the Strata Corporation.

TABLE 5.1 SUMMARY OF KEY PROJECTS WITHIN THE TACTICAL PLAN

CATEGORY AND ACTIVITIES
Major Maintenance Major maintenance projects are intended to preserve the assets to achieve their full design life, and typically occur on a regular, predictable basis. → Repainting of steel doors and stairs at rooftop level. → Reapplication of traffic markings in parkade. → Commissioning of a Building Enclosure Condition Assessment to confirm the concealed conditions behind the cladding and confirm the estimated remaining service lives of enclosure assets. → Comprehensive cleaning of building exterior to maintain aesthetics. → Thermographic scanning of electrical distribution equipment to cost effectively detect any poorly functioning electrical equipment and implement repairs. → Video review and powerflushing of sanitary drain lines. → Review guardrails for structural adequacy including attachments.
Condition Based Renewals Assets are kept in service as long as possible, but the intent is to replace them before they fail. Condition based strategies require Assets be periodically reviewed in detail, potentially with some destructive testing, in order to predict when failure is likely. The actual timing of renewals in this

TABLE 5.1 SUMMARY OF KEY PROJECTS WITHIN THE TACTICAL PLAN
CATEGORY AND ACTIVITIES
category may be determined by the results of an assessment, or by other project planning considerations. → Replacement of fire alarm panel and detection devices, possibly in conjunction with modernization of elevator controls. → Application of membrane topcoat for exposed original balconies (south elevation). → Replacement of original undrained stucco and original sliding doors. → Repainting of existing stucco cladding. → Commissioning of a Building Enclosure Condition Assessment to confirm concealed conditions and estimated remaining service lives of enclosure assets. → Replacement or repair of weatherstripping around windows and doors. → Replacement of various interior light fixtures, as required. → Replacement of enterphone panel. → Modernization of proximity access control system. → Replacement of domestic hot water heaters. → Rebuilding of indoor air handler and supply fans. → Cyclical replacement of parkade gas detection sensors. → Replacement of sump pump. → Replacement of various plumbing distribution valves, as required. → Replacement of sinks and toilets and amenity washroom, as required. → Replacement of wall tile in amenity showers. → Repainting of walls and doors in high-traffic areas. → Replacement of various swing doors, as required. → Replacement of carpet in meeting room and hallways at levels 3-5.
Time Based Renewals Assets are replaced on a regular, time based schedule. This strategy is used when there is low tolerance for failure or out of service conditions. Components, materials or assemblies are typically replaced or refurbished at fixed intervals. → Modernization of elevator controls, including geared machines, drive system, and operating fixtures.

In addition to the three categories mentioned above, the Strata Corporation may also elect to replace some Assets only once they have failed, or upon imminent failure. This strategy is known as *run to failure*. This strategy is only appropriate when failure does not create a safety hazard, will not result in damage to other property, and does not affect the operations of the building. The Strata should still have funds available to replace assets within this category.

5.3 Operational Planning Horizon

Repainting of the steel stair and door at the rooftop level is forecast for 2015.

5.4 Project Implementation

The projects identified in the previous section represent a preliminary step, and is only intended to help the Strata Corporation identify, prioritize and plan projects. Most significant renewals projects identified in the Depreciation Report 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 are considered Class D (±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 building. Different exposure conditions and wear patterns may require that only some sections of the building 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 trades 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 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 major maintenance and renewals 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 choose the CRF contribution they prefer.

6.1 Minimum Funding Requirements

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

TABLE 6.1 MINIMUM FUNDING REQUIREMENT CALCULATION

PARAMETER	VALUE
2014/2015 annual operating budget (excluding CRF contribution)	$ 103,000
→ 25% of the annual operating budget	$ 25,750
→ 10% of the annual operating budget	$ 10,300
2013/2014 CRF closing balance (assumed based on financials provided)	$ 85,000
2014/2015 CRF contribution	$ 16,000
Will the CRF closing balance exceed 25% of the annual operating budget at the end of the fiscal year?	Yes
Does the CRF contribution exceed 10% of the annual operating budget?	Yes

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

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. The scenarios allow the Strata Corporation to evaluate how changes to the contingency reserve fund impact the number and size of special levies; however the actual size and timing of special levies will be affected by how the Strata chooses to implement the renewals projects.

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

- → ***Current (2014/2015) Reserve Allocation***. The CRF allocation that was approved by the Owners at the Annual General Meeting. The current allocation is also known as the status quo.
- → ***Alternative #1 Reserve Allocation***. An incremental increase over the Current funding level of $20 per suite per month on average.
- → ***Alternative #2 Reserve Allocation***. A substantial increase from the Current funding level, which represents a total average monthly contribution of per suite of $200.
- → ***Progressive Reserve Allocation.*** This is the annual allocation that would have been set aside since the first year of operations to ensure that the reserve balance would have been sufficient to avoid any special assessments over a 30-year period. The progressive reserve allocation is an idealistic target that most Strata Corporations will not meet and is provided for reference purposes.

TABLE 6.2 COMPARISON OF DIFFERENT FUNDING SCENARIOS

	CURRENT (2014/2015)	ALTERNATIVE #1	ALTERNATIVE #2	PROGRESSIVE
Annual CRF allocation	$16,000	$21,000	$50,000	$96,000
Percent of progressive reserve	17%	22%	52%	100%
CRF contribution per unit of unit entitlement				
Per month	$0.68	$0.89	$2.11	$4.06
Per year	$8.11	$10.65	$25.35	$48.68
CRF contribution per average strata lot				
Per month	$63	$83	$198	$381
Per year	$762	$1,000	$2,381	$4,571
Approximate number of special levies (over next 30 years)	19	16	11	1
Approximate value of special levies (over next 30 years)	$2.6M	$2.4	$1.6M	$0.2M
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.

The appendices to the Report include 30 years of cash flow data for each funding model.

6.3 Current (2014/2015) Funding Scenario

The Current funding scenario is based on the CRF contribution approved by the Owners at the Annual General Meeting. The scenario is based on a fixed annual CRF contribution (no increases).

TABLE 6.3 CURRENT (2014/2015) FUNDING MODEL: CASH FLOW TABLE

FISCAL YEAR	OPENING BALANCE	RESERVE CONTRIBUTION	SPECIAL LEVY	RESERVE INCOME	RENEWAL COSTS	CONTINGENCY COSTS	CLOSING BALANCE
2014	$85,000	$16,000	$0	$1,700	$0	$1,000	$101,700
2015	$101,700	$16,000	$0	$2,034	$1,730	$1,000	$117,004
2016	$117,004	$16,000	$0	$2,340	$23,600	$1,000	$110,744
2017	$110,744	$16,000	$194,911	$2,215	$312,870	$1,000	$10,000
2018	$10,000	$16,000	$0	$200	$2,000	$1,000	$23,200
2019	$23,200	$16,000	$179,096	$464	$207,760	$1,000	$10,000
2020	$10,000	$16,000	$0	$200	$14,600	$1,000	$10,600
2021	$10,600	$16,000	$0	$212	$8,660	$1,000	$17,152
2022	$17,152	$16,000	$16,995	$343	$39,490	$1,000	$10,000
2023	$10,000	$16,000	$0	$200	$9,180	$1,000	$16,020

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

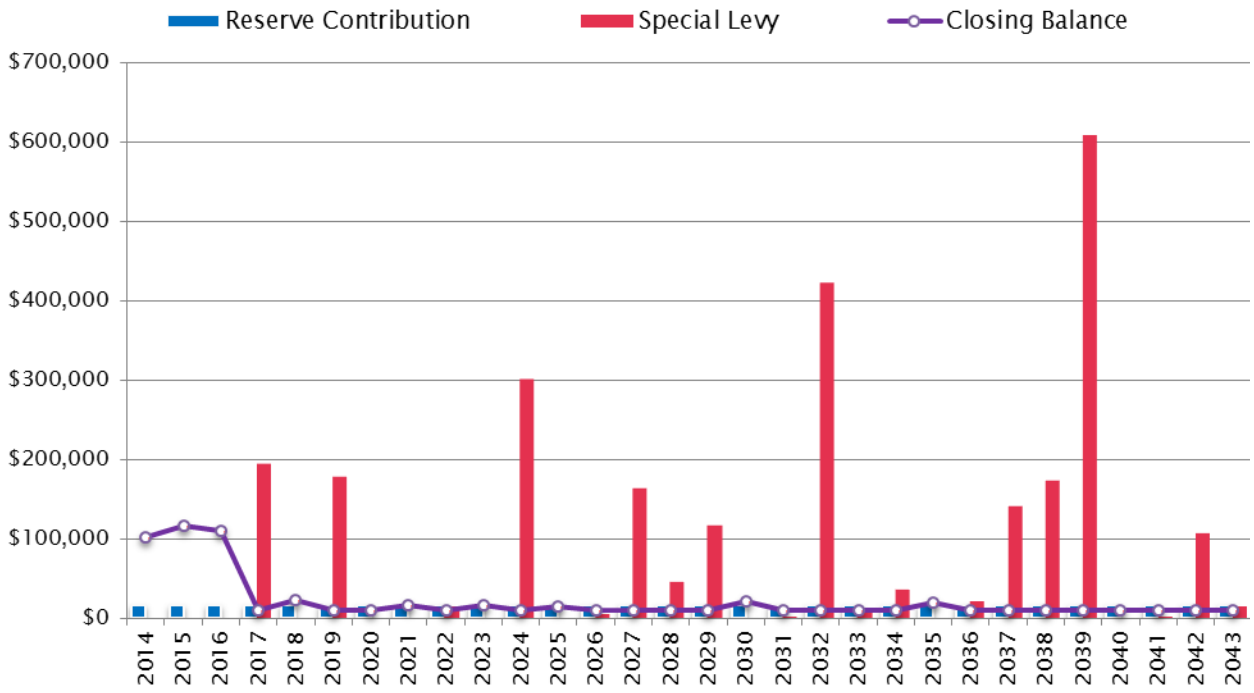


Figure 6.1 CRF balance, contribution and special levies based on the current budget.

As funds from the CRF are used to pay for forecasted capital projects, the closing balance (purple line) drops, as seen in 2017 in Figure 6.1 above. A relatively flat closing balance near the bottom of the chart indicates the account is maintaining a minimum balance. The closing balance is impacted by the size and timing of projects, and also the amount annually contributed to the CRF fund.

6.4 Alternative Funding Scenario #1

Alternative funding scenario #1 is based on a fixed annual CRF contribution, representing a total average contribution of approximately $80 per suite per month (an increase of $20 per month over the Current).

TABLE 6.4 ALTERNATIVE FUNDING MODEL #1: CASH FLOW TABLE

FISCAL YEAR	OPENING BALANCE	RESERVE CONTRIBUTION	SPECIAL LEVY	RESERVE INCOME	RENEWAL COSTS	CONTINGENCY COSTS	CLOSING BALANCE
2014	$85,000	$21,000	$0	$1,700	$0	$1,000	$106,700
2015	$106,700	$21,000	$0	$2,134	$1,730	$1,000	$127,104
2016	$127,104	$21,000	$0	$2,542	$23,600	$1,000	$126,046
2017	$126,046	$21,000	$174,303	$2,521	$312,870	$1,000	$10,000
2018	$10,000	$21,000	$0	$200	$2,000	$1,000	$28,200
2019	$28,200	$21,000	$168,996	$564	$207,760	$1,000	$10,000
2020	$10,000	$21,000	$0	$200	$14,600	$1,000	$15,600
2021	$15,600	$21,000	$0	$312	$8,660	$1,000	$27,252
2022	$27,252	$21,000	$1,693	$545	$39,490	$1,000	$10,000
2023	$10,000	$21,000	$0	$200	$9,180	$1,000	$21,020

Alternative funding scenario #1 may eliminate 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 based forecast for the next 30 years.

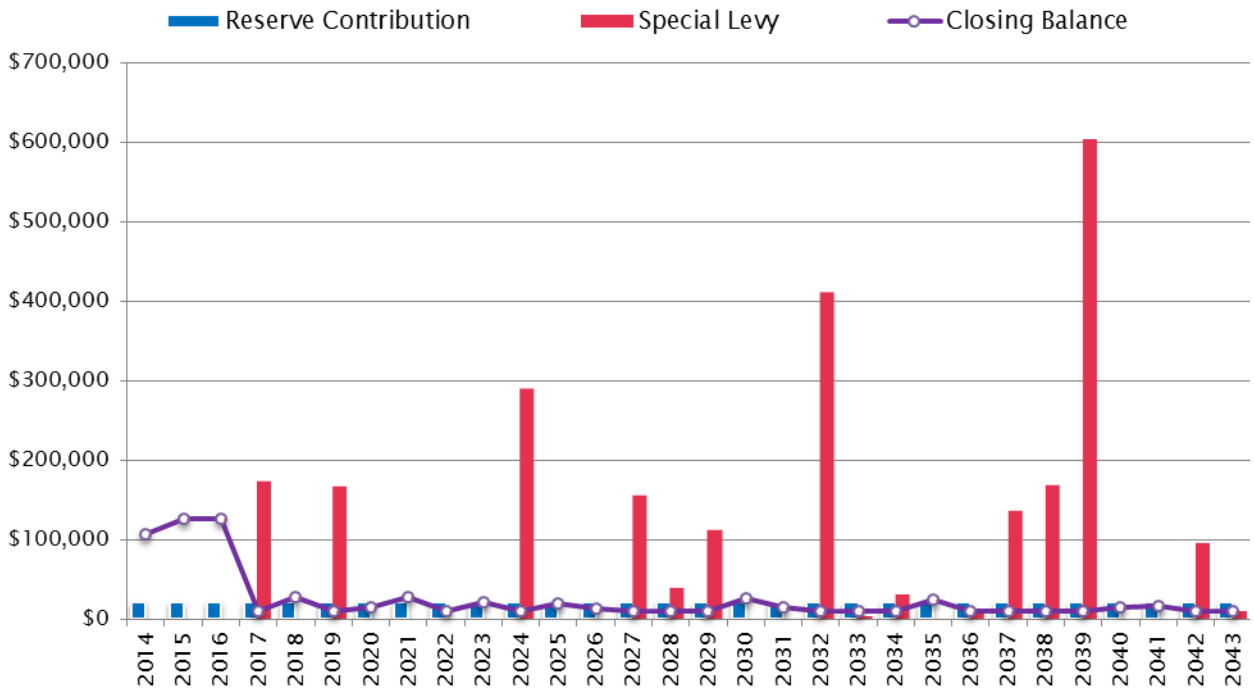


Figure 6.2 CRF balance, contribution and special levies based on Alternative #1.

6.5 Alternative Funding Scenario #2

Alternative funding scenario #2 is based a fixed annual CRF contribution, representing a total average contribution of approximately $200 per suite per month (an increase of $135 per month over the Current).

TABLE 6.5 ALTERNATIVE FUNDING MODEL #2: CASH FLOW TABLE

FISCAL YEAR	OPENING BALANCE	RESERVE CONTRIBUTION	SPECIAL LEVY	RESERVE INCOME	RENEWAL COSTS	CONTINGENCY COSTS	CLOSING BALANCE
2014	$85,000	$50,000	$0	$1,700	$0	$1,000	$135,700
2015	$135,700	$50,000	$0	$2,714	$1,730	$1,000	$185,684
2016	$185,684	$50,000	$0	$3,714	$23,600	$1,000	$214,798
2017	$214,798	$50,000	$54,776	$4,296	$312,870	$1,000	$10,000
2018	$10,000	$50,000	$0	$200	$2,000	$1,000	$57,200
2019	$57,200	$50,000	$110,416	$1,144	$207,760	$1,000	$10,000
2020	$10,000	$50,000	$0	$200	$14,600	$1,000	$44,600
2021	$44,600	$50,000	$0	$892	$8,660	$1,000	$85,832
2022	$85,832	$50,000	$0	$1,717	$39,490	$1,000	$97,059
2023	$97,059	$50,000	$0	$1,941	$9,180	$1,000	$138,820

Alternative funding scenario #2 may eliminate some of the smaller levies, but it is not adequate to offset all the special levies over the 30-year planning horizon.

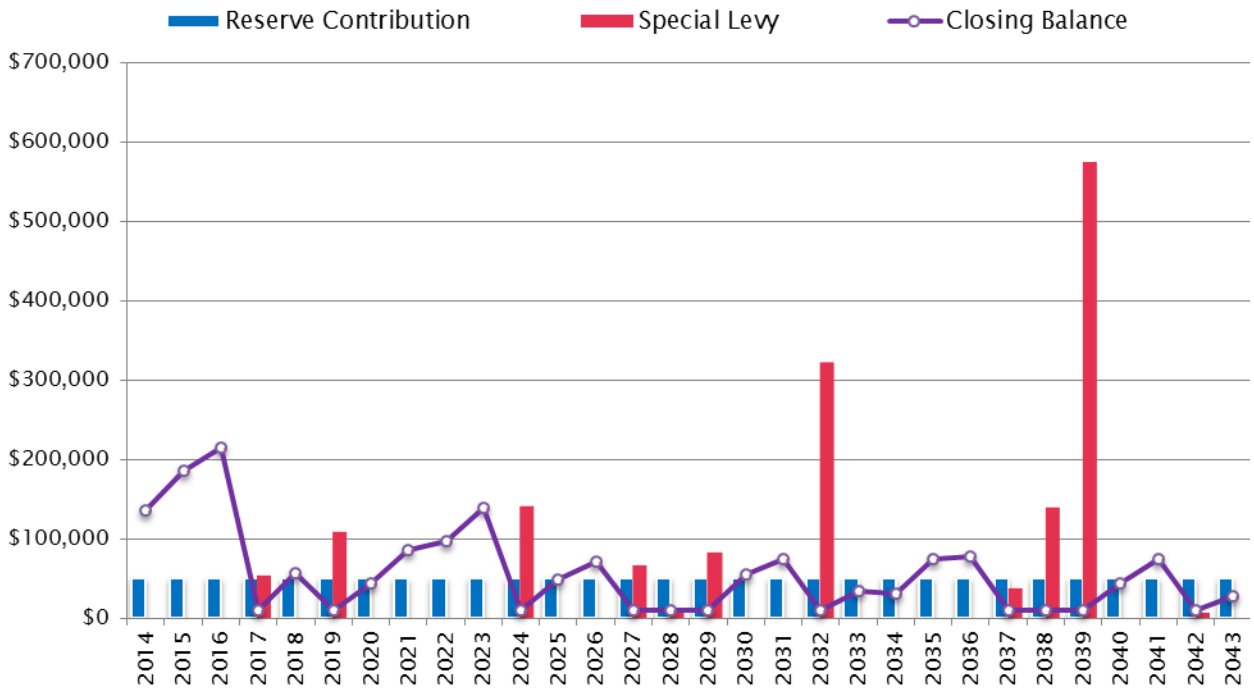


Figure 6.3 CRF balance, contribution and special levies based on Alternative #2.

Although Alternative funding scenario #2 is an aggressive funding level, a yearly allocation of this size would allow to CRF to increase between larger projects and maintain and higher balance from year to year.

6.6 Progressive Funding Scenario

The progressive funding scenario is based on a fixed annual CRF contribution with the goal of maximizing funding and minimizing the number and size of special levies.

TABLE 6.6 PROGRESSIVE FUNDING MODEL: CASH FLOW TABLE

FISCAL YEAR	OPENING BALANCE	RESERVE CONTRIBUTION	SPECIAL LEVY	RESERVE INCOME	RENEWAL COSTS	CONTINGENCY COSTS	CLOSING BALANCE
2014	$85,000	$96,000	$0	$1,700	$0	$1,000	$181,700
2015	$181,700	$96,000	$0	$3,634	$1,730	$1,000	$278,604
2016	$278,604	$96,000	$0	$5,572	$23,600	$1,000	$355,576
2017	$355,576	$96,000	$0	$7,112	$312,870	$1,000	$144,818
2018	$144,818	$96,000	$0	$2,896	$2,000	$1,000	$240,714
2019	$240,714	$96,000	$0	$4,814	$207,760	$1,000	$132,768
2020	$132,768	$96,000	$0	$2,655	$14,600	$1,000	$215,824
2021	$215,824	$96,000	$0	$4,316	$8,660	$1,000	$306,480
2022	$306,480	$96,000	$0	$6,130	$39,490	$1,000	$368,120
2023	$368,120	$96,000	$0	$7,362	$9,180	$1,000	$461,302

The Progressive Reserve may eliminate all smaller special levies. However, because of the timing of anticipated renewals projects, a fixed annual contribution will not eliminate all estimated special levies over the 30-year planning horizon.

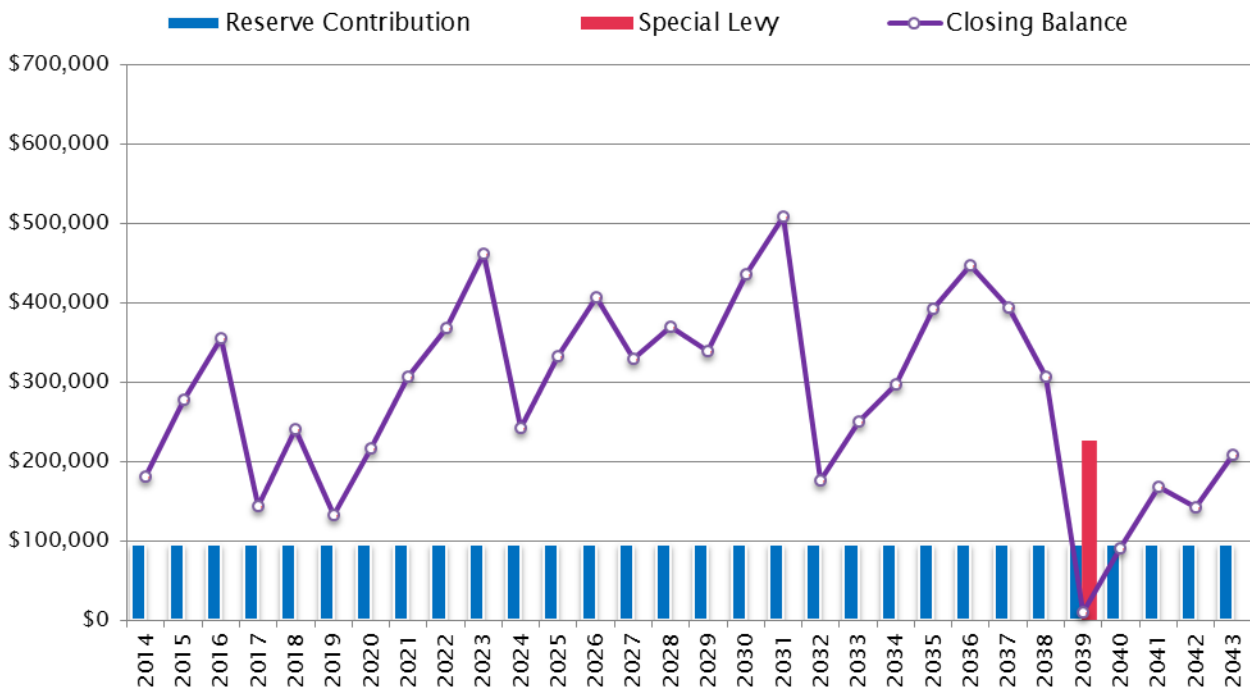


Figure 6.4 CRF balance, contribution and special levies based on a Progressive Reserve calculation.

7 Next Steps

The Report identifies the predictable major maintenance and renewals expenditures Chateau Comox is likely to encounter over the next 30 years. Estimated timelines have been provided to assist the Strata Corporation with the planning process; however the Report should be considered a first step when planning for renewals. Funding scenarios have been developed to provide the Strata with an objective basis for determining appropriate CRF contributions.

Chateau Comox is approximately 23 years old, and several significant assets such as the elevator controls and fire alarm panel will likely need to be renewed in the next 10 years. Areas of remaining original undrained stucco cladding may require renewal, however the need for renewal is dependent on the condition of the gypsum sheathing and steel stud framing concealed within the wall cavity. If no deterioration to the concealed elements occurs, renewal of these locations could potentially be deferred.

At the Current (2014/2015) funding level, it is unlikely that the Strata Corporation can avoid special levies in this time period, however, the Strata has an opportunity on an annual basis to discuss funding strategies and project implementation.

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

Recommendations

- **Asset Replacement Policy**. Using the Asset Inventory, develop an asset replacement policy. The policy would assign replacement strategies (run-to-failure, condition based, or time-based) to assets.
- **Maintenance Plan**. Using the Asset Inventory, develop a maintenance plan, or commission a maintenance plan through RDH. The maintenance plan should provide the Strata Corporation with information on how and when to implement different maintenance activities.
- **Building Enclosure Condition Assessment**. Conduct a Condition Assessment of the building enclosure prior to or in conjunction with the update to the Report in three years' time. The condition assessment will confirm the estimated remaining service lives of enclosure assets. Update the Report with these findings and recommendations as may be required.
- **Project Planning**. The following projects have been identified as highest priority, and the Strata Corporation should consider completing these projects prior to the update of the Report in three years' time.
  - Painting of steel stairs (Encl 32) and door (Encl 24) at rooftop level.
  - Application of urethane topcoat on exposed original balconies (Encl 26).
  - Replacement of domestic hot water heaters (Mech 14) as required.
  - Modernization of elevator controls (Elev 01 & 02), and possible replacement of fire alarm panel (Fire 01) in conjunction.
  - Possible rebuilding or replacement of the make-up air unit (Mech 20).

Sincerely,

RDH Building Engineering Ltd.

Jesse Listoen | Dipl. T.
Maintenance and Planning Technologist
RDH Building Engineering Ltd.

Laureen Stokes | Dipl. T.
Project Manager
RDH Building Engineering Ltd.

Appendix A

Glossary of Terms

RDH
Making Buildings Better

224 W 8th Avenue
Vancouver, BC V5Y 1N5

604 873 1181
rdhbe.com

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 calendar age of an Asset. Compare with Effective Age.

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** (±10-15%): 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** (±15-25%): 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** (±25-40%): 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** (±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.)

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

Effective Age – The Age of an asset relative to its condition. Compare with: Chronological Age.

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.

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 – The amount of money that is allocated to the Reserve Fund each fiscal year. Determining the appropriate size of the Reserve Contribution is aided with a Reserve Fund Study (Depreciation Report in B.C.).

Reserve Fund – Also known as the Contingency Reserve Fund. 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.

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.

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

Chateau Comox

Enclosure

Roofs & Decks

Encl 01 - Exposed SBS Membrane Roof

Location

Main rooftop level over elevator room and stairwells.

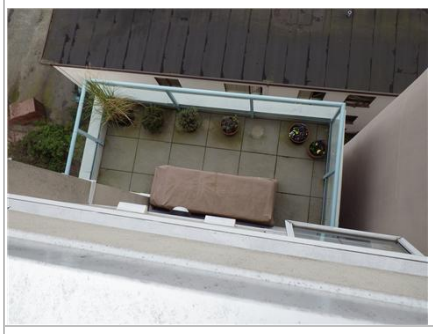
Description

SBS modified bitumen membrane at low-slope roof.

Information

Service Life:	25	Install Year:	2008
Chronological Age:	7	Next Event Year:	2033
Effective Age:	7		

Encl 02 - Protected SBS Membrane Deck (IRMA Assembly) with Traffic-Bearing Surface



Location

7th floor decks (west side).

Description

SBS membrane overlaid with insulation, protection board, and concrete pavers as traffic-bearing surface.

Information

Service Life:	30	Install Year:	1999
Chronological Age:	16	Next Event Year:	2029
Effective Age:	16		

Encl 03 - Protected SBS Membrane Roof with Ballast (IRMA)

Location

Sections of main rooftop.

Description

SBS membrane overlaid with insulation, filter fabric, and stone ballast.

Information

Service Life:	30	Install Year:	2008
Chronological Age:	7	Next Event Year:	2038
Effective Age:	7		

Encl 04 - Protected SBS Membrane Roof & Deck (IRMA) with Traffic-Bearing Surface

Location

Sections of main rooftop and east side decks on 8th floor.

Description

SBS membrane overlaid with insulation, protection board, and concrete pavers as traffic-bearing surface.

Information

Service Life:	30	Install Year:	2008
Chronological Age:	7	Next Event Year:	2038
Effective Age:	7		

Chateau Comox

Encl 05 - Stucco Clad Soffit

Location

Underside of balconies and at entry lobby plaza.

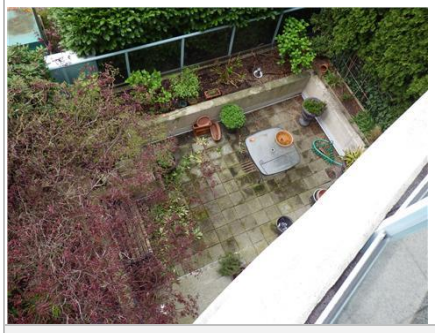
Description

Stucco cladding over supporting structure.

Information

Service Life:	40	Install Year:	1992
Chronological Age:	23	Next Event Year:	2032
Effective Age:	23		

Encl 06 - Protected Podium Membrane



Location

(Concealed Asset). Waterproofing membrane on top surface of parkade ceiling slab.

Description

Waterproofing membrane at parkade podium with concrete paver and soft landscaping overburden.

Information

Service Life:	30	Install Year:	1992
Chronological Age:	23	Next Event Year:	2024
Effective Age:	21		

Fall Protection

Encl 07 - Guardrail Aluminum

Location

Perimeters of decks at main roof level and northeast parkade exit stairwell.

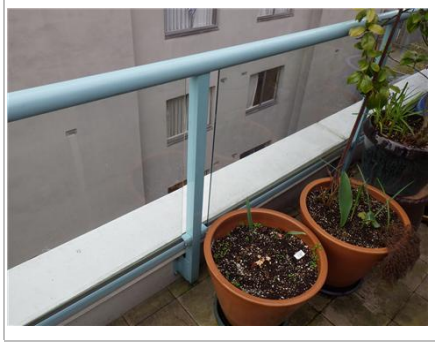
Description

Prefinished aluminum posts and pickets to limit access to the adjacent roofs.

Information

Service Life:	30	Install Year:	1992
Chronological Age:	23	Next Event Year:	2024
Effective Age:	21		

Encl 08 - Guardrail Glazed Aluminum



Location

Perimeter of decks and balconies.

Description

Side-mounted prefinished aluminum posts and glass infill panels functioning as a protective barrier to prevent accidental falls from one level to another.

Information

Service Life:	30	Install Year:	1992
Chronological Age:	23	Next Event Year:	2024
Effective Age:	21		

Chateau Comox

Walls

Encl 09 - Concrete Wall with Acrylic Finish

Location

Various wall areas on east and west elevations at levels 2 to 8, exterior parkade walls at ground level and mechanical penthouse walls at main rooftop level, and horizontal bands at each floor level.

Description

Poured-in-place concrete walls with acrylic stucco finish and silicone elastomeric coating. Service life refers to the concrete walls; stucco finish renewal is taken into account within the asset.

Information

Service Life:	75	Install Year:	1992
Chronological Age:	23	Next Event Year:	2067
Effective Age:	23		

Encl 10 - Stucco Clad Wall - Drained - 2009

Location

Targeted wall areas on all elevations, including levels 2-8 on north elevation, level 8 on south elevation between windows and at balcony walls.

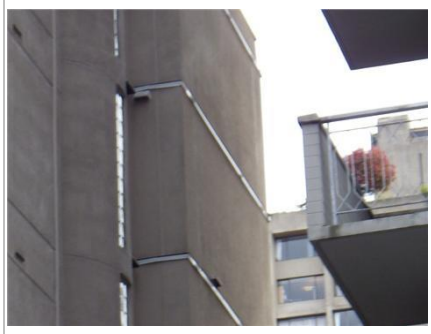
Description

Acrylic coated stucco applied on furring to create a drained cavity over the exterior sheathing membrane.

Information

Service Life:	40	Install Year:	2009
Chronological Age:	6	Next Event Year:	2049
Effective Age:	6		

Encl 11 - Stucco Clad Wall - Drained - 1999



Location

Targeted wall areas on east and west elevations at levels 2 to 8, with returns around edges on north and south elevations.

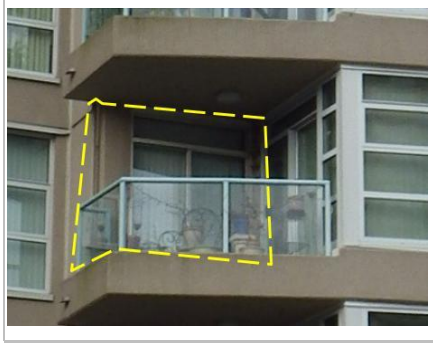
Description

Acrylic coated stucco applied on furring to create a drained cavity over the exterior sheathing membrane.

Information

Service Life:	40	Install Year:	1999
Chronological Age:	16	Next Event Year:	2039
Effective Age:	16		

Encl 12 - Stucco Clad Wall - Undrained - 2009



Location

Protected walls of balconies at levels 2 to 7 on north elevation (does not include concrete walls at perimeter of balconies- see Encl 09).

Description

Acrylic coated stucco applied directly over exterior sheathing membrane.

Information

Service Life:	20	Install Year:	2009
Chronological Age:	6	Next Event Year:	2029
Effective Age:	6		

Chateau Comox

Encl 13 - Stucco Clad Wall - Undrained - Original

Location

Between windows on south elevation at levels 2 to 7, and east elevation at levels 2 to 8.

Description

Acrylic coated stucco applied directly over exterior sheathing membrane.

Information

Service Life:	20	Install Year:	1992
Chronological Age:	23	Next Event Year:	2019
Effective Age:	16		

Glazing Systems

Encl 14 - Aluminum Framed Window - 2009

Location

Centre stack windows on north elevation at levels 2 to 8, south elevation at level 8, and east & west facing windows on north balconies at levels 2 to 8.

Description

Aluminum framed, thermally broken windows with double insulating glazing units, and awning operators. Window-wall configuration.

Information

Service Life:	40	Install Year:	2009
Chronological Age:	6	Next Event Year:	2049
Effective Age:	6		

Encl 15 - Aluminum Framed Window - Original

Location

Exterior walls on all elevations, except for windows replaced 2009.

Description

Aluminum framed, non-thermally broken windows with double insulating glazing units, and awning operators. Punched and window-wall configurations.

Information

Service Life:	40	Install Year:	1992
Chronological Age:	23	Next Event Year:	2032
Effective Age:	23		

Encl 16 - Aluminum Storefront

Location

Main entry lobby.

Description

Aluminum framed, thermally broken, storefront system with single glazing units, and no operators.

Information

Service Life:	40	Install Year:	1992
Chronological Age:	23	Next Event Year:	2032
Effective Age:	23		

Chateau Comox

Encl 17 - Glass Block Window

Location

Exterior walls of amenity room and stairwells.

Description

Glass block window.

Information

Service Life:	30	Install Year:	1992
Chronological Age:	23	Next Event Year:	2028
Effective Age:	17		

Encl 18 - T-Bar Skylight

Location

Main rooftop level.

Description

Aluminum T-bar supported skylight system with glazed units.

Information

Service Life:	20	Install Year:	1992
Chronological Age:	23	Next Event Year:	2022
Effective Age:	13		

Doors

Encl 19 - Aluminum Frame Glazed Swing Door - 1999

Location

Access to decks on levels 7 and 8.

Description

Aluminum frame swing door with insulating glazing units.

Information

Service Life:	25	Install Year:	1999
Chronological Age:	16	Next Event Year:	2024
Effective Age:	16		

Encl 20 - Aluminum Frame Glazed Swing Door - Original

Location

Exterior building access at meeting room and entry lobby.

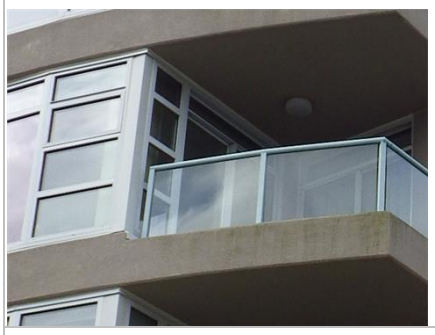
Description

Aluminum frame swing door with insulating glazing units.

Information

Service Life:	25	Install Year:	1992
Chronological Age:	23	Next Event Year:	2024
Effective Age:	16		

Encl 21 - Aluminum Framed Sliding Glass Door - 2009



Location

East- and west-facing sliding doors of north units.

Description

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

Information

Service Life:	30	Install Year:	2009
Chronological Age:	6	Next Event Year:	2039
Effective Age:	6		

Encl 22 - Aluminum Framed Sliding Glass Door - 2009

Location

North elevation balconies (living room access) at all levels, and south elevation balcony (8th floor only).

Description

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

Information

Service Life:	30	Install Year:	2009
Chronological Age:	6	Next Event Year:	2039
Effective Age:	6		

Encl 23 - Aluminum Framed Sliding Glass Door - Original

Location

North elevation balconies (bedroom access) at all levels, and south elevation balconies (ground floor to 7th floor).

Description

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

Information

Service Life:	30	Install Year:	1992
Chronological Age:	23	Next Event Year:	2019
Effective Age:	26		

Encl 24 - Steel Swing Door

Location

Exterior building access at the main rooftop (also to mechanical room) and parkade (all exits and stairwells).

Description

Hollow steel slab swing door with glazing.

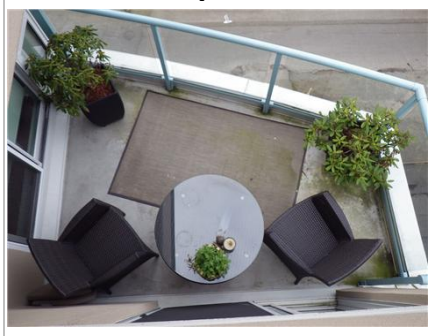
Information

Service Life:	25	Install Year:	1992
Chronological Age:	23	Next Event Year:	2019
Effective Age:	21		

Chateau Comox

Balconies

Encl 25 - Exposed Urethane Balcony Membrane - Concrete Substrate (2009)



Location

North elevation (all levels) and south elevation (8th floor).

Description

Liquid applied urethane membrane applied over concrete balcony. Some balconies have been covered with owner-installed finishes; assume 50% of balconies have exposed membrane that will require renewal.

Information

Service Life:	25	Install Year:	2009
Chronological Age:	6	Next Event Year:	2034
Effective Age:	6		

Encl 26 - Exposed Urethane Balcony Membrane - Concrete Substrate (Original)

Location

South elevation, floors 2 to 7.

Description

Liquid applied urethane membrane applied over concrete balcony. Some balconies have been covered with owner-installed finishes; assume 50% of balconies have exposed membrane that will require renewal.

Information

Service Life:	25	Install Year:	1992
Chronological Age:	23	Next Event Year:	2017
Effective Age:	23		

Parking Garage

Encl 27 - Open-grid Overhead Parkade Gate

Location

Parkade access on south side of the building.

Description

Pre-finished metal grid overhead gate for underground parkade.

Information

Service Life:	25	Install Year:	1992
Chronological Age:	23	Next Event Year:	2024
Effective Age:	16		

Encl 28 - Slab-on-Grade

Location

Parkade P2 and P3.

Description

Concrete slab on grade.

Information

Service Life:	75	Install Year:	1992
Chronological Age:	23	Next Event Year:	2067
Effective Age:	23		

Encl 29 - Uncoated Parking Suspended Slab

Location

Parkade P1.

Description

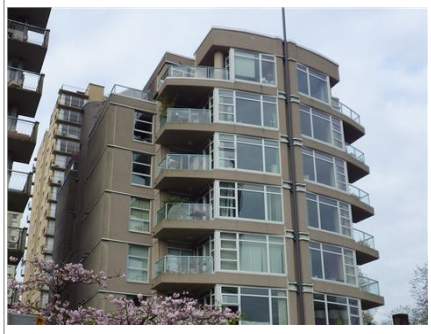
Concrete parking garage suspended slab without a traffic membrane.

Information

Service Life:	75	Install Year:	1992
Chronological Age:	23	Next Event Year:	2067
Effective Age:	23		

General & Inspections

Encl 30 - General & Inspections



Location

Throughout building exterior and site.

Description

Miscellaneous interior and exterior components, such as service penetrations (such as ducts or fireplaces) and interface details, not related to any particular assembly. Includes warranty reviews, and general reviews, and Depreciation Report updates.

Information

Service Life:	75	Install Year:	1992
Chronological Age:	23	Next Event Year:	2067
Effective Age:	23		

Encl 31 - Sealant

Location

At various joints, penetrations, and material interfaces throughout the building exterior.

Description

Sealant of various types located at joints between building enclosure assemblies, as well as around components and penetrations within building enclosure assemblies.

Information

Service Life:	10	Install Year:	2009
Chronological Age:	6	Next Event Year:	2019
Effective Age:	6		

Encl 32 - Steel Stair

Location

Access to elevator room at main rooftop level.

Description

Painted exterior steel-framed staircase with integrated handrails.

Information

Service Life:	40	Install Year:	1992
Chronological Age:	23	Next Event Year:	2032
Effective Age:	23		

Chateau Comox

Electrical

Power Supply

Elec 01 - Emergency Generator

Location

Above the parkade at southeast corner of the site.

Description

Onan Genset generator to provide emergency power.

Information

Service Life:	35	Install Year:	1992
Chronological Age:	23	Next Event Year:	2027
Effective Age:	23		

Distribution

Elec 02 - Electrical Distribution

Location

Equipment in parkade P1 electrical room with wiring to suites and common areas throughout the building.

Description

Siemens distribution switchgear, panelboards, breakers and wiring to several local sub-panels and mechanical loads.

Information

Service Life:	40	Install Year:	1992
Chronological Age:	23	Next Event Year:	2032
Effective Age:	23		

Light Fixtures

Elec 03 - Exterior Light Fixtures

Location

Throughout building exterior, and balconies, decks, ground level exterior doors and walkways.

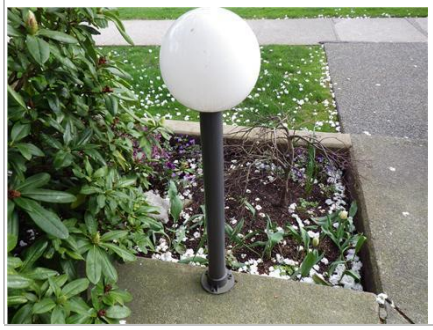
Description

A variety of wall- and ceiling-mounted exterior fixtures, including marine-style and spot-lights.

Information

Service Life:	20	Install Year:	2009
Chronological Age:	6	Next Event Year:	2029
Effective Age:	6		

Elec 04 - Exterior Light Fixtures - Lamps Post



Location

Entry plaza.

Description

Exterior lamps post fixtures.

Information

Service Life:	30	Install Year:	1992
Chronological Age:	23	Next Event Year:	2022
Effective Age:	23		

Chateau Comox

Elec 05 - Interior Light Fixtures

Location

Throughout interior common areas, including lobbies, hallways, meeting rooms, service rooms, and the parkade.

Description

A variety of interior fixtures, including ceiling-mounted pot lights, entry lobby chandelier, and ceiling-mounted fluorescent tube fixtures.

Information

Service Life:	20	Install Year:	1992
Chronological Age:	23	Next Event Year:	2017
Effective Age:	18		

Security

Elec 06 - Enterphone System

Location

Enterphone panel at main entry lobby and processor in parkade electrical room.

Description

Viscount Enterphone III S, surface-mounted, enterphone panel with associated key pads and display panels.

Information

Service Life:	25	Install Year:	1992
Chronological Age:	23	Next Event Year:	2020
Effective Age:	20		

Elec 07 - Proximity Access Control

Location

Adjacent to parkade overhead gate.

Description

Local proximity access control system for to control parkade overhead door, including fob/card devices and readers. Receiving unit replaced 2011; chronological age represents average asset age.

Information

Service Life:	12	Install Year:	2004
Chronological Age:	11	Next Event Year:	2020
Effective Age:	7		

Mechanical

Controls and End Devices

Mech 01 - Gas Detection - Parking Garage

Location

Column-mounted in parkade.

Description

MSA electronic sensing devices for detection of dangerous gases, carbon monoxide (CO) and to activate the exhaust fans accordingly.

Information

Service Life:	10	Install Year:	1992
Chronological Age:	23	Next Event Year:	2016
Effective Age:	9		

Chateau Comox

Mech 02 - Heat Tracing - Freeze Protection

Location

Along various pipes exposed to freezing throughout the parkade.

Description

Self regulating heater cable with parallel circuit heater strip and outer thermoplastic elastomer jacket.

Information

Service Life:	15	Install Year:	1992
Chronological Age:	23	Next Event Year:	2017
Effective Age:	13		

Plumbing & Drainage

Mech 03 - Drainage - Sanitary

Location

(Concealed asset). From fixtures in suites to the city connection at the property line.

Description

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

Information

Service Life:	50	Install Year:	1992
Chronological Age:	23	Next Event Year:	2042
Effective Age:	23		

Mech 04 - Drainage - Storm - Exterior System

Location

At walkways and ground floor decks.

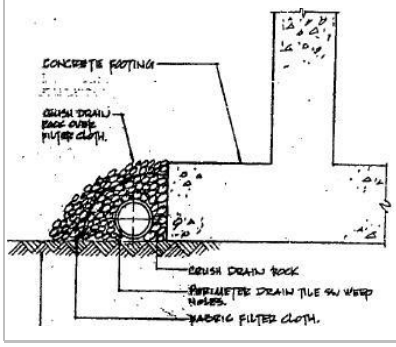
Description

Cast iron underground tight piping forming part of a drainage system around perimeter of building, intended for hard surface area drainage.

Information

Service Life:	40	Install Year:	1992
Chronological Age:	23	Next Event Year:	2032
Effective Age:	23		

Mech 05 - Drainage - Perimeter and Foundation



Location

(Concealed Asset- picture indicates location of piping identified on construction drawings). Below-grade perimeter of foundation footings.

Description

Perforated piping forming part of a sub-surface foundation drainage system around perimeter of building.

Information

Service Life:	40	Install Year:	1992
Chronological Age:	23	Next Event Year:	2032
Effective Age:	23		

Chateau Comox

Mech 06 - Drainage - Storm - Internal

Location

Throughout parkade.

Description

Trench drains, catch basins and associated piping systems for rainwater runoff.

Information

Service Life:	40	Install Year:	1992
Chronological Age:	23	Next Event Year:	2032
Effective Age:	23		

Mech 07 - Fixtures - Showers

Location

Washrooms in exercise room.

Description

Shower base and wall surround with glazed swing door, including faucets and trim.

Information

Service Life:	25	Install Year:	1992
Chronological Age:	23	Next Event Year:	2017
Effective Age:	23		

Mech 08 - Fixtures - Toilets

Location

Washrooms in exercise room.

Description

Vitreous china floor mounted toilet.

Information

Service Life:	20	Install Year:	1992
Chronological Age:	23	Next Event Year:	2019
Effective Age:	16		

Mech 09 - Fixtures - Taps & Sinks

Location

Washrooms in exercise room and kitchenette in meeting room.

Description

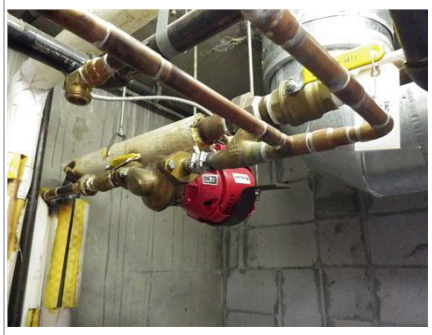
Vitreous china and stainless steel sinks and plumbing supply fixtures.

Information

Service Life:	25	Install Year:	1992
Chronological Age:	23	Next Event Year:	2019
Effective Age:	21		

Chateau Comox

Mech 10 - Piping - Domestic Water Distribution



Location

Throughout the building, from service rooms to common areas and individual suites.

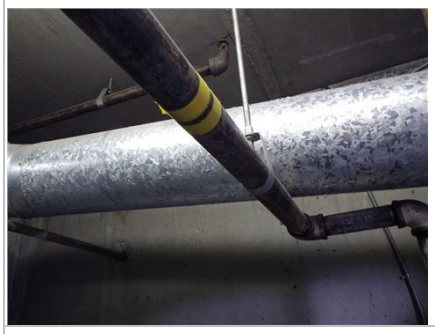
Description

Mixture of K and L copper for vertical/horizontal mains system and distribution piping within the suites. Soldered connections. Epoxy-lined 2011.

Information

Service Life:	35	Install Year:	1992
Chronological Age:	23	Next Event Year:	2046
Effective Age:	4		

Mech 11 - Piping - Gas Distribution



Location

From utility-owned meter on south side of the site to rooftop mechanical room and individual suites.

Description

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

Information

Service Life:	50	Install Year:	1992
Chronological Age:	23	Next Event Year:	2042
Effective Age:	23		

Mech 12 - Pump - DHW - Recirculation

Location

Rooftop mechanical room.

Description

Armstrong 1/12 HP, pipe-mounted bronze body domestic hot water recirculation pumps. Recirculating hot water from heaters throughout system.

Information

Service Life:	10	Install Year:	2012
Chronological Age:	3	Next Event Year:	2022
Effective Age:	3		

Mech 13 - Pumps - Storm Lift and Control Panel

Location

Parkade P3 bike storage room.

Description

Northwest Tech Con, Duplex, storm sump pumps and control panels for storm water runoff and sub-surface drainage.

Information

Service Life:	15	Install Year:	1992
Chronological Age:	23	Next Event Year:	2017
Effective Age:	13		

Chateau Comox

Mech 14 - Tank - DHW - Heating - Gas Fired

Location

Rooftop mechanical room.

Description

Bradford White DM80T2503N 250,000 BTU natural gas fired domestic water heaters, for domestic hot water to plumbing fixtures in the suites.

Information

Service Life:	10	Install Year:	2006
Chronological Age:	9	Next Event Year:	2016
Effective Age:	9		

Mech 15 - Valves - Cross Connection & Backflow Prevention

Location

Parkade P2 level, adjacent to sprinkler room.

Description

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

Information

Service Life:	20	Install Year:	1992
Chronological Age:	23	Next Event Year:	2017
Effective Age:	18		

Mech 16 - Valves - Plumbing Flow Control and Directional

Location

Throughout plumbing distribution.

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.

Information

Service Life:	20	Install Year:	2011
Chronological Age:	4	Next Event Year:	2031
Effective Age:	4		

Heating & Cooling

Mech 17 - Baseboard - Electric

Location

Lobbies, hallways, amenity rooms, and washrooms.

Description

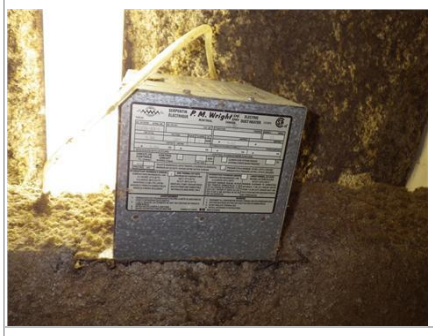
Standard grade, wall mounted, electric convector baseboard heaters with electrical fins for localized space heating and integral thermostat control.

Information

Service Life:	40	Install Year:	1992
Chronological Age:	23	Next Event Year:	2032
Effective Age:	23		

Ventilation and Air-conditioning

Mech 18 - Coil - Electric - Duct Heater



Location

Interior supply fans.

Description

PM Wright, 2 KW, electric duct heater.

Information

Service Life:	17	Install Year:	1992
Chronological Age:	23	Next Event Year:	2017
Effective Age:	15		

Mech 19 - Exhaust Fan - Parkade - Propellor

Location

Parkade P1 and P3, electrical room, and elevator room.

Description

Belt driven propellor exhaust fan mounted in exterior wall with backdraft damper.

Information

Service Life:	20	Install Year:	1992
Chronological Age:	23	Next Event Year:	2017
Effective Age:	18		

Mech 20 - Indoor Air Handler - Gas Fired

Location

Rooftop mechanical room.

Description

Engineered Air UP5-11-200 indoor unit, belt-driven, 200 MBTU, centrifugal fan with natural gas fired heating to supply tempered make-up air to the interior spaces.

Information

Service Life:	20	Install Year:	1992
Chronological Age:	23	Next Event Year:	2017
Effective Age:	18		

Mech 21 - Supply Fan - Inline Duct Blower

Location

Ceiling of meeting room and exercise room.

Description

Delhi 207 3/4 HP centrifugal fan suspended from structure. Supply fan in exercise room (pictured) is not operational.

Information

Service Life:	20	Install Year:	1992
Chronological Age:	23	Next Event Year:	2017
Effective Age:	18		

Chateau Comox

Other

Mech 22 - Overhead Gate Motor

Location

Adjacent to parkade overhead door.

Description

AO Smith AC motor and commercial-grade overhead sectional door controlled by an electric operator. Chronological age refers to assumed age.

Information

Service Life:	8	Install Year:	2014
Chronological Age:	1	Next Event Year:	2022
Effective Age:	1		

Elevator

Traction

Elev 01 - Traction Elevators, Overhead Geared

Location

Elevator machine room at roof level.

Description

Geared overhead traction elevator with Northern Relay/Microprocessor controls, DC motor generator, Northern Elevator 280 OH geared machine, 2000 lbs, 350 fpm rated speed.

Information

Service Life:	25	Install Year:	1992
Chronological Age:	23	Next Event Year:	2017
Effective Age:	23		

Car Interiors

Elev 02 - Elevator Cabs & Hoistway

Location

Elevator cab and travelling hoistway.

Description

Single speed side opening door, plastic car and hall pushbuttons, one (1) car operating panel with plastic pushbuttons, mechanical safety edge with dual lights (dual lights are not functional) door protection, ECI-895 door operator, stainless steel car door and front return, mirrors with stainless steel reveals on walls, plastic laminate ceiling, tile flooring, tubular stainless steel handrails on all non-access walls, firefighter's emergency operation, standby power provisions, hand-held voice communication device (in cabinet), no seismic provisions.

Information

Service Life:	25	Install Year:	1992
Chronological Age:	23	Next Event Year:	2017
Effective Age:	23		

Chateau Comox

Fire Safety

Controls

Fire 01 - Fire Alarm Panel - Conventional

Location

Main entry lobby.

Description

Edwards ESA microprocessor and supervised unit with annunciator and display.

Information

Service Life:	20	Install Year:	1992
Chronological Age:	23	Next Event Year:	2017
Effective Age:	18		

Detection

Fire 02 - Fire Detection & Alarm

Location

Throughout building interior, including common area and suites.

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.

Information

Service Life:	20	Install Year:	1992
Chronological Age:	23	Next Event Year:	2017
Effective Age:	18		

Suppression

Fire 03 - Dry Sprinkler Compressor

Location

Parkade P2 sprinkler room.

Description

Swan compressor with fractional HP motor to maintain the pressure of air in the dry fire sprinkler lines.

Information

Service Life:	14	Install Year:	2013
Chronological Age:	2	Next Event Year:	2027
Effective Age:	2		

Fire 04 - Dry Sprinklers - Wet System

Location

Exterior balcony walls.

Description

Dry sidewall sprinklers on a wet distribution system, extending from a heated space to unheated coverage area.

Information

Service Life:	30	Install Year:	1992
Chronological Age:	23	Next Event Year:	2022
Effective Age:	23		

Chateau Comox

Fire 05 - Fire Hose Cabinet

Location

Interior hallways.

Description

Fire hose and extinguisher cabinet, wall mounted with swinging glass door.

Information

Service Life:	20	Install Year:	1992
Chronological Age:	23	Next Event Year:	2017
Effective Age:	18		

Fire 06 - Portable Fire Extinguisher

Location

Service rooms.

Description

Wall mounted, manually operated, 5lbs ABC type, pressurized vessels for controlled discharge of chemicals to extinguish small fires. Chronological age represents average asset age.

Information

Service Life:	24	Install Year:	2008
Chronological Age:	7	Next Event Year:	2032
Effective Age:	7		

Fire 07 - Sprinkler System - Wet

Location

Throughout interior heated spaces.

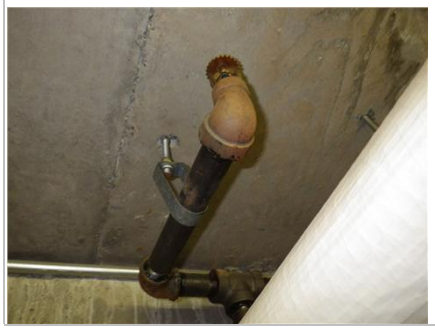
Description

Pendant sprinkler heads, flow switches and indicating devices, gauges, steel distribution lines.

Information

Service Life:	40	Install Year:	1992
Chronological Age:	23	Next Event Year:	2032
Effective Age:	23		

Fire 08 - Sprinkler System - Dry



Location

Service rooms and throughout the parkade.

Description

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

Information

Service Life:	40	Install Year:	1992
Chronological Age:	23	Next Event Year:	2032
Effective Age:	23		

Chateau Comox

Fire 09 - Sprinkler Valve Assembly - Dry

Location

Parkade P2 sprinkler room.

Description

Reliable 4" dry sprinkler valve, trim and gauges, steel piping.

Information

Service Life:	40	Install Year:	1992
Chronological Age:	23	Next Event Year:	2032
Effective Age:	23		

Fire 10 - Exhaust Fan - Smoke Blower

Location

Adjacent to rooftop mechanical room.

Description

Delhi 610 1/4 hp centrifugal blower fan for smoke exhaust.

Information

Service Life:	20	Install Year:	1992
Chronological Age:	23	Next Event Year:	2017
Effective Age:	18		

Egress

Fire 11 - Emergency Egress Equipment

Location

Throughout interior common areas, including lobbies, hallways, and the parkade.

Description

Illuminated exit signs. Chronological age represents average asset age.

Information

Service Life:	20	Install Year:	2008
Chronological Age:	7	Next Event Year:	2028
Effective Age:	7		

Interior Finishes

Floors

Finish 01 - Floor Tile - Lobby

Location

Floor of entry lobby.

Description

Textured floor tile on thin set mortar with grout.

Information

Service Life:	40	Install Year:	1992
Chronological Age:	23	Next Event Year:	2032
Effective Age:	23		

Chateau Comox

Finish 02 - Floor Tile - Washrooms

Location

Floor of washrooms in exercise (storage) room

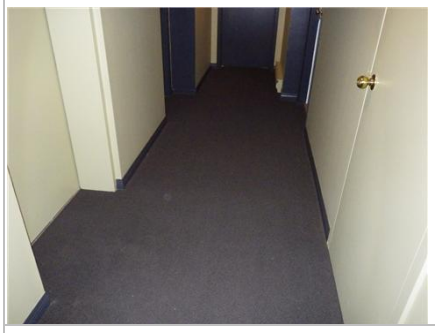
Description

Floor tile on thin set mortar with grout.

Information

Service Life:	40	Install Year:	1992
Chronological Age:	23	Next Event Year:	2032
Effective Age:	23		

Finish 03 - Sheet Carpet - Levels 2, 6-8



Location

Floor of hallways at levels 2, 6, 7, and 8.

Description

Synthetic textile sheet carpet over floor substrate. Different carpet types in each hallway.

Information

Service Life:	15	Install Year:	2012
Chronological Age:	3	Next Event Year:	2027
Effective Age:	3		

Finish 04 - Sheet Carpet - Levels 3-5

Location

Floor of hallways at levels 3, 4, and 5.

Description

Synthetic textile sheet carpet over floor substrate. Chronological age represents assumed asset age.

Information

Service Life:	15	Install Year:	2002
Chronological Age:	13	Next Event Year:	2019
Effective Age:	11		

Finish 05 - Sheet Carpet - Lobby

Location

Floor of entry lobby.

Description

Synthetic textile sheet carpet over floor substrate.

Information

Service Life:	15	Install Year:	2003
Chronological Age:	12	Next Event Year:	2019
Effective Age:	11		

Chateau Comox

Finish 06 - Sheet Carpet - Meeting Room

Location

Floor of meeting room.

Description

Synthetic textile sheet carpet over floor substrate.

Information

Service Life:	15	Install Year:	1992
Chronological Age:	23	Next Event Year:	2019
Effective Age:	11		

Walls

Finish 07 - Ceramic Tile - Lobby

Location

Walls of entry lobby.

Description

Ceramic tile on mortar bed and substrate with grout and sealant at interfaces.

Information

Service Life:	25	Install Year:	2003
Chronological Age:	12	Next Event Year:	2028
Effective Age:	12		

Finish 08 - Ceramic Tile - Washrooms

Location

Walls of showers in exercise (storage) room.

Description

Ceramic tile on mortar bed and substrate with grout and sealant at interfaces.

Information

Service Life:	25	Install Year:	1992
Chronological Age:	23	Next Event Year:	2019
Effective Age:	21		

Finish 09 - Paint

Location

Walls of entry lobby, hallways, washrooms, and meeting room.

Description

Primers and multiple pigmented coating finishes applied to interior gypsum wallboard. Chronological age refers to assumed average age.

Information

Service Life:	10	Install Year:	2009
Chronological Age:	6	Next Event Year:	2019
Effective Age:	6		

Chateau Comox

Ceilings

Finish 10 - Acoustic Ceiling Tile

Location

Ceiling of hallways, amenity rooms, and washrooms.

Description

Suspended grid of metal T channels with infill acoustic tiles that form a drop ceiling.

Information

Service Life:	50	Install Year:	1992
Chronological Age:	23	Next Event Year:	2042
Effective Age:	23		

Architectural Woodwork

Finish 11 - Carpentry and Millwork

Location

Washrooms in exercise room and kitchenette in meeting room.

Description

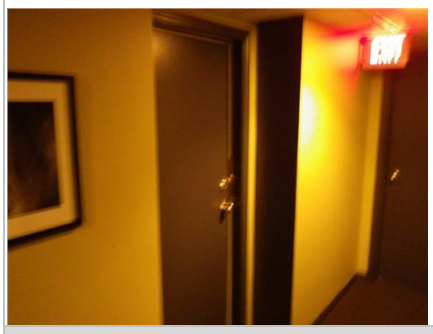
Laminate counter-tops and composite cabinets.

Information

Service Life:	30	Install Year:	1992
Chronological Age:	23	Next Event Year:	2024
Effective Age:	21		

Doors

Finish 12 - Interior Swing Door - General



Location

Interior access to suites, stairwells, amenity rooms, and service rooms.

Description

A variety of wood and steel interior swing doors.

Information

Service Life:	30	Install Year:	1992
Chronological Age:	23	Next Event Year:	2022
Effective Age:	23		

Amenities

Furnishings

Amen 01 - Central Mailboxes

Location

Main entry lobby.

Description

Flush, front loading common mailboxes with brushed aluminum finish and extruded aluminum trim.

Information

Service Life:	30	Install Year:	1992
Chronological Age:	23	Next Event Year:	2022
Effective Age:	23		

Chateau Comox

Amen 02 - Furniture & Accessories

Location

Entry lobby and meeting room.

Description

A variety of chairs and tables. Chronological age refers to assumed average age.

Information

Service Life:	15	Install Year:	2000
Chronological Age:	15	Next Event Year:	2019
Effective Age:	11		

Sitework

Sitework

Site 01 - Sitework Shell

Location

[^]

Description

Sitework Shell

Information

Service Life:	25	Install Year:	1992
Chronological Age:	23	Next Event Year:	2017
Effective Age:	23		

Hard Landscaping

Site 02 - Concrete Paving

Location

Parkade entry ramp, lobby plaza, and walkways on east and west sides of the building.

Description

Concrete pavement, cast with control and construction joints, onto compacted gravel base.

Information

Service Life:	40	Install Year:	1992
Chronological Age:	23	Next Event Year:	2032
Effective Age:	23		

Site 03 - Metal Gate - Garbage Room

Location

Access to garbage room and parkade P3 stairwell on south elevation.

Description

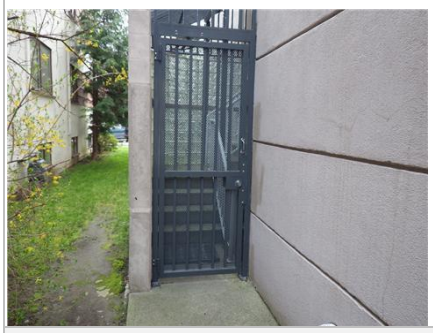
Metal framed gates with mesh infill.

Information

Service Life:	40	Install Year:	1992
Chronological Age:	23	Next Event Year:	2032
Effective Age:	23		

Chateau Comox

Site 04 - Metal Gate & Frame - Exterior Stairs



Location

Exterior stairwell access on east and west elevations.

Description

Painted metal gate and frame to restrict access.

Information

Service Life:	40	Install Year:	2010
Chronological Age:	5	Next Event Year:	2050
Effective Age:	5		

Soft Landscaping

Site 05 - Soft Landscaping

Location

Planters on north and south sides of the site.

Description

Flowers, bushes, hedges, and small trees (up to 30').

Information

Service Life:	15	Install Year:	1992
Chronological Age:	23	Next Event Year:	2022
Effective Age:	8		

Appendix C

Asset Service Life Summary

Chateau Comox
Asset Service Life Summary

Asset Ref	Asset Name	Chronological Age	Estimated Remaining SL
Enclosure			
Encl 01	Exposed SBS Membrane Roof	7	18
Encl 02	Protected SBS Membrane Deck (IRMA Assembly) with Traffic-Bearing Surface	16	14
Encl 03	Protected SBS Membrane Roof with Ballast (IRMA)	7	23
Encl 04	Protected SBS Membrane Roof & Deck (IRMA) with Traffic-Bearing Surface	7	23
Encl 05	Stucco Clad Soffit	23	17
Encl 06	Protected Podium Membrane	23	9
Encl 07	Guardrail Aluminum	23	9
Encl 08	Guardrail Glazed Aluminum	23	9
Encl 09	Concrete Wall with Acrylic Finish	23	52
Encl 10	Stucco Clad Wall - Drained - 2009	6	34
Encl 11	Stucco Clad Wall - Drained - 1999	16	24
Encl 12	Stucco Clad Wall - Undrained - 2009	6	14
Encl 13	Stucco Clad Wall - Undrained - Original	23	4
Encl 14	Aluminum Framed Window - 2009	6	34
Encl 15	Aluminum Framed Window - Original	23	17
Encl 16	Aluminum Storefront	23	17
Encl 17	Glass Block Window	23	13
Encl 18	T-Bar Skylight	23	7
Encl 19	Aluminum Frame Glazed Swing Door - 1999	16	9
Encl 20	Aluminum Frame Glazed Swing Door - Original	23	9
Encl 21	Aluminum Framed Sliding Glass Door - 2009	6	24
Encl 22	Aluminum Framed Sliding Glass Door - 2009	6	24
Encl 23	Aluminum Framed Sliding Glass Door - Original	23	4
Encl 24	Steel Swing Door	23	4
Encl 25	Exposed Urethane Balcony Membrane - Concrete Substrate (2009)	6	19
Encl 26	Exposed Urethane Balcony Membrane - Concrete Substrate (Original)	23	2
Encl 27	Open-grid Overhead Parkade Gate	23	9
Encl 28	Slab-on-Grade	23	52
Encl 29	Uncoated Parking Suspended Slab	23	52
Encl 30	General & Inspections	23	52
Encl 31	Sealant	6	4
Encl 32	Steel Stair	23	17

Chateau Comox
Asset Service Life Summary

Asset Ref	Asset Name	Chronological Age	Estimated Remaining SL
Electrical			
Elec 01	Emergency Generator	23	12
Elec 02	Electrical Distribution	23	17
Elec 03	Exterior Light Fixtures	6	14
Elec 04	Exterior Light Fixtures - Lamps Post	23	7
Elec 05	Interior Light Fixtures	23	2
Elec 06	Enterphone System	23	5
Elec 07	Proximity Access Control	11	5
Mechanical			
Mech 01	Gas Detection - Parking Garage	23	1
Mech 02	Heat Tracing - Freeze Protection	23	2
Mech 03	Drainage - Sanitary	23	27
Mech 04	Drainage - Storm - Exterior System	23	17
Mech 05	Drainage - Perimeter and Foundation	23	17
Mech 06	Drainage - Storm - Internal	23	17
Mech 07	Fixtures - Showers	23	2
Mech 08	Fixtures - Toilets	23	4
Mech 09	Fixtures - Taps & Sinks	23	4
Mech 10	Piping - Domestic Water Distribution	23	31
Mech 11	Piping - Gas Distribution	23	27
Mech 12	Pump - DHW - Recirculation	3	7
Mech 13	Pumps - Storm Lift and Control Panel	23	2
Mech 14	Tank - DHW - Heating - Gas Fired	9	1
Mech 15	Valves - Cross Connection & Backflow Prevention	23	2
Mech 16	Valves - Plumbing Flow Control and Directional	4	16
Mech 17	Baseboard - Electric	23	17
Mech 18	Coil - Electric - Duct Heater	23	2
Mech 19	Exhaust Fan - Parkade - Propellor	23	2
Mech 20	Indoor Air Handler - Gas Fired	23	2
Mech 21	Supply Fan - Inline Duct Blower	23	2
Mech 22	Overhead Gate Motor	1	7
Elevator			
Elev 01	Traction Elevators, Overhead Geared	23	2
Elev 02	Elevator Cabs & Hoistway	23	2

Chateau Comox
Asset Service Life Summary

Asset Ref	Asset Name	Chronological Age	Estimated Remaining SL
Fire Safety			
Fire 01	Fire Alarm Panel - Conventional	23	2
Fire 02	Fire Detection & Alarm	23	2
Fire 03	Dry Sprinkler Compressor	2	12
Fire 04	Dry Sprinklers - Wet System	23	7
Fire 05	Fire Hose Cabinet	23	2
Fire 06	Portable Fire Extinguisher	7	17
Fire 07	Sprinkler System - Wet	23	17
Fire 08	Sprinkler System - Dry	23	17
Fire 09	Sprinkler Valve Assembly - Dry	23	17
Fire 10	Exhaust Fan - Smoke Blower	23	2
Fire 11	Emergency Egress Equipment	7	13
Interior Finishes			
Finish 01	Floor Tile - Lobby	23	17
Finish 02	Floor Tile - Washrooms	23	17
Finish 03	Sheet Carpet - Levels 2, 6-8	3	12
Finish 04	Sheet Carpet - Levels 3-5	13	4
Finish 05	Sheet Carpet - Lobby	12	4
Finish 06	Sheet Carpet - Meeting Room	23	4
Finish 07	Ceramic Tile - Lobby	12	13
Finish 08	Ceramic Tile - Washrooms	23	4
Finish 09	Paint	6	4
Finish 10	Acoustic Ceiling Tile	23	27
Finish 11	Carpentry and Millwork	23	9
Finish 12	Interior Swing Door - General	23	7
Amenities			
Amen 01	Central Mailboxes	23	7
Amen 02	Furniture & Accessories	15	4
Sitework			
Site 01	Sitework Shell	23	2
Site 02	Concrete Paving	23	17
Site 03	Metal Gate - Garbage Room	23	17
Site 04	Metal Gate & Frame - Exterior Stairs	5	35
Site 05	Soft Landscaping	23	7

Appendix D

Funding Scenario Cash Flow Tables

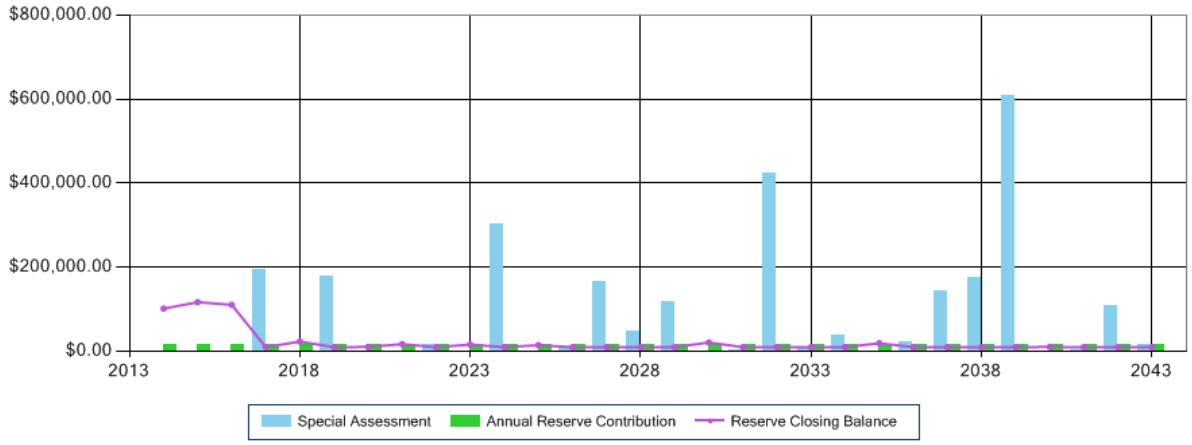
Funding Model - Fixed Annual Funding of $16,000 (Current 2014/2015)

Funding Model Name	Fixed Annual Funding of $16,000 (Current 2014/2015)		Initial Catch-Up Cost	$0
Building	Chateau Comox		Operating Budget	$103,000
Start Year	2014		Starting Reserve Balance	$85,000
Interest/Investment Rate	2.0 %		Contribution Threshold	$0
Estimated Contingency Allowance	$1,000		Contribution Below Threshold	$16,000
Tax Rate	0.0 %		Contribution Above Threshold	$16,000
Planning Horizon	30		Reserve Contribution Increase	0.0
Number of Units	21		Monthly Avg. Unit Contribution	$63

Year	Opening Balance	Reserve Contribution	Additional Funding	Reserve Income	Keep-Up	Contingency Costs	Tax Liability	Closing Balance	Percent Funded
2014	$85,000	$16,000	$0	$1,700	$0	$1,000	$0	$101,700	11.36 %
2015	$101,700	$16,000	$0	$2,034	$1,730	$1,000	$0	$117,004	11.84 %
2016	$117,004	$16,000	$0	$2,340	$23,600	$1,000	$0	$110,744	10.42 %
2017	$110,744	$16,000	$194,911	$2,215	$312,870	$1,000	$0	$10,000	1.18 %
2018	$10,000	$16,000	$0	$200	$2,000	$1,000	$0	$23,200	2.47 %
2019	$23,200	$16,000	$179,096	$464	$207,760	$1,000	$0	$10,000	1.21 %
2020	$10,000	$16,000	$0	$200	$14,600	$1,000	$0	$10,600	1.18 %
2021	$10,600	$16,000	$0	$212	$8,660	$1,000	$0	$17,152	1.74 %
2022	$17,152	$16,000	$16,995	$343	$39,490	$1,000	$0	$10,000	0.96 %
2023	$10,000	$16,000	$0	$200	$9,180	$1,000	$0	$16,020	1.41 %
2024	$16,020	$16,000	$301,460	$320	$322,800	$1,000	$0	$10,000	1.09 %
2025	$10,000	$16,000	$0	$200	$10,590	$1,000	$0	$14,610	1.47 %
2026	$14,610	$16,000	$7,198	$292	$27,100	$1,000	$0	$10,000	0.94 %
2027	$10,000	$16,000	$164,390	$200	$179,590	$1,000	$0	$10,000	1.02 %
2028	$10,000	$16,000	$46,700	$200	$61,900	$1,000	$0	$10,000	1.00 %
2029	$10,000	$16,000	$118,560	$200	$133,760	$1,000	$0	$10,000	1.04 %
2030	$10,000	$16,000	$0	$200	$4,100	$1,000	$0	$21,100	2.03 %
2031	$21,100	$16,000	$4,218	$422	$30,740	$1,000	$0	$10,000	0.91 %
2032	$10,000	$16,000	$422,870	$200	$438,070	$1,000	$0	$10,000	1.33 %
2033	$10,000	$16,000	$9,860	$200	$25,060	$1,000	$0	$10,000	1.25 %
2034	$10,000	$16,000	$37,800	$200	$53,000	$1,000	$0	$10,000	1.22 %
2035	$10,000	$16,000	$0	$200	$5,880	$1,000	$0	$19,320	2.19 %
2036	$19,320	$16,000	$22,694	$386	$47,400	$1,000	$0	$10,000	1.10 %
2037	$10,000	$16,000	$142,450	$200	$157,650	$1,000	$0	$10,000	1.21 %
2038	$10,000	$16,000	$174,500	$200	$189,700	$1,000	$0	$10,000	1.43 %
2039	$10,000	$16,000	$608,520	$200	$623,720	$1,000	$0	$10,000	7.69 %
2040	$10,000	$16,000	$0	$200	$14,640	$1,000	$0	$10,560	7.82 %
2041	$10,560	$16,000	$4,069	$211	$19,840	$1,000	$0	$10,000	7.46 %
2042	$10,000	$16,000	$108,670	$200	$123,870	$1,000	$0	$10,000	41.66 %
2043	$10,000	$16,000	$16,160	$200	$31,360	$1,000	$0	$10,000	100.00 %

Funding Model - Fixed Annual Funding of $16,000 (Current 2014/2015)

GRAPHIC REPRESENTATION



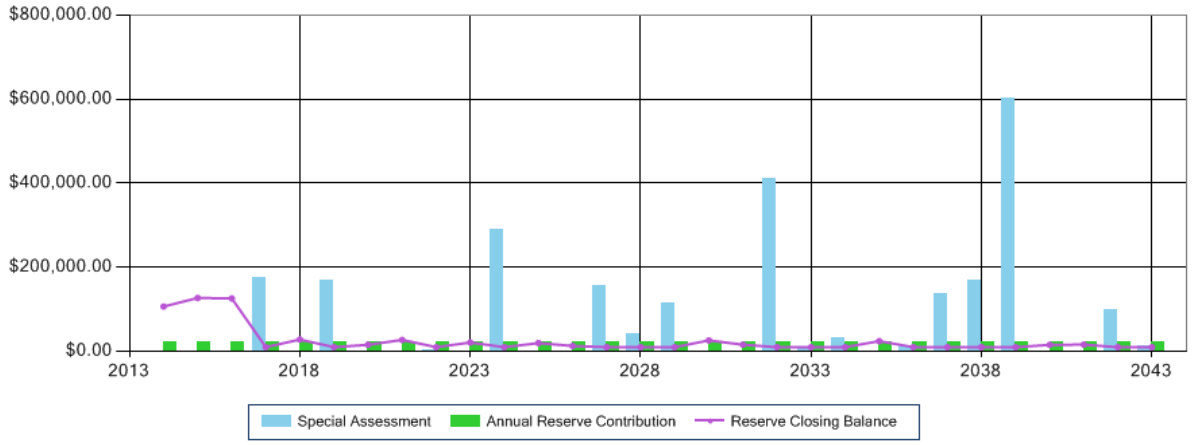
Funding Model - Fixed Annual Funding of $21,000 (Alternative #1)

Funding Model Name	Fixed Annual Funding of $21,000 (Alternative #1)		Initial Catch-Up Cost	$0
Building	Chateau Comox		Operating Budget	$103,000
Start Year	2014		Starting Reserve Balance	$85,000
Interest/Investment Rate	2.0 %		Contribution Threshold	$0
Estimated Contingency Allowance	$1,000		Contribution Below Threshold	$21,000
Tax Rate	0.0 %		Contribution Above Threshold	$21,000
Planning Horizon	30		Reserve Contribution Increase	0.0
Number of Units	21		Monthly Avg. Unit Contribution	$83

Year	Opening Balance	Reserve Contribution	Additional Funding	Reserve Income	Keep-Up	Contingency Costs	Tax Liability	Closing Balance	Percent Funded
2014	$85,000	$21,000	$0	$1,700	$0	$1,000	$0	$106,700	11.92 %
2015	$106,700	$21,000	$0	$2,134	$1,730	$1,000	$0	$127,104	12.86 %
2016	$127,104	$21,000	$0	$2,542	$23,600	$1,000	$0	$126,046	11.86 %
2017	$126,046	$21,000	$174,303	$2,521	$312,870	$1,000	$0	$10,000	1.18 %
2018	$10,000	$21,000	$0	$200	$2,000	$1,000	$0	$28,200	3.01 %
2019	$28,200	$21,000	$168,996	$564	$207,760	$1,000	$0	$10,000	1.21 %
2020	$10,000	$21,000	$0	$200	$14,600	$1,000	$0	$15,600	1.73 %
2021	$15,600	$21,000	$0	$312	$8,660	$1,000	$0	$27,252	2.77 %
2022	$27,252	$21,000	$1,693	$545	$39,490	$1,000	$0	$10,000	0.96 %
2023	$10,000	$21,000	$0	$200	$9,180	$1,000	$0	$21,020	1.85 %
2024	$21,020	$21,000	$291,360	$420	$322,800	$1,000	$0	$10,000	1.09 %
2025	$10,000	$21,000	$0	$200	$10,590	$1,000	$0	$19,610	1.98 %
2026	$19,610	$21,000	$0	$392	$27,100	$1,000	$0	$12,902	1.22 %
2027	$12,902	$21,000	$156,430	$258	$179,590	$1,000	$0	$10,000	1.02 %
2028	$10,000	$21,000	$41,700	$200	$61,900	$1,000	$0	$10,000	1.00 %
2029	$10,000	$21,000	$113,560	$200	$133,760	$1,000	$0	$10,000	1.04 %
2030	$10,000	$21,000	$0	$200	$4,100	$1,000	$0	$26,100	2.51 %
2031	$26,100	$21,000	$0	$522	$30,740	$1,000	$0	$15,882	1.44 %
2032	$15,882	$21,000	$411,870	$318	$438,070	$1,000	$0	$10,000	1.33 %
2033	$10,000	$21,000	$4,860	$200	$25,060	$1,000	$0	$10,000	1.25 %
2034	$10,000	$21,000	$32,800	$200	$53,000	$1,000	$0	$10,000	1.22 %
2035	$10,000	$21,000	$0	$200	$5,880	$1,000	$0	$24,320	2.75 %
2036	$24,320	$21,000	$12,594	$486	$47,400	$1,000	$0	$10,000	1.10 %
2037	$10,000	$21,000	$137,450	$200	$157,650	$1,000	$0	$10,000	1.21 %
2038	$10,000	$21,000	$169,500	$200	$189,700	$1,000	$0	$10,000	1.43 %
2039	$10,000	$21,000	$603,520	$200	$623,720	$1,000	$0	$10,000	7.69 %
2040	$10,000	$21,000	$0	$200	$14,640	$1,000	$0	$15,560	11.52 %
2041	$15,560	$21,000	$0	$311	$19,840	$1,000	$0	$16,031	11.96 %
2042	$16,031	$21,000	$97,518	$321	$123,870	$1,000	$0	$10,000	41.66 %
2043	$10,000	$21,000	$11,160	$200	$31,360	$1,000	$0	$10,000	100.00 %

Funding Model - Fixed Annual Funding of $21,000 (Alternative #1)

GRAPHIC REPRESENTATION



Funding Model - Fixed Annual Funding of $50,000 (Alternative #2)

Funding Model Name	Fixed Annual Funding of $50,000 (Alternative #2)		Initial Catch-Up Cost	$0
Building	Chateau Comox		Operating Budget	$103,000
Start Year	2014		Starting Reserve Balance	$85,000
Interest/Investment Rate	2.0 %		Contribution Threshold	$0
Estimated Contingency Allowance	$1,000		Contribution Below Threshold	$50,000
Tax Rate	0.0 %		Contribution Above Threshold	$50,000
Planning Horizon	30		Reserve Contribution Increase	0.0
Number of Units	21		Monthly Avg. Unit Contribution	$198

Year	Opening Balance	Reserve Contribution	Additional Funding	Reserve Income	Keep-Up	Contingency Costs	Tax Liability	Closing Balance	Percent Funded
2014	$85,000	$50,000	$0	$1,700	$0	$1,000	$0	$135,700	15.16 %
2015	$135,700	$50,000	$0	$2,714	$1,730	$1,000	$0	$185,684	18.79 %
2016	$185,684	$50,000	$0	$3,714	$23,600	$1,000	$0	$214,798	20.22 %
2017	$214,798	$50,000	$54,776	$4,296	$312,870	$1,000	$0	$10,000	1.18 %
2018	$10,000	$50,000	$0	$200	$2,000	$1,000	$0	$57,200	6.11 %
2019	$57,200	$50,000	$110,416	$1,144	$207,760	$1,000	$0	$10,000	1.21 %
2020	$10,000	$50,000	$0	$200	$14,600	$1,000	$0	$44,600	4.97 %
2021	$44,600	$50,000	$0	$892	$8,660	$1,000	$0	$85,832	8.74 %
2022	$85,832	$50,000	$0	$1,717	$39,490	$1,000	$0	$97,059	9.33 %
2023	$97,059	$50,000	$0	$1,941	$9,180	$1,000	$0	$138,820	12.26 %
2024	$138,820	$50,000	$142,204	$2,776	$322,800	$1,000	$0	$10,000	1.09 %
2025	$10,000	$50,000	$0	$200	$10,590	$1,000	$0	$48,610	4.91 %
2026	$48,610	$50,000	$0	$972	$27,100	$1,000	$0	$71,482	6.78 %
2027	$71,482	$50,000	$67,678	$1,430	$179,590	$1,000	$0	$10,000	1.02 %
2028	$10,000	$50,000	$12,700	$200	$61,900	$1,000	$0	$10,000	1.00 %
2029	$10,000	$50,000	$84,560	$200	$133,760	$1,000	$0	$10,000	1.04 %
2030	$10,000	$50,000	$0	$200	$4,100	$1,000	$0	$55,100	5.30 %
2031	$55,100	$50,000	$0	$1,102	$30,740	$1,000	$0	$74,462	6.78 %
2032	$74,462	$50,000	$323,119	$1,489	$438,070	$1,000	$0	$10,000	1.33 %
2033	$10,000	$50,000	$0	$200	$25,060	$1,000	$0	$34,140	4.28 %
2034	$34,140	$50,000	$0	$683	$53,000	$1,000	$0	$30,823	3.77 %
2035	$30,823	$50,000	$0	$616	$5,880	$1,000	$0	$74,559	8.45 %
2036	$74,559	$50,000	$0	$1,491	$47,400	$1,000	$0	$77,650	8.56 %
2037	$77,650	$50,000	$39,447	$1,553	$157,650	$1,000	$0	$10,000	1.21 %
2038	$10,000	$50,000	$140,500	$200	$189,700	$1,000	$0	$10,000	1.43 %
2039	$10,000	$50,000	$574,520	$200	$623,720	$1,000	$0	$10,000	7.69 %
2040	$10,000	$50,000	$0	$200	$14,640	$1,000	$0	$44,560	33.00 %
2041	$44,560	$50,000	$0	$891	$19,840	$1,000	$0	$74,611	55.68 %
2042	$74,611	$50,000	$8,767	$1,492	$123,870	$1,000	$0	$10,000	41.66 %
2043	$10,000	$50,000	$0	$200	$31,360	$1,000	$0	$27,840	100.00 %

Funding Model - Fixed Annual Funding of $50,000 (Alternative #2)

GRAPHIC REPRESENTATION

Funding Model - Fixed Annual Funding of $96,000 (Progressive)

Funding Model Name	Fixed Annual Funding of $96,000 (Progressive)		Initial Catch-Up Cost	$0
Building	Chateau Comox		Operating Budget	$103,000
Start Year	2014		Starting Reserve Balance	$85,000
Interest/Investment Rate	2.0 %		Contribution Threshold	$0
Estimated Contingency Allowance	$1,000		Contribution Below Threshold	$96,000
Tax Rate	0.0 %		Contribution Above Threshold	$96,000
Planning Horizon	30		Reserve Contribution Increase	0.0
Number of Units	21		Monthly Avg. Unit Contribution	$381

Year	Opening Balance	Reserve Contribution	Additional Funding	Reserve Income	Keep-Up	Contingency Costs	Tax Liability	Closing Balance	Percent Funded
2014	$85,000	$96,000	$0	$1,700	$0	$1,000	$0	$181,700	20.30 %
2015	$181,700	$96,000	$0	$3,634	$1,730	$1,000	$0	$278,604	28.19 %
2016	$278,604	$96,000	$0	$5,572	$23,600	$1,000	$0	$355,576	33.48 %
2017	$355,576	$96,000	$0	$7,112	$312,870	$1,000	$0	$144,818	17.11 %
2018	$144,818	$96,000	$0	$2,896	$2,000	$1,000	$0	$240,714	25.71 %
2019	$240,714	$96,000	$0	$4,814	$207,760	$1,000	$0	$132,768	16.19 %
2020	$132,768	$96,000	$0	$2,655	$14,600	$1,000	$0	$215,824	24.06 %
2021	$215,824	$96,000	$0	$4,316	$8,660	$1,000	$0	$306,480	31.20 %
2022	$306,480	$96,000	$0	$6,130	$39,490	$1,000	$0	$368,120	35.39 %
2023	$368,120	$96,000	$0	$7,362	$9,180	$1,000	$0	$461,302	40.75 %
2024	$461,302	$96,000	$0	$9,226	$322,800	$1,000	$0	$242,728	26.67 %
2025	$242,728	$96,000	$0	$4,855	$10,590	$1,000	$0	$331,993	33.53 %
2026	$331,993	$96,000	$0	$6,640	$27,100	$1,000	$0	$406,533	38.57 %
2027	$406,533	$96,000	$0	$8,131	$179,590	$1,000	$0	$330,073	33.95 %
2028	$330,073	$96,000	$0	$6,601	$61,900	$1,000	$0	$369,775	37.01 %
2029	$369,775	$96,000	$0	$7,395	$133,760	$1,000	$0	$338,410	35.43 %
2030	$338,410	$96,000	$0	$6,768	$4,100	$1,000	$0	$436,078	42.01 %
2031	$436,078	$96,000	$0	$8,722	$30,740	$1,000	$0	$509,060	46.40 %
2032	$509,060	$96,000	$0	$10,181	$438,070	$1,000	$0	$176,171	23.48 %
2033	$176,171	$96,000	$0	$3,523	$25,060	$1,000	$0	$249,635	31.36 %
2034	$249,635	$96,000	$0	$4,993	$53,000	$1,000	$0	$296,627	36.35 %
2035	$296,627	$96,000	$0	$5,933	$5,880	$1,000	$0	$391,680	44.40 %
2036	$391,680	$96,000	$0	$7,834	$47,400	$1,000	$0	$447,113	49.29 %
2037	$447,113	$96,000	$0	$8,942	$157,650	$1,000	$0	$393,406	47.91 %
2038	$393,406	$96,000	$0	$7,868	$189,700	$1,000	$0	$306,574	44.11 %
2039	$306,574	$96,000	$226,015	$6,131	$623,720	$1,000	$0	$10,000	7.69 %
2040	$10,000	$96,000	$0	$200	$14,640	$1,000	$0	$90,560	67.08 %
2041	$90,560	$96,000	$0	$1,811	$19,840	$1,000	$0	$167,531	125.02 %
2042	$167,531	$96,000	$0	$3,351	$123,870	$1,000	$0	$142,012	591.71 %
2043	$142,012	$96,000	$0	$2,840	$31,360	$1,000	$0	$208,492	100.00 %

Funding Model - Fixed Annual Funding of $96,000 (Progressive)

GRAPHIC REPRESENTATION

Appendix E

Disclosures and Disclaimers

RDH
Making Buildings Better

224 W 8th Avenue
Vancouver, BC V5Y 1N5

604 873 1181
rdhbe.com

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 regarded 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 F

RDH Qualifications

Depreciation Report

New regulations in British Columbia make Depreciation Reports mandatory for most strata corporations. RDH Building Engineering Ltd. offers building science and building asset management services from three offices in BC; Vancouver, Victoria, and Courtenay. 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. To supplement our in-house expertise, we consult subconsultants for items such as elevator and swimming pool reviews. 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. David Albrice is a certified Professional Reserve Analyst and was one of the key people consulted when the legislation was drafted. He has an unrivaled depth of understanding of the physical, financial planning, and strata governance issues that need to be considered in the development of an effective Depreciation Report.

About Us

David Albrice, B.Sc. URP, ARP, PRA

- Professional Reserve Analyst, APRA
- B.Sc. Urban and Regional Planning
- Associate Reserve Planner, REIC
- Project Manager on 100s of Facility Condition Assessments and Reserve Studies (Depreciation Reports)

Mike Wilson, P.Eng.

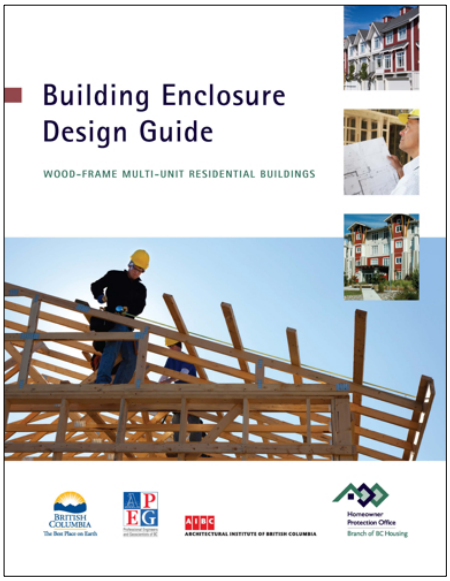
- B.Eng. & M.Eng., Structural Engineering
- Registered professional engineer, APEGBC
- 20 years experience as a consultant focused in the field of building science

Mark Will, Dipl.T., BA

- Dipl.T., Building Science Technology
- B.A., Economics
- 15 years experience in project management
- CHOA Board Member

Peter Fitch, C.Tech.

- UBC/UBCM Certified Professional program (audit only)
- Member of Applied Science Technologists & Technicians of British Columbia
- 30 years of experience in the mechanical design field



Matt Mulleray, P.Eng.

- B.A.Sc., Civil Engineering
- Dipl.T., Civil and Structural Engineering
- Registered professional engineer, APEGBC
- 10 years experience in bldg. science & engineering consulting

Harvey Goodman, P.Eng.

- B.A.Sc., Civil Engineering
- Registered professional engineer, APEGBC
- 20 years experience in building science consulting

Serge Desmarais, Architect AIBC, CP

- B.Arch.
- Registered architect, AIBC
- Certified Professional, UBC
- 30 years experience in building design and construction capital renewal projects

Jason Dunn, B.Arch.Sc., CCCA

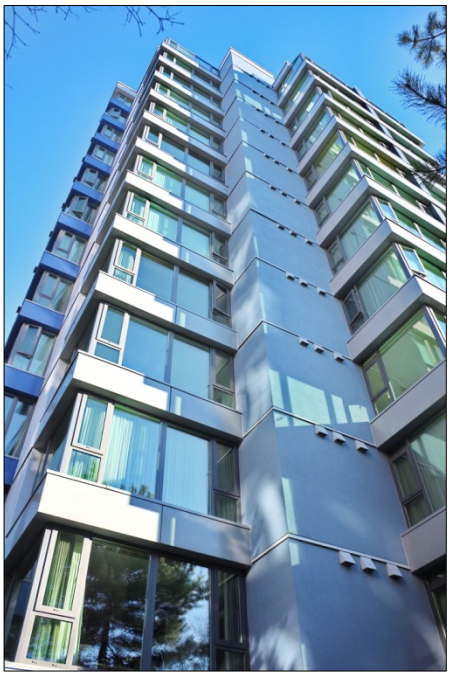
- B.Arch.Sc, Building Science Option
- Certified Construction Contract Administrator, CSC
- 10 years experience in building science consulting

Robin Breuer, A.Sc.T., RRO

- Dipl.T., Building Engineering Technology (Building Science Option)
- Registered Roof Observer, RCI Inc.
- 15 years experience in building science consulting

Laureen Stokes, Dipl.T.

- Dipl.T., Architectural & Building Engineering Technology (Building Science Option)
- 5 years experience in building science consulting



Tim Smith, A.Sc.T.

- Dipl.T., Civil Engineering Technologist
- Member of Applied Science Technologists & Technicians of British Columbia
- 5 years experience in building science consulting

Amy Montgomery, EIT

- B.Sc., Mechanical Engineering
- M.A.Sc., Mechanical Engineering, in progress

Byron Searle, BBSc

- BBSc., Building Science, New Zealand
- 3 years experience in Carpentry
- 2 years experience in Architectural Drafting

Jesus De Mesa, Dipl.T.

- Dipl.T., Architectural & Building Engineering Technology (Building Science Option)

Alex Seto, Dipl.T.

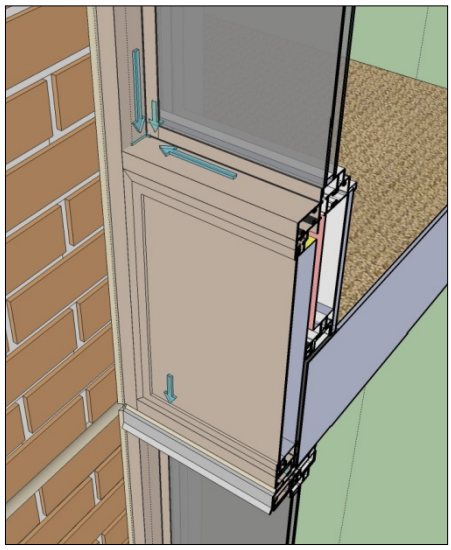
- Dipl.T., Architectural & Building Engineering Technology (Building Science Option)

Roma Santos, Dipl.T.

- Dipl.T., Architectural & Building Engineering Technology (Building Science Option)

Brandon Carreira, Dipl.T.

- Dipl.T., Architectural & Building Engineering Technology (Building Science Option)



Jesse Listoen, Dipl.T.

- Dipl.T., Architectural & Building Engineering Technology (Building Science Option)

James Hornett, Dipl.T.

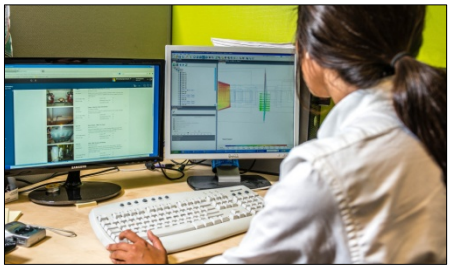
- Dipl.T., Architectural & Building Engineering Technology (Building Science Option)

Nicola Alexander, B.Tech.

- B.Tech., Architectural Science

Megan Butland, Dipl.T.

- Dipl.T., Civil Engineering
- Certificate, Drafting



Administrators and Client Support

Vanessa Jumawan

- 5 years experience in administration with engineering/architecture firm

Anna Qiu

- Cert., Business Administration
- 10 years experience in administration with engineering/architecture firm

Software Support and Programmers

Matthew Branch, P.Eng.

- B.Sc., Civil Engineering
- Registered professional engineer, APEGBC
- 13 years experience in engineering data analysis

Gary Zhang, B.Sc.

- B.Sc., Computer Science and Engineering
- 15 years experience in software development

Kan Ma, B.Sc.

- B.Sc., Computing Science
- 7 years experience in software development

Quantity Take-Offs

Andrea Corona, Dipl.

- Dipl., Small Craft Naval Architecture
- 25 years experience in architectural drafting

Roya Kiani Amin, B.Sc.

- B.Sc., Civil Engineering
- 5 years experience in architectural drafting
- 2 years experience in construction

Brigitte MacKenzie

- 3-year Apprenticeship Program, Germany
- 25 years experience in architectural drafting

Appendix G

Insurance Certificate

Ref. No. 320006981632 AMENDED

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

Amending Certificate No. : 320006980411

Re: Evidence of Insurance:

To Whom It May Concern

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 Engineering Ltd.
224 West 8th Avenue
Vancouver, BC V5Y 1N5

Coverage

Commercial General Liability

Insurer Royal & Sun Alliance Ins Co of Canada

Policy # 8141333

Effective 02-May-2014 **Expiry** 02-May-2015

Limits of Liability

Bodily Injury & Property Damage, Each Occurrence $5,000,000
Products and Completed Operations, Aggregate $5,000,000
Personal Injury $5,000,000
Non-Owned Automobile Liability $5,000,000
Policy may be subject to a general aggregate and other aggregates where applicable

Professional Liability

Insurer Lloyd's Underwriters

Policy # QC1402155

Effective 02-May-2014 **Expiry** 02-May-2015

Limits of Liability

Subject to aggregate where applicable

Terms and / or Additional Coverage

Professional Liability
Limit: $2,000,000 Per Claim Limit / $4,000,000 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

AON

Ref. No. 320006981632 AMENDED

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.

LHadden

Dated : 06-May-2014
Issued By : Hadden,Lindsay D.
Tel : 604-443-2524

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

AON