

# **Depreciation Report**

**Absolute Building Science Strata Engineering Inc.** 



## **Cover Letter**

Absolute Building Science Strata Engineering Inc. #2322-938 Smithe Street Vancouver, BC V6B 1E5

August 18, 2014

# **RE:** Depreciation Report for Strata Plan VR File No.

Dear Sirs or Mesdames,

The subject of this depreciation report consists of a 24-unit four-storey apartment-style complex constructed in 1990 and located at Street in Vancouver, BC. We are pleased to present you with the enclosed depreciation report, which we believe will serve as the basis of your reserve planning to help better equip your members for future expenditures.

The depreciation report describes the common property conditions, providing current and future replacement cost estimates. The projected replacement cost estimates serve to be the basis for financial models guiding contingency reserve fund management. The depreciation report is an extensive document prepared based on on-site inspections and financial analyses. The replacement cost estimates herein apply solely to property defined as common property, unless otherwise noted. This depreciation report is subject to the Assumptions and Limiting Conditions in Section 2.1.

We have inspected the subject property and reviewed all documentations made available by the strata corporation. With extensive analyses performed in conjunction with all pertinent data, our cash flow models predict that the optimal reserve fund management includes the following:

- 1) Contributions of \$11,028 to the CRF in the upcoming fiscal year; and
- 2) An increase of monthly fee allocations to the Contingency Reserve Fund by \$20.93 per unit. (Note that this does not necessarily entail an increase in strata fees, but rather an increase in the allocations to the CRF within the annual budget.)

We are hereby delivering to you a report describing our study objectives, methods of research, results, and recommendations.

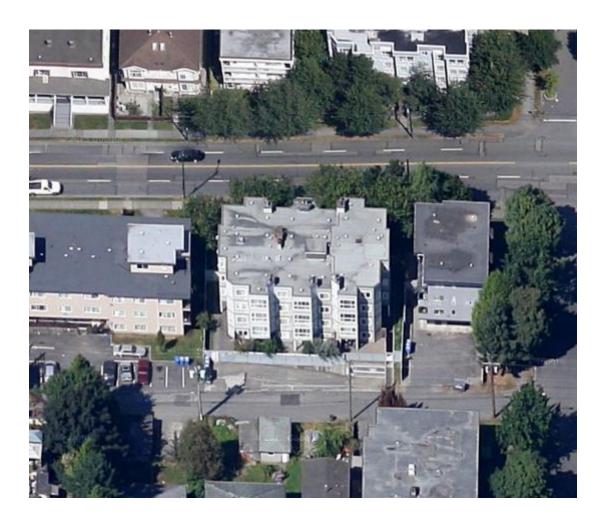


We appreciate the opportunity of compiling this depreciation report for you and would be honoured to provide you with reviews and updating services as required in future. If you have any questions, please do not hesitate to contact the undersigned.

Respectfully yours,

**Absolute Building Science Strata Engineering Inc.** 







## **Executive Summary**

Property Statistics						
Municipal Address						
Legal Description						
Real Property Type	Concrete apartment-style complex	Concrete apartment-style complex				
Units	24					
Year of Construction	1990					
<b>Designated Land Use</b>	Multi-family residential					
Reserve Fund	47 total components: 3 substructur	re components; 16	shell components, 8			
Components	interior finishes components, 11 services components, 1 furnishing					
	component, and 8 site improvement components.					
Financial Statistics						
Date of Study	September 23, 2013					
<b>Critical Assumptions</b>	The review is limited to readily accessible and visible building components					
	and documents. Certain inaccessib detected.	le, hidden problem	s may not be			
Current Contingency Reserve Fund Balance	\$33,751					
Future Replacement Costs	First 10 years: \$192,084 Final 20 years: \$1,408,943					
	•	Contributions	Financial Strength			
<b>CRF Contributions and</b>	Current investment schedule:	\$155,000	12%			
<b>Financial Strength Over</b>	Early investment schedule:	\$1,542,438	100%			
30-year Projection	Delayed investment schedule:	\$1,568,638	100%			
,	Capped increase schedule:	\$554,125	38%			
	Capped special levies schedule:	\$1,460,547	89%			
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## 1. Introduction

## 1.1 Strata Development

A strata development divides land and buildings into parts for separate ownership with common features. The part of the property that an individual owns is known as the "strata lot", whereas the remainder of the property is known as "common property". Strata-titled properties, commonly known as condominiums, provide freehold ownership of a strata lot, together with the use of common property and facilities jointly owned with all strata units.

The strata development is administered by a strata corporation comprising of all owners within the strata development. The strata corporation is the decision-making body responsible for maintaining, managing, repairing, and insuring the common property and common assets. The strata corporation is also tasked with record-keeping responsibilities and must enforce its bylaws or rules.

The Strata Property Act<sup>1</sup> (the "**Act**"), bylaws, and Strata Plan of the corporation are the typical documents governing the operation of the strata corporation. They form the legal basis of the strata corporation and are generally enforceable in a court of law should the need arise.

As legislated within the Act, an executive body, known as a strata council, is elected annually by the strata owners to oversee the strata corporation during intervals between general meetings of all members. The strata council meets at regular intervals and makes decisions on behalf of and binding upon all owners for matters concerning the administration of the strata development that do not require the vote of the strata owners.

The strata council usually hires a strata manager or property manager for the management and maintenance of all common areas and facilities including the exterior of the buildings. The strata manager implements the decisions of the strata council, approves expenses, pays accounts according to the budget, administers the collection of monthly maintenance fees, and performs other like duties. In cases of self-managed stratas, the strata council directly oversees the management and maintenance of all common areas and facilities, assuming the duties of a strata manager.

<sup>&</sup>lt;sup>1</sup> Strata Property Act, SBC 1998, c 43, as amended



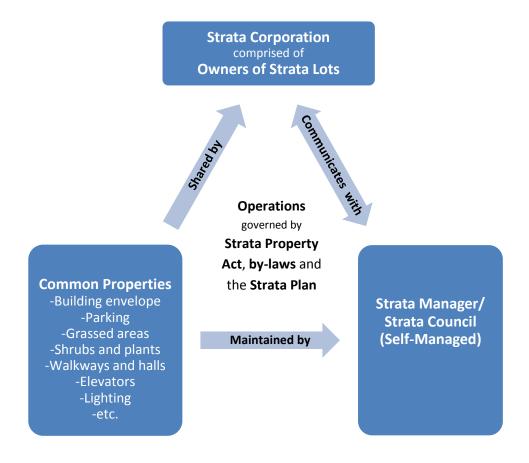


Figure 1: The strata community

#### 1.2 Finances

In order to cover the costs of operating the strata, owners are assessed dues (termed maintenance fees or strata fees) for their proportionate share of the strata corporation's expenses based on their unit entitlement (a measure of the owner's allocated interest within the development). The strata fees are used to establish: 1) the operating fund, and 2) the contingency reserve fund. As outlined within the Act<sup>2</sup>, these two funds cover the short-term and long-term expenses of the Strata Corporation.

## 1.2.1 Operating Fund

The operating fund is a fund set up for expenses that relate to the common properties and common assets of strata corporations that occur more than once per year<sup>3</sup>. These are normally recurring administrative expenses or costs that relate to the routine maintenance of the common properties. The operating expenses are treated as a separate sum of expenses and are not taken into consideration for the purposes of this report.

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<sup>&</sup>lt;sup>2</sup> Strata Property Act, SBC 1998, c 43, s 92

<sup>&</sup>lt;sup>3</sup> Ibid



#### 1.2.2 Contingency Reserve Fund

The contingency reserve fund ("CRF") is a fund set up for expenses that occur less than once per year or do not usually occur<sup>4</sup> (e.g. major repairs like roof repairs, machinery repairs, etc.). The CRF constitutes an important part of the strata corporation's annual budget and is generally collected by means of strata fee contributions to a separate CRF account. Ideally, all major repair and replacement costs would be covered by the funds in the CRF account.

## 1.2.3 Special Levy

The Strata Corporation may raise money from the owners by means of a special levy for various reasons, the primary reason being that the CRF is insufficient to cover the Strata Corporation's existing or anticipated expenditures. A special levy must be approved by a resolution passed by a minimum 3/4 vote at an annual or special general meeting.

## 1.2.4 Legislation Governing the CRF

Section 6.1 of the Strata Property Regulation (the "Regulation") sets out a formula for the purposes of determining the amount of the annual contribution to the CRF, as follows<sup>5</sup>:

- 6.1 ... the amount of the annual contribution to the CRF for a fiscal year, other than the fiscal year following the first annual general meeting, must be determined as follows:
- (a) if the amount of money in the CRF at the end of any fiscal year after the first annual general meeting is less than 25% of the total amount budgeted for the contribution to the operating fund for the fiscal year that has just ended, the annual contribution to the CRF for the current fiscal year must be at least the lesser of
- (i) 10% of the total amount budgeted for the contribution to the operating fund for the current fiscal year, and
- (ii) the amount required to bring the CRF to at least 25% of the total amount budgeted for the contribution to the operating fund for the current fiscal year;
- (b) if the amount of money in the CRF at the end of any fiscal year after the first annual general meeting is equal to or greater than 25% of the total amount budgeted for the contribution to the operating fund for the fiscal year that has just ended, additional contributions to the CRF may be made as part of the annual

<sup>&</sup>lt;sup>4</sup> Ibid

<sup>&</sup>lt;sup>5</sup> Strata Property Regulation, BC Reg. 238/2011, s 6.1, as amended



budget approval process after consideration of the depreciation report, if any, obtained under section 94 of the Act.

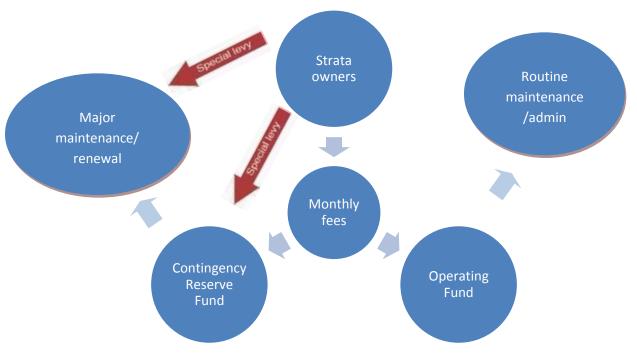


Figure 2: Financial structure of the strata community

## 1.3 Depreciation Reports

The depreciation report, also known as a reserve fund study, is a legislated planning requirement for strata corporations in British Columbia. Depreciation reports are used to establish long-term planning for CRF management. They are prepared after a thorough assessment of common properties and finances of the strata corporation, taking into account projected expenditures, replacement costs, and other factors.

Common properties for the purposes of a depreciation report include those items that comprise the common property, the common assets, the parts of a strata lot and/or limited common property that the Strata Corporation is responsible to maintain or repair under the Act<sup>6</sup>, and the strata corporation's bylaws or an agreement with an owner, including, but not limited to, the following items:

- the building's structure;
- the building's exterior, including roofs, roof decks, doors, windows and skylights;
- the building's systems, including the electrical, heating, plumbing, fire protection and security systems;

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<sup>&</sup>lt;sup>6</sup> Strata Property Act, supra note 1



- common amenities and facilities;
- parking facilities and roadways;
- utilities, including water and sewage;
- landscaping, including paths, sidewalks, fencing and irrigation;
- interior finishes, including floor covering and furnishings;
- green building components; and
- balconies and patios.

## 1.3.1 Benefits of a Depreciation Report

Some important benefits to a well-prepared depreciation report are listed as follows:

- A. The depreciation report ensures that the strata corporation complies with the Act. As discussed earlier, the Regulation<sup>7</sup> sets out certain thresholds for the management of the CRF. The depreciation report recommends a cash-flow model that will balance expenditures and corresponding special levies to assist the strata corporation with maintaining such compliance.
- B. The depreciation report seeks to optimize strata investments over time. The depreciation report is a planning tool which recommends a schedule for planned investment of funds amassed through strata fees. This optimized investment schedule incorporating interest and inflation contributions seek to ensure CRF sufficiency while maximizing returns.
- C. The depreciation report provides a more accurate description of a strata's financial strength and market value. Hence, other parties such as lending institutions for the strata's individual owners or prospective owners often review depreciation reports when considering financing decisions, such as credit-worthiness. Depreciation reports are important tools for evaluating a property and its value.
- D. The depreciation report allows for the preservation of the property value through a timely maintenance schedule. The depreciation report identifies the condition of major items of a strata corporation and their maintenance/replacement costs. It also provides preventative maintenance recommendations, which can help preserve the condition of the components and possibly extend their residual or useful lives.
- E. The depreciation report identifies risks for consumers interested in the property. As depreciation reports gain widespread use, consumers will use them as tools to gauge possible special levies or otherwise unknown future costs. This increases consumers' confidence in purchasing the property.

<sup>&</sup>lt;sup>7</sup> Strata Property Regulation, supra note 3



F. The depreciation report may also identify unknown risks to strata corporations, allowing for better management. Many strata corporations assume that their budgeted CRF contributions can adequately cover their expenses. However, developer estimates may be outdated and may not have accounted for modifications made since the complex was first conveyed. Hence, the interim calculations may not have reflected the strata's true exposure.

## 1.3.2 Legislation Regarding the Depreciation Report

The depreciation report must be completed by a "qualified person" as defined in the Act<sup>8</sup>. It must be based upon an on-site visual inspection, comprising of a physical component inventory, a summary of repairs and maintenance work for common property expenses (for items that usually occur less than once per year or that do not usually occur), a financial forecasting section, and other information specified in the Regulation<sup>9</sup>. Beginning on December 13, 2012, a depreciation report is required to be conducted every 3 years and may only be deferred with a 3/4 vote at an annual or a special general meeting for strata corporations that are members of a prescribed class of strata corporations. These details outlined within the Act<sup>10</sup> can be found in Appendix A.

## 1.4 Objectives

This depreciation report can be used as a guide to establish long term planning for the management of common assets or properties outlined in detail in Section 1.3. Strata Engineering strives to use this report to determine the following:

- The common properties the strata corporation owns;
- The condition of common properties in the strata corporation;
- The timeline for replacement of the common properties of the strata corporation;
- The balance within the CRF;
- The cost for future replacement of common properties; and
- Five cash flow models outlining future payments for future costs.

#### 1.5 Intended Use

This depreciation report has been completed for the exclusive use of the strata corporation, Strata Plan VR . No other party may rely on the report without specific written approval of Strata Engineering. This depreciation report is subject to the assumptions and limiting conditions set out in Appendix D attached hereto.

<sup>8</sup> Strata Property Act, SBC 1998, c 43, s 94.1

<sup>&</sup>lt;sup>9</sup> Strata Property Regulation, BC Reg. 238/2011, s 6.2

<sup>&</sup>lt;sup>10</sup> Strata Property Act, SBC 1998, c 43, s 94



## 2. Methods

A physical assessment and a financial assessment were first performed, providing information regarding the current status of the building. After determining the common properties, the data were used to generate different strategic plans.

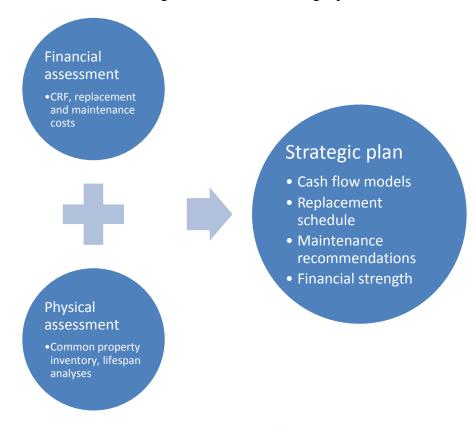


Figure 3: Formulation of the strategic plan

## 2.1 Assumptions and Limitations

This work resulted in recommendations made based on the information reviewed by the personnel at the time of preparation. This is not a certification of compliance with past or present regulations. This depreciation report is to be read in its entirety and as a whole. No portion of this report can be severed or read independently of the other portions.

This work does not completely eliminate uncertainty regarding the potential for existing or future costs, hazards or losses in connection with a property. Neither physical testing nor design calculations have been performed unless specifically noted. Conditions existing but not noted were not apparent given the level of study undertaken. Only conditions visibly apparent during examination of representative samples have been reviewed.



Only the specific information identified below has been reviewed. Absolute Building Science Strata Engineering (ABSSEI) is not obligated to identify mistakes or insufficiencies in the information obtained from the various sources or to verify the accuracy of the information.

The depreciation report estimates are subjective and are provided for approximate budgeting purposes only. The figures are calculated based on an understanding of the life cycle of building components and comparative analyses of similar properties over time. Accurate figures can only be obtained by establishing a scope of work and receiving quotes from suitable contractors. Time frames given for undertaking replacement or maintenance work represent our opinion of when to budget for the work. Failure of the item, or the optimum repair or replacement process, may vary from our estimate.

## 2.2 Physical Assessment

#### 2.2.1 Physical Inspection

A site visit was performed on September 23, 2013 at

Street in Vancouver,

BC.

#### 2.2.2 Documentation Review

The following documents were reviewed upon availability from the Strata Corporation:

- Building plans architectural
- AGM and SGM minutes (2008-2012)
- Financial statements (2010-2013)
- Bylaws (2013)
- Appraisal report (2013)
- Approved budget (2013-2014)

## 2.2.3 Inspection of Common Properties

#### 2.2.3.1 Common Property Classification

During the inspection, we classify the common properties assets according to the Uniformat II<sup>11</sup> system, specified by the National Institute of Standards and Technology. The Uniformat II system is organized into seven major building component divisions, with a letter assigned to each specific division. The building components inspected are classified into the following divisions<sup>12</sup>:

<sup>&</sup>lt;sup>11</sup> ASTM Uniformat II for Building Elements (E1557-97)

<sup>&</sup>lt;sup>12</sup> Components belonging to certain divisions may not be inspected due to accessibility issues.



- 1. Substructure: Slab on grade, underground garage and basement structures
- 2. *Shell:* Roof construction, exterior walls, exterior windows, balconies etc.
- 3. *Interiors:* Wall finishes, floor finishes, stairs, partitions etc.
- 4. *Services:* Elevators and lifts, HVAC, fire protection etc.
- 5. Equipment and furnishings: Commercial, institutional equipment, furniture etc.
- 6. *Special construction and demolition:* Special structures, integrated construction, special facilities etc.
- 7. *Site improvements:* Paving, landscaping, sewers etc.

## 2.2.3.2 Reserve Component Inventory

The reserve component inventory was compiled following the inspection and included in Section 3.2. It lists all common properties inspected, along with their quantities and life cycle indices.

## 2.2.4 Remaining Useful Life Estimation

The method of estimating the remaining useful life of common properties first necessitates the determination of their physical condition. The chronological age of any asset may not equate to its effective age. Some assets' lifetimes may have been prolonged by continued maintenance whereas others might have undergone rapid deterioration due to unforeseen circumstances or neglect.

In this depreciation report, the effective age of a common property is estimated via documentation review, discussion with facility representatives, and visual inspection. The total useful life is estimated based on industry standards of comparative improvements. The remaining useful life is thus represented by the following equation:

Remaining useful life 
$$=$$
 Estimated useful life  $-$  Effective age

No destructive testing was carried out on any of the common properties, nor were the common properties disassembled or subjected to confirmation of functionality.

#### 2.3 Financial Assessment

Over the life of every building, owners contribute towards operating, maintenance, and renewal costs of capital assets. Occasionally, more comprehensive rehabilitation costs are also incurred.



The financial assessment identifies the following:

- The current replacement costs of the common properties and their future replacement costs;
- The status of the current CRF balance and how it is impacted by ongoing CRF requirements; and
- The ability of the current budget to meet major maintenance renewal needs.

This depreciation report is primarily concerned with costs of building upkeep. Expenditures such as legal consultation fees and unforeseen emergency expenses are not included.

## 2.3.1 Future Replacement Cost Estimation

The future replacement cost estimation is performed using the current replacement cost compounded by an average inflation rate across the remaining useful life of the components. Replacement costs were estimated based on the cost data service provided by RSMeans Online<sup>13</sup>. Inflation measurement in this depreciation report is based on construction indices rather than the widely quoted Consumer Price Index (CPI) which measures consumer goods. The average inflation rate was calculated based on changes in construction price index over a period of 20 years from 1991 to 2011. From the analysis, the inflation rate was found to be 3.4%.

## 2.3.2 Projected Cash Flow

The projected cash flow predicts how well the CRF would be able to cover necessary replacement costs over the next 30 years. There will be five cash flow models for your reference.

Model 1 (Current Investment Schedule): This model maintains the current method of funding the CRF and estimates future special levies based on current CRF contributions. This method has the effect of deferring the funding of replacement costs for your Common Properties to the date when such replacement is required, resulting in larger special levies and greater future financial burden.

<u>Model 2 (Early Investment Schedule):</u> This model increases current CRF contributions rapidly over the next three years, such that no special levies will be required over the 30-year projection. Depending on interest rates, this method potentially allows for the greatest investment returns, maximizing financial strength.

Model 3 (Delayed Investment Schedule): This model increases current CRF contributions over a period of five years, such that the financial position at the end of the 30-year

<sup>&</sup>lt;sup>13</sup> www.rsmeansonline.com



projection is the same as that of Model 2. This method still allows for a reasonable return on investment while maintaining financial strength.

<u>Model 4 (Partially Funded Investment Schedule – Capped Increase):</u> This model increases current CRF contributions by a maximum of 50% in the next two years. For the remaining 30-year projection, CRF contributions are increased annually by the current inflation rate.

<u>Model 5 (Partially Funded Investment Schedule – Capped Special Levies):</u> This model increases current CRF contributions over the next three years, such that the sum of all special levies for the 30-year projection is \$200,000 or less. For the remaining 30-year projection, CRF contributions are increased annually by the current inflation rate.

#### 2.3.2.1 Current CRF Levels

Current CRF level is defined as the opening balance of the reserve account beginning the year in which the inspection took place. In this case, it is \$33,751 beginning in 2013. In cases where reserve accounts are unavailable, the current CRF level is calculated by summing the total amount of funds set aside for major replacement or repairs beginning the year during which the inspection is performed.

#### 2.3.2.2 Special Levies

The Strata Corporation may raise money from the owners by means of a special levy for various reasons, the primary reason being that the CRF is insufficient to cover the Strata Corporation's existing or anticipated expenditures. A special levy must be approved by a resolution passed by a minimum 3/4 vote at an annual or special general meeting.

#### 2.3.2.3 Investment Returns

For this report, the strata corporation's funds are placed with a savings account. Hence, investment returns are estimated to be 2.5%.

#### 2.3.2.4 CRF Contributions

CRF contributions with all our cash flow models except the current model are set based on different calculations tailored to different scenarios.

#### 2.3.2.5 Calculations

The closing balance for a given year was calculated as follows:

Closing balance

- = (CRF opening balance + CRF contributions + investment returns)
- + Special levies) Replacement expenses



#### 2.3.3 Financial Strength

Within this depreciation report, the analysis is performed primarily based upon the CRF of the Strata Corporation, not accounting for operating expenses that are paid through the operating fund. The financial strength of the Strata Corporation is thus the proportion of replacement or maintenance expenses that can be covered by the CRF contributions and investment returns. The optimal CRF with maximized financial strength would be able to cover all expenses at any given time, resulting in no special levies over a specified period.

#### 2.3.3.1 Reserve Requirements

Insufficiency in this depreciation report is determined by the percent of replacement expenses covered by special levies, given by the following formula:

$$\%$$
 Insufficiency =  $\frac{Special\ levies}{Replacement\ expenses} \times 100\%$ 

Financial strength in this depreciation report is expressed in the following formula:

$$\%$$
 Financial strength =  $100\% - \frac{Total\ special\ levies}{Total\ replacement\ expenses}$ 

Hence, 100% strength means that no special levies are needed (insufficiency is 0%).



## 3. Results

## 3.1 Building Information

The building investigated was a 24-unit four-storey apartment-style complex built in 1990 for residential purposes. The key statistics of the building are presented in Table 1 below.

**Table 1: Property statistics** 

The Nicolyn	
Municipal Address:	
Legal description	
Real property type	Concrete apartment-style complex
Units	24
Year of Construction	1990
Designated land use	Multi-family residential use
Reserve fund components	47 total components: 3 substructure components; 16 shell components, 8 interior finishes components, 11 services components, 1 furnishing component, and 8 site improvement components.

## 3.2 Reserve Components Inventory

The identified components were grouped into major categories according to the Uniformat II system. The schedule of common property components can be found on the next page. Detailed descriptions can be found in Appendix B (reserve component data sheets) and the major replacement schedule regarding the components can be found in Appendix D. The reserve components included within this budget is listed in the following table.



Table 2 : Reserve components

Component	Estimated Useful	Effective Age	Remaining Useful
	Life (years)	(years)	Life (years)
Foundation slab	Building life	23	Building life
Parkade roof slab	Building life	23	Building life
Parkade walls	Building life	23	Building life
Patio flooring	Building life	23	Building life
Patio fencing	12	3	9
Exterior stairs	Building life	23	Building life
Caulking and weather-stripping	8	0	8
Cladding	30	10	20
Exterior painting	8	3	5
Balcony soffits	30	10	20
Exterior windows	30	15	15
Exterior windows (glazing)	15	10	5
Patio doors	15	10	5
Main entrance doors	25	15	10
Garage doors	50	20	30
Roofing	30	9	21
Roof flashing	30	9	21
Roof drains	30	9	21
Roof vents	30	9	21
Service doors	50	20	30
Egress doors	50	20	30
Unit entry doors	50	20	30
Interior stairs	20	3	17
Stair railings	50	20	30
Wall finishes	8	3	5
Floor finishes	20	3	17
Ceiling surfaces	8	3	5
Elevator machinery	30	10	20
Elevator cab	30	10	20
Water distribution	Building life	3	Building life
Sanitary waste drainage	Building life	3	Building life
Rain water drainage	Building life	3	Building life
Heating generating system	Contingency	N/A	Contingency
Exhaust and ventilating system	20	0	20
Wet and dry sprinkler systems	Building life	3	Building life
Exit and emergency lights	Building life	N/A	Contingency
Lighting fixtures	Contingency	N/A	Contingency
Intercom systems	15	10	5
Mailboxes	Building life	23	Building life
Exterior paving	Building life	23	
		8	Building life
Fencing	12		4
Retaining wall	12 Contingonal	7	5 Contingonal
Bells	Contingency	N/A	Contingency
Smoke alarms	Contingency	N/A	Contingency
Sanitary sewers	Building life	23	Building life
Storm sewers	Building life	23	Building life
Site lighting	Contingency	N/A	Contingency



## 3.3 Thirty-Year Cash Flow Models

Cash flow models allow you to tailor your budget to suit your own needs or financial abilities. We have provided five distinct cash flow models for the estimation of CRF contributions and special levies not accounting for preventive maintenance. In each of these models, calculations are based on the 2013 CRF opening balance of \$33,751. In order to satisfy legal requirements, special levies are assessed to bring the CRF closing balance to \$10,000 where there is a shortfall in covering replacement or repair expenses.

#### 3.3.1 Model 1: Current Investment Schedule

In the current investment schedule, an annual CRF contribution of \$5,000 (as noted in the annual budget for 2013) is kept constant over the 30-year projection. Over the 30-year projection, twenty-six special levies, ranging from \$2,054 to \$177,542 are expected to be required to cover all replacement expenses. An investment return of \$15,859 is obtained.

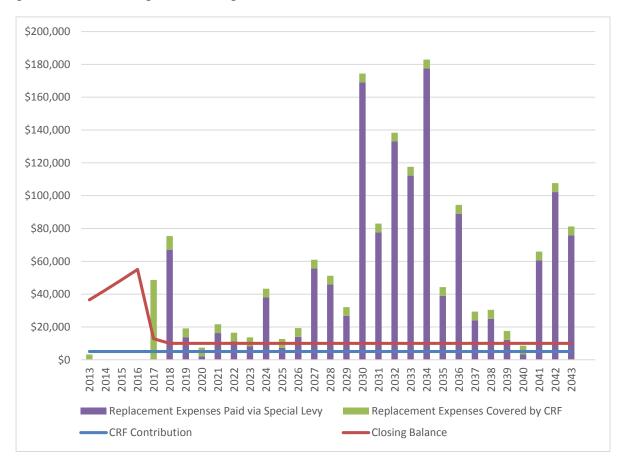


Figure 4: 30-year projection of CRF cash flow using current investment schedule



Table 3: Cash flow table for CRF with current investment schedule

2013         \$33,751         \$5,000         \$969         \$3,238         \$0         \$36,482           2014         \$36,482         \$5,000         0%         \$1,037         \$0         \$0         \$42,519           2015         \$42,519         \$5,000         0%         \$1,188         \$0         \$0         \$48,707           2016         \$48,707         \$5,000         0%         \$1,343         \$0         \$0         \$55,049           2017         \$55,049         \$5,000         0%         \$1,501         \$48,698         \$0         \$12,853           2018         \$12,853         \$5,000         0%         \$375         \$19,142         \$13,767         \$10,000           2019         \$10,000         \$5,000         0%         \$375         \$19,142         \$13,767         \$10,000           2020         \$10,000         \$5,000         0%         \$375         \$7,429         \$2,054         \$10,000           2021         \$10,000         \$5,000         0%         \$375         \$21,638         \$16,263         \$10,000           2022         \$10,000         \$5,000         0%         \$375         \$13,691         \$8,316         \$10,000           2023	Voor	Opening	CRF	Contribution	Investment	Replacement	Special	Closing
2014         \$36,482         \$5,000         0%         \$1,037         \$0         \$0         \$42,519           2015         \$42,519         \$5,000         0%         \$1,188         \$0         \$0         \$48,707           2016         \$48,707         \$5,000         0%         \$1,343         \$0         \$0         \$55,049           2017         \$55,049         \$5,000         0%         \$1,501         \$48,698         \$0         \$12,853           2018         \$12,853         \$5,000         0%         \$446         \$75,417         \$67,119         \$10,000           2019         \$10,000         \$5,000         0%         \$375         \$19,142         \$13,767         \$10,000           2020         \$10,000         \$5,000         0%         \$375         \$74,29         \$2,054         \$10,000           2021         \$10,000         \$5,000         0%         \$375         \$21,638         \$16,263         \$10,000           2022         \$10,000         \$5,000         0%         \$375         \$13,691         \$8,316         \$10,000           2023         \$10,000         \$5,000         0%         \$375         \$13,691         \$8,316         \$10,000      <	Year	balance	contributions	changes	returns	expenses	levies	balance
2015         \$42,519         \$5,000         0%         \$1,188         \$0         \$0         \$48,707           2016         \$48,707         \$5,000         0%         \$1,343         \$0         \$0         \$55,049           2017         \$55,049         \$5,000         0%         \$1,501         \$48,698         \$0         \$12,853           2018         \$12,853         \$5,000         0%         \$446         \$75,417         \$67,119         \$10,000           2019         \$10,000         \$5,000         0%         \$375         \$19,142         \$13,767         \$10,000           2020         \$10,000         \$5,000         0%         \$375         \$7,429         \$2,054         \$10,000           2021         \$10,000         \$5,000         0%         \$375         \$21,638         \$16,263         \$10,000           2022         \$10,000         \$5,000         0%         \$375         \$16,521         \$11,146         \$10,000           2022         \$10,000         \$5,000         0%         \$375         \$13,691         \$8,316         \$10,000           2023         \$10,000         \$5,000         0%         \$375         \$12,696         \$7,321         \$10,000 <td></td> <td></td> <td></td> <td>00/</td> <td>•</td> <td></td> <td></td> <td></td>				00/	•			
2016         \$48,707         \$5,000         0%         \$1,343         \$0         \$0         \$55,049           2017         \$55,049         \$5,000         0%         \$1,501         \$48,698         \$0         \$12,853           2018         \$12,853         \$5,000         0%         \$446         \$75,417         \$67,119         \$10,000           2019         \$10,000         \$5,000         0%         \$375         \$19,142         \$13,767         \$10,000           2020         \$10,000         \$5,000         0%         \$375         \$7,429         \$2,054         \$10,000           2021         \$10,000         \$5,000         0%         \$375         \$21,638         \$16,263         \$10,000           2022         \$10,000         \$5,000         0%         \$375         \$16,521         \$11,146         \$10,000           2023         \$10,000         \$5,000         0%         \$375         \$13,691         \$8,316         \$10,000           2024         \$10,000         \$5,000         0%         \$375         \$43,336         \$37,961         \$10,000           2025         \$10,000         \$5,000         0%         \$375         \$12,696         \$7,321         \$10,000								
2017         \$55,049         \$5,000         0%         \$1,501         \$48,698         \$0         \$12,853           2018         \$12,853         \$5,000         0%         \$446         \$75,417         \$67,119         \$10,000           2019         \$10,000         \$5,000         0%         \$375         \$19,142         \$13,767         \$10,000           2020         \$10,000         \$5,000         0%         \$375         \$7,429         \$2,054         \$10,000           2021         \$10,000         \$5,000         0%         \$375         \$21,638         \$16,263         \$10,000           2022         \$10,000         \$5,000         0%         \$375         \$16,521         \$11,146         \$10,000           2023         \$10,000         \$5,000         0%         \$375         \$13,691         \$8,316         \$10,000           2024         \$10,000         \$5,000         0%         \$375         \$43,336         \$37,961         \$10,000           2025         \$10,000         \$5,000         0%         \$375         \$12,696         \$7,321         \$10,000           2026         \$10,000         \$5,000         0%         \$375         \$60,993         \$55,618         \$10,		•				•	•	
2018         \$12,853         \$5,000         0%         \$446         \$75,417         \$67,119         \$10,000           2019         \$10,000         \$5,000         0%         \$375         \$19,142         \$13,767         \$10,000           2020         \$10,000         \$5,000         0%         \$375         \$7,429         \$2,054         \$10,000           2021         \$10,000         \$5,000         0%         \$375         \$21,638         \$16,263         \$10,000           2022         \$10,000         \$5,000         0%         \$375         \$16,521         \$11,146         \$10,000           2023         \$10,000         \$5,000         0%         \$375         \$13,691         \$8,316         \$10,000           2024         \$10,000         \$5,000         0%         \$375         \$43,336         \$37,961         \$10,000           2025         \$10,000         \$5,000         0%         \$375         \$12,696         \$7,321         \$10,000           2026         \$10,000         \$5,000         0%         \$375         \$19,285         \$13,910         \$10,000           2027         \$10,000         \$5,000         0%         \$375         \$51,239         \$45,864         \$						•		
2019         \$10,000         \$5,000         0%         \$375         \$19,142         \$13,767         \$10,000           2020         \$10,000         \$5,000         0%         \$375         \$7,429         \$2,054         \$10,000           2021         \$10,000         \$5,000         0%         \$375         \$21,638         \$16,263         \$10,000           2022         \$10,000         \$5,000         0%         \$375         \$16,521         \$11,146         \$10,000           2023         \$10,000         \$5,000         0%         \$375         \$13,691         \$8,316         \$10,000           2024         \$10,000         \$5,000         0%         \$375         \$43,336         \$37,961         \$10,000           2025         \$10,000         \$5,000         0%         \$375         \$12,696         \$7,321         \$10,000           2026         \$10,000         \$5,000         0%         \$375         \$60,993         \$55,618         \$10,000           2027         \$10,000         \$5,000         0%         \$375         \$51,289         \$45,864         \$10,000           2028         \$10,000         \$5,000         0%         \$375         \$32,065         \$26,690         \$							•	
2020         \$10,000         \$5,000         0%         \$375         \$7,429         \$2,054         \$10,000           2021         \$10,000         \$5,000         0%         \$375         \$21,638         \$16,263         \$10,000           2022         \$10,000         \$5,000         0%         \$375         \$16,521         \$11,146         \$10,000           2023         \$10,000         \$5,000         0%         \$375         \$13,691         \$8,316         \$10,000           2024         \$10,000         \$5,000         0%         \$375         \$43,336         \$37,961         \$10,000           2025         \$10,000         \$5,000         0%         \$375         \$12,696         \$7,321         \$10,000           2026         \$10,000         \$5,000         0%         \$375         \$19,285         \$13,910         \$10,000           2027         \$10,000         \$5,000         0%         \$375         \$60,993         \$55,618         \$10,000           2028         \$10,000         \$5,000         0%         \$375         \$32,065         \$26,690         \$10,000           2030         \$10,000         \$5,000         0%         \$375         \$138,355         \$10,000								
2021         \$10,000         \$5,000         0%         \$375         \$21,638         \$16,263         \$10,000           2022         \$10,000         \$5,000         0%         \$375         \$16,521         \$11,146         \$10,000           2023         \$10,000         \$5,000         0%         \$375         \$13,691         \$8,316         \$10,000           2024         \$10,000         \$5,000         0%         \$375         \$43,336         \$37,961         \$10,000           2025         \$10,000         \$5,000         0%         \$375         \$12,696         \$7,321         \$10,000           2026         \$10,000         \$5,000         0%         \$375         \$19,285         \$13,910         \$10,000           2027         \$10,000         \$5,000         0%         \$375         \$60,993         \$55,618         \$10,000           2028         \$10,000         \$5,000         0%         \$375         \$51,239         \$45,864         \$10,000           2029         \$10,000         \$5,000         0%         \$375         \$32,065         \$26,690         \$10,000           2030         \$10,000         \$5,000         0%         \$375         \$12,420         \$169,045 <t< td=""><td></td><td></td><td></td><td></td><td>•</td><td></td><td></td><td></td></t<>					•			
2022         \$10,000         \$5,000         0%         \$375         \$16,521         \$11,146         \$10,000           2023         \$10,000         \$5,000         0%         \$375         \$13,691         \$8,316         \$10,000           2024         \$10,000         \$5,000         0%         \$375         \$43,336         \$37,961         \$10,000           2025         \$10,000         \$5,000         0%         \$375         \$12,696         \$7,321         \$10,000           2026         \$10,000         \$5,000         0%         \$375         \$19,285         \$13,910         \$10,000           2027         \$10,000         \$5,000         0%         \$375         \$60,993         \$55,618         \$10,000           2028         \$10,000         \$5,000         0%         \$375         \$51,239         \$45,864         \$10,000           2028         \$10,000         \$5,000         0%         \$375         \$32,065         \$26,690         \$10,000           2030         \$10,000         \$5,000         0%         \$375         \$174,420         \$169,045         \$10,000           2031         \$10,000         \$5,000         0%         \$375         \$138,355         \$132,980								
2023         \$10,000         \$5,000         0%         \$375         \$13,691         \$8,316         \$10,000           2024         \$10,000         \$5,000         0%         \$375         \$43,336         \$37,961         \$10,000           2025         \$10,000         \$5,000         0%         \$375         \$12,696         \$7,321         \$10,000           2026         \$10,000         \$5,000         0%         \$375         \$19,285         \$13,910         \$10,000           2027         \$10,000         \$5,000         0%         \$375         \$60,993         \$55,618         \$10,000           2028         \$10,000         \$5,000         0%         \$375         \$51,239         \$45,864         \$10,000           2029         \$10,000         \$5,000         0%         \$375         \$32,065         \$26,690         \$10,000           2030         \$10,000         \$5,000         0%         \$375         \$174,420         \$169,045         \$10,000           2031         \$10,000         \$5,000         0%         \$375         \$82,985         \$77,610         \$10,000           2032         \$10,000         \$5,000         0%         \$375         \$138,355         \$132,980								
2024         \$10,000         \$5,000         0%         \$375         \$43,336         \$37,961         \$10,000           2025         \$10,000         \$5,000         0%         \$375         \$12,696         \$7,321         \$10,000           2026         \$10,000         \$5,000         0%         \$375         \$19,285         \$13,910         \$10,000           2027         \$10,000         \$5,000         0%         \$375         \$60,993         \$55,618         \$10,000           2028         \$10,000         \$5,000         0%         \$375         \$51,239         \$45,864         \$10,000           2029         \$10,000         \$5,000         0%         \$375         \$32,065         \$26,690         \$10,000           2030         \$10,000         \$5,000         0%         \$375         \$82,985         \$77,610         \$10,000           2031         \$10,000         \$5,000         0%         \$375         \$82,985         \$77,610         \$10,000           2032         \$10,000         \$5,000         0%         \$375         \$138,355         \$132,980         \$10,000           2033         \$10,000         \$5,000         0%         \$375         \$117,576         \$112,201	2022			0%				
2025         \$10,000         \$5,000         0%         \$375         \$12,696         \$7,321         \$10,000           2026         \$10,000         \$5,000         0%         \$375         \$19,285         \$13,910         \$10,000           2027         \$10,000         \$5,000         0%         \$375         \$60,993         \$55,618         \$10,000           2028         \$10,000         \$5,000         0%         \$375         \$51,239         \$45,864         \$10,000           2029         \$10,000         \$5,000         0%         \$375         \$32,065         \$26,690         \$10,000           2030         \$10,000         \$5,000         0%         \$375         \$174,420         \$169,045         \$10,000           2031         \$10,000         \$5,000         0%         \$375         \$82,985         \$77,610         \$10,000           2032         \$10,000         \$5,000         0%         \$375         \$138,355         \$132,980         \$10,000           2033         \$10,000         \$5,000         0%         \$375         \$112,201         \$10,000           2034         \$10,000         \$5,000         0%         \$375         \$182,917         \$177,542         \$10,000	2023	\$10,000	\$5,000	0%	\$375	\$13,691		\$10,000
2026         \$10,000         \$5,000         0%         \$375         \$19,285         \$13,910         \$10,000           2027         \$10,000         \$5,000         0%         \$375         \$60,993         \$55,618         \$10,000           2028         \$10,000         \$5,000         0%         \$375         \$51,239         \$45,864         \$10,000           2029         \$10,000         \$5,000         0%         \$375         \$32,065         \$26,690         \$10,000           2030         \$10,000         \$5,000         0%         \$375         \$174,420         \$169,045         \$10,000           2031         \$10,000         \$5,000         0%         \$375         \$82,985         \$77,610         \$10,000           2031         \$10,000         \$5,000         0%         \$375         \$138,355         \$132,980         \$10,000           2032         \$10,000         \$5,000         0%         \$375         \$117,576         \$112,201         \$10,000           2033         \$10,000         \$5,000         0%         \$375         \$182,917         \$177,542         \$10,000           2034         \$10,000         \$5,000         0%         \$375         \$44,243         \$38,868	2024	\$10,000	\$5,000	0%	\$375	\$43,336	\$37,961	\$10,000
2027         \$10,000         \$5,000         0%         \$375         \$60,993         \$55,618         \$10,000           2028         \$10,000         \$5,000         0%         \$375         \$51,239         \$45,864         \$10,000           2029         \$10,000         \$5,000         0%         \$375         \$32,065         \$26,690         \$10,000           2030         \$10,000         \$5,000         0%         \$375         \$174,420         \$169,045         \$10,000           2031         \$10,000         \$5,000         0%         \$375         \$82,985         \$77,610         \$10,000           2032         \$10,000         \$5,000         0%         \$375         \$138,355         \$132,980         \$10,000           2033         \$10,000         \$5,000         0%         \$375         \$118,355         \$112,201         \$10,000           2034         \$10,000         \$5,000         0%         \$375         \$182,917         \$177,542         \$10,000           2035         \$10,000         \$5,000         0%         \$375         \$44,243         \$38,868         \$10,000           2036         \$10,000         \$5,000         0%         \$375         \$94,355         \$88,980	2025	\$10,000	\$5,000	0%	\$375	\$12,696	\$7,321	\$10,000
2028         \$10,000         \$5,000         0%         \$375         \$51,239         \$45,864         \$10,000           2029         \$10,000         \$5,000         0%         \$375         \$32,065         \$26,690         \$10,000           2030         \$10,000         \$5,000         0%         \$375         \$174,420         \$169,045         \$10,000           2031         \$10,000         \$5,000         0%         \$375         \$82,985         \$77,610         \$10,000           2032         \$10,000         \$5,000         0%         \$375         \$138,355         \$132,980         \$10,000           2033         \$10,000         \$5,000         0%         \$375         \$117,576         \$112,201         \$10,000           2034         \$10,000         \$5,000         0%         \$375         \$182,917         \$177,542         \$10,000           2035         \$10,000         \$5,000         0%         \$375         \$44,243         \$38,868         \$10,000           2036         \$10,000         \$5,000         0%         \$375         \$94,355         \$88,980         \$10,000           2037         \$10,000         \$5,000         0%         \$375         \$29,384         \$24,009	2026	\$10,000	\$5,000	0%	\$375	\$19,285	\$13,910	\$10,000
2029         \$10,000         \$5,000         0%         \$375         \$32,065         \$26,690         \$10,000           2030         \$10,000         \$5,000         0%         \$375         \$174,420         \$169,045         \$10,000           2031         \$10,000         \$5,000         0%         \$375         \$82,985         \$77,610         \$10,000           2032         \$10,000         \$5,000         0%         \$375         \$138,355         \$132,980         \$10,000           2033         \$10,000         \$5,000         0%         \$375         \$117,576         \$112,201         \$10,000           2034         \$10,000         \$5,000         0%         \$375         \$182,917         \$177,542         \$10,000           2035         \$10,000         \$5,000         0%         \$375         \$44,243         \$38,868         \$10,000           2036         \$10,000         \$5,000         0%         \$375         \$94,355         \$88,980         \$10,000           2037         \$10,000         \$5,000         0%         \$375         \$29,384         \$24,009         \$10,000           2038         \$10,000         \$5,000         0%         \$375         \$30,384         \$25,009	2027	\$10,000	\$5,000	0%	\$375	\$60,993	\$55,618	\$10,000
2030         \$10,000         \$5,000         0%         \$375         \$174,420         \$169,045         \$10,000           2031         \$10,000         \$5,000         0%         \$375         \$82,985         \$77,610         \$10,000           2032         \$10,000         \$5,000         0%         \$375         \$138,355         \$132,980         \$10,000           2033         \$10,000         \$5,000         0%         \$375         \$117,576         \$112,201         \$10,000           2034         \$10,000         \$5,000         0%         \$375         \$182,917         \$177,542         \$10,000           2035         \$10,000         \$5,000         0%         \$375         \$44,243         \$38,868         \$10,000           2036         \$10,000         \$5,000         0%         \$375         \$94,355         \$88,980         \$10,000           2037         \$10,000         \$5,000         0%         \$375         \$29,384         \$24,009         \$10,000           2038         \$10,000         \$5,000         0%         \$375         \$30,384         \$25,009         \$10,000           2039         \$10,000         \$5,000         0%         \$375         \$17,599         \$12,224	2028	\$10,000	\$5,000	0%	\$375	\$51,239	\$45,864	\$10,000
2031         \$10,000         \$5,000         0%         \$375         \$82,985         \$77,610         \$10,000           2032         \$10,000         \$5,000         0%         \$375         \$138,355         \$132,980         \$10,000           2033         \$10,000         \$5,000         0%         \$375         \$117,576         \$112,201         \$10,000           2034         \$10,000         \$5,000         0%         \$375         \$182,917         \$177,542         \$10,000           2035         \$10,000         \$5,000         0%         \$375         \$44,243         \$38,868         \$10,000           2036         \$10,000         \$5,000         0%         \$375         \$94,355         \$88,980         \$10,000           2037         \$10,000         \$5,000         0%         \$375         \$29,384         \$24,009         \$10,000           2038         \$10,000         \$5,000         0%         \$375         \$30,384         \$25,009         \$10,000           2039         \$10,000         \$5,000         0%         \$375         \$8,632         \$3,257         \$10,000           2040         \$10,000         \$5,000         0%         \$375         \$65,910         \$60,535	2029	\$10,000	\$5,000	0%	\$375	\$32,065	\$26,690	\$10,000
2032         \$10,000         \$5,000         0%         \$375         \$138,355         \$132,980         \$10,000           2033         \$10,000         \$5,000         0%         \$375         \$117,576         \$112,201         \$10,000           2034         \$10,000         \$5,000         0%         \$375         \$182,917         \$177,542         \$10,000           2035         \$10,000         \$5,000         0%         \$375         \$44,243         \$38,868         \$10,000           2036         \$10,000         \$5,000         0%         \$375         \$94,355         \$88,980         \$10,000           2037         \$10,000         \$5,000         0%         \$375         \$29,384         \$24,009         \$10,000           2038         \$10,000         \$5,000         0%         \$375         \$30,384         \$25,009         \$10,000           2039         \$10,000         \$5,000         0%         \$375         \$17,599         \$12,224         \$10,000           2040         \$10,000         \$5,000         0%         \$375         \$8,632         \$3,257         \$10,000           2041         \$10,000         \$5,000         0%         \$375         \$65,910         \$60,535	2030	\$10,000	\$5,000	0%	\$375	\$174,420	\$169,045	\$10,000
2033         \$10,000         \$5,000         0%         \$375         \$117,576         \$112,201         \$10,000           2034         \$10,000         \$5,000         0%         \$375         \$182,917         \$177,542         \$10,000           2035         \$10,000         \$5,000         0%         \$375         \$44,243         \$38,868         \$10,000           2036         \$10,000         \$5,000         0%         \$375         \$94,355         \$88,980         \$10,000           2037         \$10,000         \$5,000         0%         \$375         \$29,384         \$24,009         \$10,000           2038         \$10,000         \$5,000         0%         \$375         \$30,384         \$25,009         \$10,000           2039         \$10,000         \$5,000         0%         \$375         \$17,599         \$12,224         \$10,000           2040         \$10,000         \$5,000         0%         \$375         \$8,632         \$3,257         \$10,000           2041         \$10,000         \$5,000         0%         \$375         \$65,910         \$60,535         \$10,000           2042         \$10,000         \$5,000         0%         \$375         \$107,605         \$102,230	2031	\$10,000	\$5,000	0%	\$375	\$82,985	\$77,610	\$10,000
2034         \$10,000         \$5,000         0%         \$375         \$182,917         \$177,542         \$10,000           2035         \$10,000         \$5,000         0%         \$375         \$44,243         \$38,868         \$10,000           2036         \$10,000         \$5,000         0%         \$375         \$94,355         \$88,980         \$10,000           2037         \$10,000         \$5,000         0%         \$375         \$29,384         \$24,009         \$10,000           2038         \$10,000         \$5,000         0%         \$375         \$30,384         \$25,009         \$10,000           2039         \$10,000         \$5,000         0%         \$375         \$17,599         \$12,224         \$10,000           2040         \$10,000         \$5,000         0%         \$375         \$8,632         \$3,257         \$10,000           2041         \$10,000         \$5,000         0%         \$375         \$65,910         \$60,535         \$10,000           2042         \$10,000         \$5,000         0%         \$375         \$107,605         \$102,230         \$10,000	2032	\$10,000	\$5,000	0%	\$375	\$138,355	\$132,980	\$10,000
2035         \$10,000         \$5,000         0%         \$375         \$44,243         \$38,868         \$10,000           2036         \$10,000         \$5,000         0%         \$375         \$94,355         \$88,980         \$10,000           2037         \$10,000         \$5,000         0%         \$375         \$29,384         \$24,009         \$10,000           2038         \$10,000         \$5,000         0%         \$375         \$30,384         \$25,009         \$10,000           2039         \$10,000         \$5,000         0%         \$375         \$17,599         \$12,224         \$10,000           2040         \$10,000         \$5,000         0%         \$375         \$8,632         \$3,257         \$10,000           2041         \$10,000         \$5,000         0%         \$375         \$65,910         \$60,535         \$10,000           2042         \$10,000         \$5,000         0%         \$375         \$107,605         \$102,230         \$10,000	2033	\$10,000	\$5,000	0%	\$375	\$117,576	\$112,201	\$10,000
2036         \$10,000         \$5,000         0%         \$375         \$94,355         \$88,980         \$10,000           2037         \$10,000         \$5,000         0%         \$375         \$29,384         \$24,009         \$10,000           2038         \$10,000         \$5,000         0%         \$375         \$30,384         \$25,009         \$10,000           2039         \$10,000         \$5,000         0%         \$375         \$17,599         \$12,224         \$10,000           2040         \$10,000         \$5,000         0%         \$375         \$8,632         \$3,257         \$10,000           2041         \$10,000         \$5,000         0%         \$375         \$65,910         \$60,535         \$10,000           2042         \$10,000         \$5,000         0%         \$375         \$107,605         \$102,230         \$10,000	2034	\$10,000	\$5,000	0%	\$375	\$182,917	\$177,542	\$10,000
2037         \$10,000         \$5,000         0%         \$375         \$29,384         \$24,009         \$10,000           2038         \$10,000         \$5,000         0%         \$375         \$30,384         \$25,009         \$10,000           2039         \$10,000         \$5,000         0%         \$375         \$17,599         \$12,224         \$10,000           2040         \$10,000         \$5,000         0%         \$375         \$8,632         \$3,257         \$10,000           2041         \$10,000         \$5,000         0%         \$375         \$65,910         \$60,535         \$10,000           2042         \$10,000         \$5,000         0%         \$375         \$107,605         \$102,230         \$10,000	2035	\$10,000	\$5,000	0%	\$375	\$44,243	\$38,868	\$10,000
2038       \$10,000       \$5,000       0%       \$375       \$30,384       \$25,009       \$10,000         2039       \$10,000       \$5,000       0%       \$375       \$17,599       \$12,224       \$10,000         2040       \$10,000       \$5,000       0%       \$375       \$8,632       \$3,257       \$10,000         2041       \$10,000       \$5,000       0%       \$375       \$65,910       \$60,535       \$10,000         2042       \$10,000       \$5,000       0%       \$375       \$107,605       \$102,230       \$10,000	2036	\$10,000	\$5,000	0%	\$375	\$94,355	\$88,980	\$10,000
2039       \$10,000       \$5,000       0%       \$375       \$17,599       \$12,224       \$10,000         2040       \$10,000       \$5,000       0%       \$375       \$8,632       \$3,257       \$10,000         2041       \$10,000       \$5,000       0%       \$375       \$65,910       \$60,535       \$10,000         2042       \$10,000       \$5,000       0%       \$375       \$107,605       \$102,230       \$10,000	2037	\$10,000	\$5,000	0%	\$375	\$29,384	\$24,009	\$10,000
2039       \$10,000       \$5,000       0%       \$375       \$17,599       \$12,224       \$10,000         2040       \$10,000       \$5,000       0%       \$375       \$8,632       \$3,257       \$10,000         2041       \$10,000       \$5,000       0%       \$375       \$65,910       \$60,535       \$10,000         2042       \$10,000       \$5,000       0%       \$375       \$107,605       \$102,230       \$10,000	2038	\$10,000	\$5,000	0%	\$375	\$30,384	\$25,009	\$10,000
2040       \$10,000       \$5,000       0%       \$375       \$8,632       \$3,257       \$10,000         2041       \$10,000       \$5,000       0%       \$375       \$65,910       \$60,535       \$10,000         2042       \$10,000       \$5,000       0%       \$375       \$107,605       \$102,230       \$10,000	2039	\$10,000	\$5,000	0%	\$375	\$17,599	\$12,224	\$10,000
2042 \$10,000 \$5,000 0% \$375 \$107,605 \$102,230 \$10,000	2040	\$10,000	\$5,000	0%	\$375	\$8,632	\$3,257	\$10,000
2042 \$10,000 \$5,000 0% \$375 \$107,605 \$102,230 \$10,000	2041	\$10,000	\$5,000	0%	\$375	\$65,910	\$60,535	\$10,000
	2042	\$10,000	\$5,000	0%		\$107,605	\$102,230	\$10,000
2013 910,000 93/3 901,272 973,037 910,000	2043	\$10,000	\$5,000	0%	\$375	\$81,272	\$75,897	\$10,000



## 3.3.2 Model 2: Early Investment Schedule (Recommended)

In the early investment schedule, contributions to the initial opening balance in the CRF increase 121% per year over the next three years. Over the 30-year projection, no special levies are expected to be required. An investment return of \$233,451 is obtained.

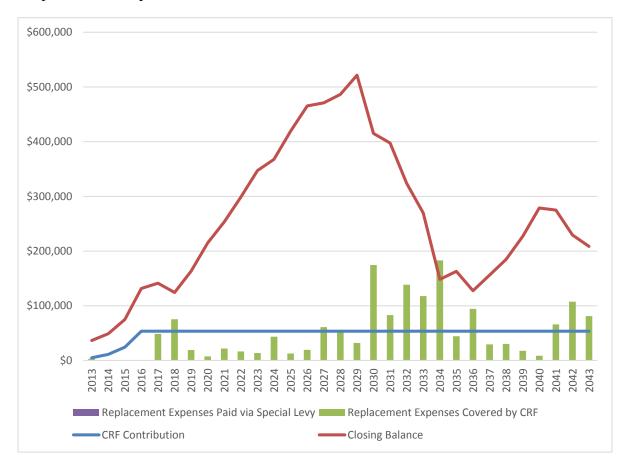


Figure 5: 30-year projection of CRF cash flow using early investment schedule



Table 4: Cash flow table for CRF with early investment schedule

Year	Opening balance	CRF contributions	Contribution changes	Investment returns	Replacement expenses	Special levies	Closing balance
2013	\$33,751	\$5,000		\$969	\$3,238	\$0	\$36,482
2014	\$36,482	\$11,028	121%	\$1,188	\$0	\$0	\$48,697
2015	\$48,697	\$24,323	121%	\$1,826	\$0	\$0	\$74,846
2016	\$74,846	\$53,646	121%	\$3,212	\$0	\$0	\$131,704
2017	\$131,704	\$53,646	0%	\$4,634	\$48,698	\$0	\$141,286
2018	\$141,286	\$53,646	0%	\$4,873	\$75,417	\$0	\$124,387
2019	\$124,387	\$53,646	0%	\$4,451	\$19,142	\$0	\$163,342
2020	\$163,342	\$53,646	0%	\$5,425	\$7,429	\$0	\$214,984
2021	\$214,984	\$53,646	0%	\$6,716	\$21,638	\$0	\$253,707
2022	\$253,707	\$53,646	0%	\$7,684	\$16,521	\$0	\$298,516
2023	\$298,516	\$53,646	0%	\$8,804	\$13,691	\$0	\$347,275
2024	\$347,275	\$53,646	0%	\$10,023	\$43,336	\$0	\$367,608
2025	\$367,608	\$53,646	0%	\$10,531	\$12,696	\$0	\$419,089
2026	\$419,089	\$53,646	0%	\$11,818	\$19,285	\$0	\$465,268
2027	\$465,268	\$53,646	0%	\$12,973	\$60,993	\$0	\$470,894
2028	\$470,894	\$53,646	0%	\$13,113	\$51,239	\$0	\$486,414
2029	\$486,414	\$53,646	0%	\$13,501	\$32,065	\$0	\$521,497
2030	\$521,497	\$53,646	0%	\$14,379	\$174,420	\$0	\$415,101
2031	\$415,101	\$53,646	0%	\$11,719	\$82,985	\$0	\$397,481
2032	\$397,481	\$53,646	0%	\$11,278	\$138,355	\$0	\$324,050
2033	\$324,050	\$53,646	0%	\$9,442	\$117,576	\$0	\$269,562
2034	\$269,562	\$53,646	0%	\$8,080	\$182,917	\$0	\$148,372
2035	\$148,372	\$53,646	0%	\$5,050	\$44,243	\$0	\$162,825
2036	\$162,825	\$53,646	0%	\$5,412	\$94,355	\$0	\$127,528
2037	\$127,528	\$53,646	0%	\$4,529	\$29,384	\$0	\$156,319
2038	\$156,319	\$53,646	0%	\$5,249	\$30,384	\$0	\$184,830
2039	\$184,830	\$53,646	0%	\$5,962	\$17,599	\$0	\$226,838
2040	\$226,838	\$53,646	0%	\$7,012	\$8,632	\$0	\$278,864
2041	\$278,864	\$53,646	0%	\$8,313	\$65,910	\$0	\$274,913
2042	\$274,913	\$53,646	0%	\$8,214	\$107,605	\$0	\$229,168
2043	\$229,168	\$53,646	0%	\$7,070	\$81,272	\$0	\$208,612



## 3.3.3 Model 3: Delayed Investment Schedule

In the delayed investment schedule, the CRF contributions to an initial opening balance of are phased in over a period of five years at increases of 63% per year. Over the 30-year projection, no special levies are expected to be required. An investment return of \$207,250 is obtained.

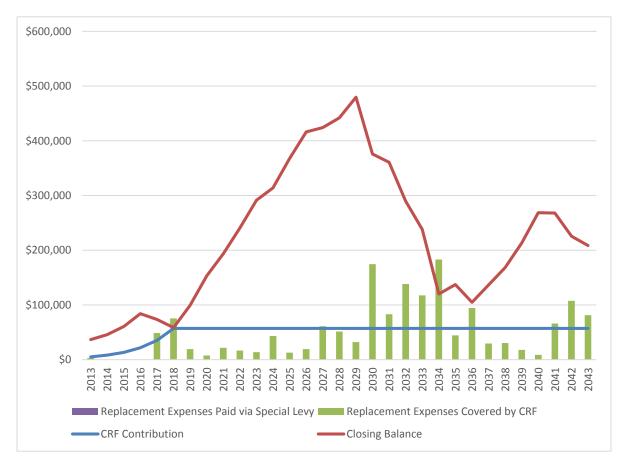


Figure 6: 30-year projection of CRF cash flow using delayed investment schedule



Table 5: Cash flow table for CRF with delayed investment schedule

2013         \$33,751         \$5,000         \$969         \$3,238         \$0         \$36,60           2014         \$36,482         \$8,139         63%         \$1,116         \$0         \$0         \$45           2015         \$45,736         \$13,248         63%         \$1,475         \$0         \$0         \$60           2016         \$60,459         \$21,565         63%         \$2,051         \$0         \$0         \$84           2017         \$84,074         \$35,102         63%         \$2,979         \$48,698         \$0         \$73           2018         \$73,457         \$57,138         63%         \$3,265         \$75,417         \$0         \$58           2019         \$58,443         \$57,138         0%         \$2,890         \$19,142         \$0         \$99           2020         \$99,328         \$57,138         0%         \$3,912         \$7,429         \$0         \$15           2021         \$152,949         \$57,138         0%         \$5,252         \$21,638         \$0         \$19           2022         \$193,700         \$57,138         0%         \$6,271         \$16,521         \$0         \$240           2023         \$240,588	sing
2014       \$36,482       \$8,139       63%       \$1,116       \$0       \$0       \$45         2015       \$45,736       \$13,248       63%       \$1,475       \$0       \$0       \$60         2016       \$60,459       \$21,565       63%       \$2,051       \$0       \$0       \$84         2017       \$84,074       \$35,102       63%       \$2,979       \$48,698       \$0       \$73         2018       \$73,457       \$57,138       63%       \$3,265       \$75,417       \$0       \$58         2019       \$58,443       \$57,138       0%       \$2,890       \$19,142       \$0       \$99         2020       \$99,328       \$57,138       0%       \$3,912       \$7,429       \$0       \$15         2021       \$152,949       \$57,138       0%       \$5,252       \$21,638       \$0       \$19         2022       \$193,700       \$57,138       0%       \$6,271       \$16,521       \$0       \$240         2023       \$240,588       \$57,138       0%       \$7,443       \$13,691       \$0       \$29         2024       \$291,478       \$57,138       0%       \$8,715       \$43,336       \$0       \$36 <t< th=""><th>ince</th></t<>	ince
2015         \$45,736         \$13,248         63%         \$1,475         \$0         \$60           2016         \$60,459         \$21,565         63%         \$2,051         \$0         \$0         \$84           2017         \$84,074         \$35,102         63%         \$2,979         \$48,698         \$0         \$73           2018         \$73,457         \$57,138         63%         \$3,265         \$75,417         \$0         \$58           2019         \$58,443         \$57,138         0%         \$2,890         \$19,142         \$0         \$99           2020         \$99,328         \$57,138         0%         \$3,912         \$7,429         \$0         \$15           2021         \$152,949         \$57,138         0%         \$5,252         \$21,638         \$0         \$19           2022         \$193,700         \$57,138         0%         \$6,271         \$16,521         \$0         \$240           2023         \$240,588         \$57,138         0%         \$7,443         \$13,691         \$0         \$29           2024         \$291,478         \$57,138         0%         \$8,715         \$43,336         \$0         \$31           2025         \$313,995	
2016       \$60,459       \$21,565       63%       \$2,051       \$0       \$84         2017       \$84,074       \$35,102       63%       \$2,979       \$48,698       \$0       \$73         2018       \$73,457       \$57,138       63%       \$3,265       \$75,417       \$0       \$58         2019       \$58,443       \$57,138       0%       \$2,890       \$19,142       \$0       \$99         2020       \$99,328       \$57,138       0%       \$3,912       \$7,429       \$0       \$15         2021       \$152,949       \$57,138       0%       \$5,252       \$21,638       \$0       \$19         2022       \$193,700       \$57,138       0%       \$6,271       \$16,521       \$0       \$246         2023       \$240,588       \$57,138       0%       \$7,443       \$13,691       \$0       \$29         2024       \$291,478       \$57,138       0%       \$8,715       \$43,336       \$0       \$313         2025       \$313,995       \$57,138       0%       \$9,278       \$12,696       \$0       \$36	
2017       \$84,074       \$35,102       63%       \$2,979       \$48,698       \$0       \$73,201         2018       \$73,457       \$57,138       63%       \$3,265       \$75,417       \$0       \$58,252         2019       \$58,443       \$57,138       0%       \$2,890       \$19,142       \$0       \$99,200         2020       \$99,328       \$57,138       0%       \$3,912       \$7,429       \$0       \$15,200         2021       \$152,949       \$57,138       0%       \$5,252       \$21,638       \$0       \$19,300         2022       \$193,700       \$57,138       0%       \$6,271       \$16,521       \$0       \$240,588         2023       \$240,588       \$57,138       0%       \$7,443       \$13,691       \$0       \$29,278         2024       \$291,478       \$57,138       0%       \$8,715       \$43,336       \$0       \$31,200         2025       \$313,995       \$57,138       0%       \$9,278       \$12,696       \$0       \$36,271	
2018       \$73,457       \$57,138       63%       \$3,265       \$75,417       \$0       \$58         2019       \$58,443       \$57,138       0%       \$2,890       \$19,142       \$0       \$99         2020       \$99,328       \$57,138       0%       \$3,912       \$7,429       \$0       \$15         2021       \$152,949       \$57,138       0%       \$5,252       \$21,638       \$0       \$19         2022       \$193,700       \$57,138       0%       \$6,271       \$16,521       \$0       \$24         2023       \$240,588       \$57,138       0%       \$7,443       \$13,691       \$0       \$29         2024       \$291,478       \$57,138       0%       \$8,715       \$43,336       \$0       \$31         2025       \$313,995       \$57,138       0%       \$9,278       \$12,696       \$0       \$36	
2019       \$58,443       \$57,138       0%       \$2,890       \$19,142       \$0       \$99         2020       \$99,328       \$57,138       0%       \$3,912       \$7,429       \$0       \$15         2021       \$152,949       \$57,138       0%       \$5,252       \$21,638       \$0       \$19         2022       \$193,700       \$57,138       0%       \$6,271       \$16,521       \$0       \$24         2023       \$240,588       \$57,138       0%       \$7,443       \$13,691       \$0       \$29         2024       \$291,478       \$57,138       0%       \$8,715       \$43,336       \$0       \$31         2025       \$313,995       \$57,138       0%       \$9,278       \$12,696       \$0       \$36	,457
2020       \$99,328       \$57,138       0%       \$3,912       \$7,429       \$0       \$152,2021         2021       \$152,949       \$57,138       0%       \$5,252       \$21,638       \$0       \$193,202         2022       \$193,700       \$57,138       0%       \$6,271       \$16,521       \$0       \$240,524         2023       \$240,588       \$57,138       0%       \$7,443       \$13,691       \$0       \$295,224         2024       \$291,478       \$57,138       0%       \$8,715       \$43,336       \$0       \$312,696         2025       \$313,995       \$57,138       0%       \$9,278       \$12,696       \$0       \$360,271	,443
2021       \$152,949       \$57,138       0%       \$5,252       \$21,638       \$0       \$193,700         2022       \$193,700       \$57,138       0%       \$6,271       \$16,521       \$0       \$240,588         2023       \$240,588       \$57,138       0%       \$7,443       \$13,691       \$0       \$29,278         2024       \$291,478       \$57,138       0%       \$8,715       \$43,336       \$0       \$31,200         2025       \$313,995       \$57,138       0%       \$9,278       \$12,696       \$0       \$36,271	,328
2022       \$193,700       \$57,138       0%       \$6,271       \$16,521       \$0       \$240,524         2023       \$240,588       \$57,138       0%       \$7,443       \$13,691       \$0       \$29,524         2024       \$291,478       \$57,138       0%       \$8,715       \$43,336       \$0       \$31,524         2025       \$313,995       \$57,138       0%       \$9,278       \$12,696       \$0       \$36,600	2,949
2023       \$240,588       \$57,138       0%       \$7,443       \$13,691       \$0       \$29,220         2024       \$291,478       \$57,138       0%       \$8,715       \$43,336       \$0       \$31,200         2025       \$313,995       \$57,138       0%       \$9,278       \$12,696       \$0       \$36,600	3,700
2024       \$291,478       \$57,138       0%       \$8,715       \$43,336       \$0       \$313         2025       \$313,995       \$57,138       0%       \$9,278       \$12,696       \$0       \$36	,588
2025 \$313,995 \$57,138 0% \$9,278 \$12,696 \$0 \$36	,478
	,995
2026 \$367,716 \$57,138 0% \$10,621 \$19,285 \$0 \$410	7,716
	5,189
2027 \$416,189 \$57,138 0% \$11,833 \$60,993 \$0 \$424	,167
2028 \$424,167 \$57,138 0% \$12,033 \$51,239 \$0 \$443	2,098
2029 \$442,098 \$57,138 0% \$12,481 \$32,065 \$0 \$475	,652
2030 \$479,652 \$57,138 0% \$13,420 \$174,420 \$0 \$375	,790
2031 \$375,790 \$57,138 0% \$10,823 \$82,985 \$0 \$360	,766
2032 \$360,766 \$57,138 0% \$10,448 \$138,355 \$0 \$289	,997
2033 \$289,997 \$57,138 0% \$8,678 \$117,576 \$0 \$238	3,237
2034 \$238,237 \$57,138 0% \$7,384 \$182,917 \$0 \$119	,843
2035 \$119,843 \$57,138 0% \$4,425 \$44,243 \$0 \$13	,162
2036 \$137,162 \$57,138 0% \$4,857 \$94,355 \$0 \$104	,802
2037 \$104,802 \$57,138 0% \$4,048 \$29,384 \$0 \$130	6,604
2038 \$136,604 \$57,138 0% \$4,844 \$30,384 \$0 \$168	3,202
2039 \$168,202 \$57,138 0% \$5,633 \$17,599 \$0 \$213	3,373
2040 \$213,373 \$57,138 0% \$6,763 \$8,632 \$0 \$268	3,642
2041 \$268,642 \$57,138 0% \$8,144 \$65,910 \$0 \$268	R 014
2042 \$268,014 \$57,138 0% \$8,129 \$107,605 \$0 \$225	,014
2043 \$225,676 \$57,138 0% \$7,070 \$81,272 \$0 \$208	5,676



## 3.3.4 Model 4: Partially Funded Investment Schedule (Capped Increase)

In the capped increase investment schedule, contributions to the initial CRF opening balance are kept at a maximum increase of 50% over the next two years, then increased by the current inflation rate for the remaining years. Over the 30-year projection, twenty special levies, ranging from \$683 to \$160,901, are expected to be required. An investment return of \$28,327 is obtained.

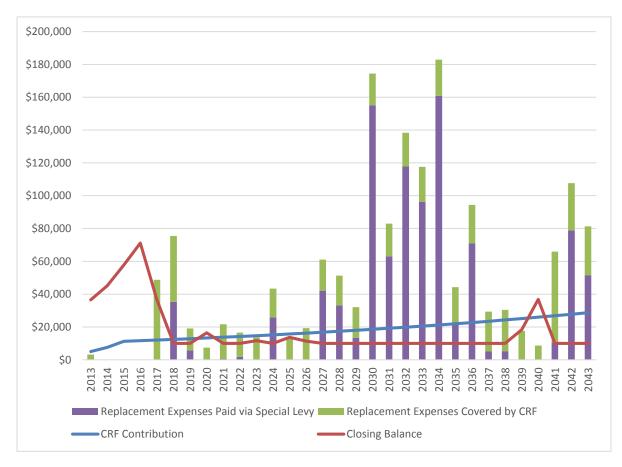


Figure 7: 30-year projection of CRF cash flow using capped increase investment schedule



Table 6: Cash flow table for CRF with capped increase investment schedule

Year	Opening balance	CRF contributions	Contribution changes	Investment returns	Replacement expenses	Special levies	Closing balance
2013	\$33,751	\$5,000		\$969	\$3,238	\$0	\$36,482
2014	\$36,482	\$7,500	50%	\$1,100	\$0	\$0	\$45,081
2015	\$45,081	\$11,250	50%	\$1,408	\$0	\$0	\$57,740
2016	\$57,740	\$11,633	3.4%	\$1,734	\$0	\$0	\$71,106
2017	\$71,106	\$12,028	3.4%	\$2,078	\$48,698	\$0	\$36,515
2018	\$36,515	\$12,437	3.4%	\$1,224	\$75,417	\$35,242	\$10,000
2019	\$10,000	\$12,860	3.4%	\$571	\$19,142	\$5,711	\$10,000
2020	\$10,000	\$13,297	3.4%	\$582	\$7,429	\$0	\$16,451
2021	\$16,451	\$13,749	3.4%	\$755	\$21,638	\$683	\$10,000
2022	\$10,000	\$14,217	3.4%	\$605	\$16,521	\$1,699	\$10,000
2023	\$10,000	\$14,700	3.4%	\$617	\$13,691	\$0	\$11,627
2024	\$11,627	\$15,200	3.4%	\$671	\$43,336	\$25,839	\$10,000
2025	\$10,000	\$15,717	3.4%	\$643	\$12,696	\$0	\$13,664
2026	\$13,664	\$16,251	3.4%	\$748	\$19,285	\$0	\$11,377
2027	\$11,377	\$16,803	3.4%	\$705	\$60,993	\$42,108	\$10,000
2028	\$10,000	\$17,375	3.4%	\$684	\$51,239	\$33,180	\$10,000
2029	\$10,000	\$17,966	3.4%	\$699	\$32,065	\$13,400	\$10,000
2030	\$10,000	\$18,576	3.4%	\$714	\$174,420	\$155,130	\$10,000
2031	\$10,000	\$19,208	3.4%	\$730	\$82,985	\$63,047	\$10,000
2032	\$10,000	\$19,861	3.4%	\$747	\$138,355	\$117,747	\$10,000
2033	\$10,000	\$20,536	3.4%	\$763	\$117,576	\$96,276	\$10,000
2034	\$10,000	\$21,235	3.4%	\$781	\$182,917	\$160,901	\$10,000
2035	\$10,000	\$21,957	3.4%	\$799	\$44,243	\$21,488	\$10,000
2036	\$10,000	\$22,703	3.4%	\$818	\$94,355	\$70,834	\$10,000
2037	\$10,000	\$23,475	3.4%	\$837	\$29,384	\$5,073	\$10,000
2038	\$10,000	\$24,273	3.4%	\$857	\$30,384	\$5,254	\$10,000
2039	\$10,000	\$25,098	3.4%	\$877	\$17,599	\$0	\$18,376
2040	\$18,376	\$25,952	3.4%	\$1,108	\$8,632	\$0	\$36,804
2041	\$36,804	\$26,834	3.4%	\$1,591	\$65,910	\$10,681	\$10,000
2042	\$10,000	\$27,746	3.4%	\$944	\$107,605	\$78,915	\$10,000
2043	\$10,000	\$28,690	3.4%	\$967	\$81,272	\$51,615	\$10,000



# 3.3.5 Model 5: Partially Funded Investment Schedule (Capped Special Levies)

In the capped special levies investment schedule, contributions to the initial CRF opening balance are increased 84% per year over the next three years such that the sum of all special levies over the 30-year projection is kept at \$200,000 or less. For the remaining years, the annual CRF contributions are increased at the current inflation rate. Over the 30-year projection, three special levies, ranging from \$14,319 to \$124,010 are expected to be required. An investment return of \$125,651 is obtained.

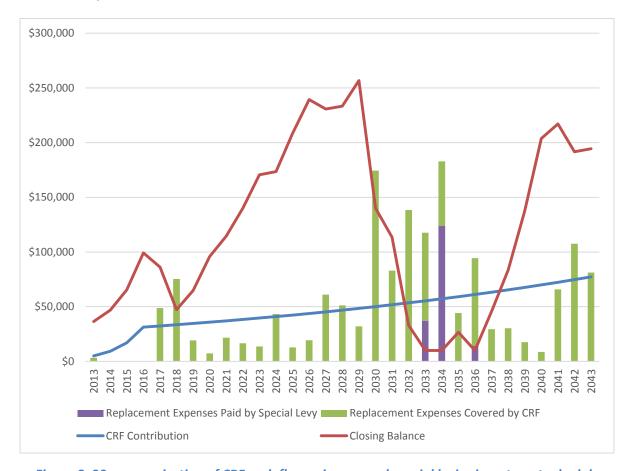


Figure 8: 30-year projection of CRF cash flow using capped special levies investment schedule



Table 7: Cash flow table for CRF with partially funded investment schedule

	Opening	CRF	Contribution	Investment	Replacement	Special	Closing
Year	balance	contributions	changes	returns	expenses	levies	balance
2013	\$33,751	\$5,000		\$969	\$3,238	\$0	\$36,482
2014	\$36,482	\$9,220	84%	\$1,143	\$0	\$0	\$46,844
2015	\$46,844	\$17,001	84%	\$1,596	\$0	\$0	\$65,441
2016	\$65,441	\$31,349	84%	\$2,420	\$0	\$0	\$99,210
2017	\$99,210	\$32,415	3.4%	\$3,291	\$48,698	\$0	\$86,217
2018	\$86,217	\$33,517	3.4%	\$2,993	\$75,417	\$0	\$47,309
2019	\$47,309	\$34,656	3.4%	\$2,049	\$19,142	\$0	\$64,873
2020	\$64,873	\$35,835	3.4%	\$2,518	\$7,429	\$0	\$95,796
2021	\$95,796	\$37,053	3.4%	\$3,321	\$21,638	\$0	\$114,532
2022	\$114,532	\$38,313	3.4%	\$3,821	\$16,521	\$0	\$140,145
2023	\$140,145	\$39,615	3.4%	\$4,494	\$13,691	\$0	\$170,564
2024	\$170,564	\$40,962	3.4%	\$5,288	\$43,336	\$0	\$173,478
2025	\$173,478	\$42,355	3.4%	\$5,396	\$12,696	\$0	\$208,533
2026	\$208,533	\$43,795	3.4%	\$6,308	\$19,285	\$0	\$239,351
2027	\$239,351	\$45,284	3.4%	\$7,116	\$60,993	\$0	\$230,758
2028	\$230,758	\$46,824	3.4%	\$6,940	\$51,239	\$0	\$233,282
2029	\$233,282	\$48,416	3.4%	\$7,042	\$32,065	\$0	\$256,676
2030	\$256,676	\$50,062	3.4%	\$7,668	\$174,420	\$0	\$139,986
2031	\$139,986	\$51,764	3.4%	\$4,794	\$82,985	\$0	\$113,559
2032	\$113,559	\$53,524	3.4%	\$4,177	\$138,355	\$0	\$32,905
2033	\$32,905	\$55,344	3.4%	\$2,206	\$117,576	\$37,120	\$10,000
2034	\$10,000	\$57,226	3.4%	\$1,681	\$182,917	\$124,010	\$10,000
2035	\$10,000	\$59,171	3.4%	\$1,729	\$44,243	\$0	\$26,657
2036	\$26,657	\$61,183	3.4%	\$2,196	\$94,355	\$14,319	\$10,000
2037	\$10,000	\$63,263	3.4%	\$1,832	\$29,384	\$0	\$45,711
2038	\$45,711	\$65,414	3.4%	\$2,778	\$30,384	\$0	\$83,519
2039	\$83,519	\$67,638	3.4%	\$3,779	\$17,599	\$0	\$137,337
2040	\$137,337	\$69,938	3.4%	\$5,182	\$8,632	\$0	\$203,825
2041	\$203,825	\$72,316	3.4%	\$6,904	\$65,910	\$0	\$217,134
2042	\$217,134	\$74,775	3.4%	\$7,298	\$107,605	\$0	\$191,602
2043	\$191,602	\$77,317	3.4%	\$6,723	\$81,272	\$0	\$194,370



## 4. Analysis

## 4.1 Investment Schedule Comparison

Apart from the current investment schedule, all other cash flow models propose increases to the CRF contributions in the next few years (in addition to matching inflation), eliminating or reducing special levies. Model 2 (the early investment schedule) and Model 3 (the delayed investment schedule) distinguish themselves in that minimal special levies will be required over the 30-year projection due to larger increases in CRF contributions. The figure below illustrates the outcome of each investment schedule (without preventive maintenance), along with the changes in CRF contributions.

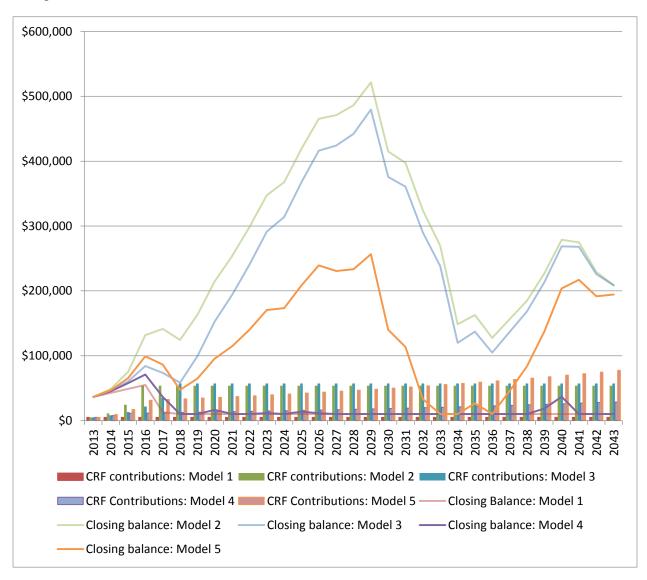


Figure 9: Comparison of CRF contributions and closing balances



Table 8: Summary of investment schedules

Rodel I: Current Current Current Current Current Current CRF balance         Model 1: Early brigged investment returns         \$33,751         \$3						
Current CRF balance         \$33,751         \$33,751         \$33,751         \$33,751         \$33,751           CRF contributions         \$50,000         \$415,872         \$368,743         \$113,970         \$274,358           Investment returns         \$7,984         \$40,976         \$30,178         \$11,027         \$24,120           Special levies         \$110,349         \$0         \$0         \$43,336         \$0           Replacement expenses         \$192,084         \$192,084         \$192,084         \$192,084         \$192,084           Financial strength         43%         100%         100%         77%         100%           Insufficiency         57%         0%         0%         23%         0%           Analysis for final 20 years         V         0%         23%         0%           Opening balance in year 11         \$10,000         \$298,516         \$240,588         \$10,000         \$140,145           CRF contributions         \$105,000         \$1,126,565         \$1,199,895         \$440,155         \$1,186,189           Investment returns         \$7,875         \$192,474         \$177,072         \$17,300         \$101,530           Special levies         \$1,408,943         \$1,408,943         \$1,408,943		Current	Early	Delayed	Funded (Capped	Funded (Capped
CRF contributions         \$50,000         \$415,872         \$368,743         \$113,970         \$274,358           Investment returns         \$7,984         \$40,976         \$30,178         \$11,027         \$24,120           Special levies         \$110,349         \$0         \$0         \$43,336         \$0           Replacement expenses         \$192,084         \$192,084         \$192,084         \$192,084         \$192,084         \$192,084           Financial strength         43%         100%         100%         77%         100%         100%         100%         77%         100%         100%         100%         23%         0%         0%         0%         23%         0%         110,145         0%         0%         110,145         0%         0%         110,153         0%         110,153         0%         110,1530         0%         110	Analysis for first 10 years					
Investment returns	Current CRF balance	\$33,751	\$33,751	\$33,751	\$33,751	\$33,751
Special levies         \$110,349         \$0         \$0         \$43,336         \$0           Replacement expenses         \$192,084         \$192,084         \$192,084         \$192,084         \$192,084           Financial strength         43%         100%         100%         77%         100%           Insufficiency         57%         0%         0%         23%         0%           Analysis for final 20 years           Opening balance in year 11         \$10,000         \$298,516         \$240,588         \$10,000         \$140,145           CRF contributions         \$105,000         \$1,126,565         \$1,199,895         \$440,155         \$1,186,189           Investment returns         \$7,875         \$192,474         \$177,072         \$17,300         \$101,530           Special levies         \$1,296,068         \$0         \$0         \$951,488         \$175,449           Replacement expenses         \$1,408,943         \$1,408,943         \$1,408,943         \$1,408,943         \$1,408,943         \$1,408,943         \$1,408,943         \$1,408,943         \$1,408,943         \$1,408,943         \$1,408,943         \$1,408,943         \$1,408,943         \$1,408,943         \$1,408,943         \$1,408,943         \$1,408,943         \$1,408,943	CRF contributions	\$50,000	\$415,872	\$368,743	\$113,970	\$274,358
Replacement expenses         \$192,084         \$192,084         \$192,084         \$192,084         \$192,084           Financial strength         43%         100%         100%         77%         100%           Insufficiency         57%         0%         0%         23%         0%           Analysis for final 20 years           Opening balance in year 11         \$10,000         \$298,516         \$240,588         \$10,000         \$140,145           CRF contributions         \$105,000         \$1,126,565         \$1,199,895         \$440,155         \$1,186,189           Investment returns         \$7,875         \$192,474         \$177,072         \$17,300         \$101,530           Special levies         \$1,296,068         \$0         \$0         \$951,488         \$175,449           Replacement expenses         \$1,408,943	Investment returns	\$7,984	\$40,976	\$30,178	\$11,027	\$24,120
Financial strength         43%         100%         100%         77%         100%           Insufficiency         57%         0%         0%         23%         0%           Analysis for final 20 years           Opening balance in year 11         \$10,000         \$298,516         \$240,588         \$10,000         \$140,145           CRF contributions         \$105,000         \$1,126,565         \$1,199,895         \$440,155         \$1,186,189           Investment returns         \$7,875         \$192,474         \$177,072         \$17,300         \$101,530           Special levies         \$1,296,068         \$0         \$0         \$951,488         \$175,449           Replacement expenses         \$1,408,943         \$1,408,9	Special levies	\$110,349	\$0	\$0	\$43,336	\$0
Insufficiency         57%         0%         0%         23%         0%           Analysis for final 20 years         Use of the property of	Replacement expenses	\$192,084	\$192,084	\$192,084	\$192,084	\$192,084
Analysis for final 20 years           Opening balance in year 11         \$10,000         \$298,516         \$240,588         \$10,000         \$140,145           CRF contributions         \$105,000         \$1,126,565         \$1,199,895         \$440,155         \$1,186,189           Investment returns         \$7,875         \$192,474         \$177,072         \$17,300         \$101,530           Special levies         \$1,296,068         \$0         \$0         \$951,488         \$175,449           Replacement expenses         \$1,408,943 <td< td=""><td>Financial strength</td><td>43%</td><td>100%</td><td>100%</td><td>77%</td><td>100%</td></td<>	Financial strength	43%	100%	100%	77%	100%
Opening balance in year 11         \$10,000         \$298,516         \$240,588         \$10,000         \$140,145           CRF contributions         \$105,000         \$1,126,565         \$1,199,895         \$440,155         \$1,186,189           Investment returns         \$7,875         \$192,474         \$177,072         \$17,300         \$101,530           Special levies         \$1,296,068         \$0         \$0         \$951,488         \$175,449           Replacement expenses         \$1,408,943         \$1,408,943         \$1,408,943         \$1,408,943         \$1,408,943           Financial strength         8%         100%         100%         32%         88%           Insufficiency         92%         0%         0%         68%         12%           Overall analysis (30-yr course)           Overall analysis (30-yr course)         V         0         68%         12%           Opening balance in year 1         \$33,751         \$33,751         \$33,751         \$33,751         \$33,751         \$33,751         \$33,751         \$1,460,547           Investment returns         \$15,859         \$233,451         \$207,250         \$28,327         \$125,651           Special levies         \$1,406,417         \$0         \$0	Insufficiency	57%	0%	0%	23%	0%
CRF contributions         \$105,000         \$1,126,565         \$1,199,895         \$440,155         \$1,186,189           Investment returns         \$7,875         \$192,474         \$177,072         \$17,300         \$101,530           Special levies         \$1,296,068         \$0         \$0         \$951,488         \$175,449           Replacement expenses         \$1,408,943         \$1,408,943         \$1,408,943         \$1,408,943         \$1,408,943           Financial strength         8%         100%         100%         32%         88%           Insufficiency         92%         0%         0%         68%         12%           Overall analysis (30-yr course)           Opening balance in year 1         \$33,751         \$33,751         \$33,751         \$33,751         \$33,751         \$33,751         \$33,751         \$33,751         \$33,751         \$33,751         \$1,460,547         \$1,460,547         \$1,460,547         \$1,460,547         \$1,460,547         \$1,5859         \$233,451         \$207,250         \$28,327         \$125,651         \$1,601,027         \$1,601,027         \$1,601,027         \$1,601,027         \$1,601,027         \$1,601,027         \$1,601,027         \$1,601,027         \$1,601,027         \$1,601,027         \$1,601,027         \$1,601,0	Analysis for final 20 years					
Investment returns         \$7,875         \$192,474         \$177,072         \$17,300         \$101,530           Special levies         \$1,296,068         \$0         \$0         \$951,488         \$175,449           Replacement expenses         \$1,408,943         \$1,408,943         \$1,408,943         \$1,408,943         \$1,408,943           Financial strength         8%         100%         100%         32%         88%           Insufficiency         92%         0%         0%         68%         12%           Overall analysis (30-yr course)           Opening balance in year 1         \$33,751         \$33,751         \$33,751         \$33,751         \$33,751         \$33,751         \$33,751         \$33,751         \$33,751         \$33,751         \$1,460,547         \$1,460,547         \$1,460,547         \$1,460,547         \$1,460,547         \$1,568,638         \$554,125         \$1,460,547         \$1,562,651         \$1,460,547         \$1,562,651         \$1,460,417         \$0         \$0         \$994,824         \$175,449         \$1,601,027         \$1,601,027         \$1,601,027         \$1,601,027         \$1,601,027         \$1,601,027         \$1,601,027         \$1,601,027         \$1,601,027         \$1,601,027         \$1,601,027         \$1,601,027         \$1,601,027 </td <td>Opening balance in year 11</td> <td>\$10,000</td> <td>\$298,516</td> <td>\$240,588</td> <td>\$10,000</td> <td>\$140,145</td>	Opening balance in year 11	\$10,000	\$298,516	\$240,588	\$10,000	\$140,145
Special levies         \$1,296,068         \$0         \$0         \$951,488         \$175,449           Replacement expenses         \$1,408,943         \$1,408,943         \$1,408,943         \$1,408,943         \$1,408,943           Financial strength         8%         100%         100%         32%         88%           Insufficiency         92%         0%         0%         68%         12%           Overall analysis (30-yr course)           Opening balance in year 1         \$33,751         \$33,751         \$33,751         \$33,751         \$33,751         \$33,751         \$33,751         \$33,751         \$33,751         \$33,751         \$1,460,547         \$1,460,547         \$1,460,547         \$1,460,547         \$1,460,547         \$1,568,638         \$554,125         \$1,460,547         \$125,651         \$1,261,027         \$1,261,027         \$1,261,027         \$1,549         \$125,651         \$1,496,417         \$0         \$0         \$994,824         \$175,449         \$175,449         \$1,601,027         \$1,601,027         \$1,601,027         \$1,601,027         \$1,601,027         \$1,601,027         \$1,601,027         \$1,601,027         \$1,601,027         \$1,601,027         \$1,601,027         \$1,601,027         \$1,601,027         \$1,601,027         \$1,601,027         \$1,601,0	CRF contributions	\$105,000	\$1,126,565	\$1,199,895	\$440,155	\$1,186,189
Replacement expenses         \$1,408,943         \$1,408,943         \$1,408,943         \$1,408,943         \$1,408,943         \$1,408,943         \$1,408,943         \$1,408,943         \$1,408,943         \$1,408,943         \$1,408,943         \$1,408,943         \$1,408,943         \$1,408,943         \$1,408,943         \$1,408,943         \$1,408,943         \$1,408,943         \$1,408,943         \$1,008,943         <	Investment returns	\$7,875	\$192,474	\$177,072	\$17,300	\$101,530
Financial strength         8%         100%         100%         32%         88%           Insufficiency         92%         0%         0%         68%         12%           Overall analysis (30-yr course)           Opening balance in year 1         \$33,751         \$33,751         \$33,751         \$33,751         \$33,751           CRF contributions         \$155,000         \$1,542,438         \$1,568,638         \$554,125         \$1,460,547           Investment returns         \$15,859         \$233,451         \$207,250         \$28,327         \$125,651           Special levies         \$1,406,417         \$0         \$0         \$994,824         \$175,449           Replacement expenses         \$1,601,027         \$1,601,027         \$1,601,027         \$1,601,027           Financial strength         12%         100%         100%         38%         89%           Insufficiency         88%         0%         0%         62%         11%	Special levies	\$1,296,068	\$0	\$0	\$951,488	\$175,449
Insufficiency         92%         0%         0%         68%         12%           Overall analysis (30-yr course)           Opening balance in year 1         \$33,751         \$33,751         \$33,751         \$33,751           CRF contributions         \$155,000         \$1,542,438         \$1,568,638         \$554,125         \$1,460,547           Investment returns         \$15,859         \$233,451         \$207,250         \$28,327         \$125,651           Special levies         \$1,406,417         \$0         \$0         \$994,824         \$175,449           Replacement expenses         \$1,601,027         \$1,601,027         \$1,601,027         \$1,601,027         \$1,601,027           Financial strength         12%         100%         100%         38%         89%           Insufficiency         88%         0%         0%         62%         11%	Replacement expenses	\$1,408,943	\$1,408,943	\$1,408,943	\$1,408,943	\$1,408,943
Overall analysis (30-yr course)           Opening balance in year 1         \$33,751         \$33,751         \$33,751         \$33,751           CRF contributions         \$155,000         \$1,542,438         \$1,568,638         \$554,125         \$1,460,547           Investment returns         \$15,859         \$233,451         \$207,250         \$28,327         \$125,651           Special levies         \$1,406,417         \$0         \$0         \$994,824         \$175,449           Replacement expenses         \$1,601,027         \$1,601,027         \$1,601,027         \$1,601,027         \$1,601,027           Financial strength         12%         100%         100%         38%         89%           Insufficiency         88%         0%         0%         62%         11%	Financial strength	8%	100%	100%	32%	88%
Opening balance in year 1         \$33,751         \$33,751         \$33,751         \$33,751           CRF contributions         \$155,000         \$1,542,438         \$1,568,638         \$554,125         \$1,460,547           Investment returns         \$15,859         \$233,451         \$207,250         \$28,327         \$125,651           Special levies         \$1,406,417         \$0         \$0         \$994,824         \$175,449           Replacement expenses         \$1,601,027         \$1,601,027         \$1,601,027         \$1,601,027         \$1,601,027           Financial strength         12%         100%         100%         38%         89%           Insufficiency         88%         0%         0%         62%         11%	Insufficiency	92%	0%	0%	68%	12%
CRF contributions         \$155,000         \$1,542,438         \$1,568,638         \$554,125         \$1,460,547           Investment returns         \$15,859         \$233,451         \$207,250         \$28,327         \$125,651           Special levies         \$1,406,417         \$0         \$0         \$994,824         \$175,449           Replacement expenses         \$1,601,027         \$1,601,027         \$1,601,027         \$1,601,027           Financial strength         12%         100%         100%         38%         89%           Insufficiency         88%         0%         0%         62%         11%	Overall analysis (30-yr cours	se)				
Investment returns         \$15,859         \$233,451         \$207,250         \$28,327         \$125,651           Special levies         \$1,406,417         \$0         \$0         \$994,824         \$175,449           Replacement expenses         \$1,601,027         \$1,601,027         \$1,601,027         \$1,601,027           Financial strength         12%         100%         100%         38%         89%           Insufficiency         88%         0%         0%         62%         11%	Opening balance in year 1	\$33,751	\$33,751	\$33,751	\$33,751	\$33,751
Special levies         \$1,406,417         \$0         \$0         \$994,824         \$175,449           Replacement expenses         \$1,601,027         \$1,601,027         \$1,601,027         \$1,601,027           Financial strength         12%         100%         100%         38%         89%           Insufficiency         88%         0%         0%         62%         11%	CRF contributions	\$155,000	\$1,542,438	\$1,568,638	\$554,125	\$1,460,547
Replacement expenses         \$1,601,027         \$1,601,027         \$1,601,027         \$1,601,027         \$1,601,027           Financial strength         12%         100%         100%         38%         89%           Insufficiency         88%         0%         0%         62%         11%	Investment returns	\$15,859	\$233,451	\$207,250	\$28,327	\$125,651
Financial strength         12%         100%         100%         38%         89%           Insufficiency         88%         0%         0%         62%         11%	Special levies	\$1,406,417	\$0	\$0	\$994,824	\$175,449
Insufficiency 88% 0% 0% 62% 11%	Replacement expenses	\$1,601,027	\$1,601,027	\$1,601,027	\$1,601,027	\$1,601,027
·	Financial strength	12%	100%	100%	38%	89%
Closing balance in year 30 \$10,000 \$208,612 \$208,612 \$10,000 \$194,370	Insufficiency	88%	0%	0%	62%	11%
	Closing balance in year 30	\$10,000	\$208,612	\$208,612	\$10,000	\$194,370



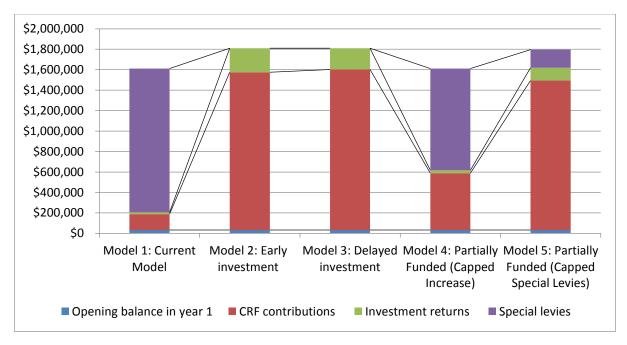


Figure 10: Comparison of financial models over 30-year projection

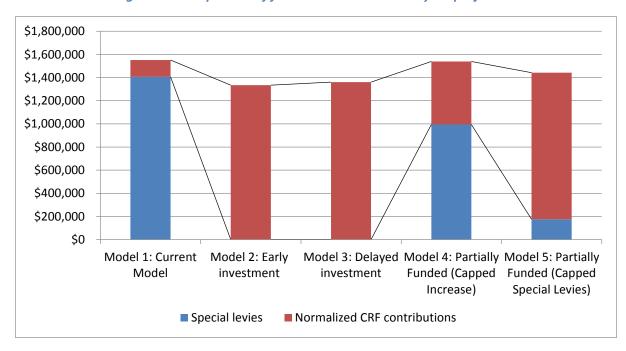


Figure 11: Normalized CRF contributions and special levies

From Table 8 and Figures 9, 10, and 11 above, it is apparent that Model 2, the early investment schedule, has the highest rate of investment returns after the 30-year projection, at \$233,451. Though Model 2 requires a surge in CRF contributions over the next three years, the overall CRF contribution amount is still the lowest of all investment schedules (with normalized CRF contributions and special levies summed; see Figure 11).



## 5. Recommendations

Given the aforementioned scenarios, the adoption of Cash Flow Model 2, the early investment schedule, is the most recommended because it has the potential to lead to the greatest amount of investment returns. Investing in the CRF at the earliest possible time is recommended because a greater delay in investment may lead to lower potential income from investment returns.

However, in times of economic hardship, not all owners can endure the burden of a sudden increase in monthly fees for CRF contributions. Hence, a delayed investment model, a capped increase investment model, and a capped special levies investment model have been provided, which require larger special levies but increase CRF contributions less drastically. Although these investment models will potentially lead to lower investment returns compared to Model 2, they may be much more viable solutions for certain strata corporations.

If your Strata Corporation has any additional concerns about the investment schedule, please do not hesitate to contact ABSSEI so that a more feasible and reasonable solution may be determined to suit your specific needs.



## Appendix A – Strata Property Act

#### [SBC 1998] CHAPTER 43

#### Part 6 — Finances

#### Division 1 — Operating Fund and Contingency Reserve Fund

#### **Depreciation report**

- **94** (1) In this section, "qualified person" has the meaning set out in the regulations.
- (2) Subject to subsection (3), a strata corporation must obtain from a qualified person, on or before the following dates, a depreciation report estimating the repair and replacement cost for major items in the strata corporation and the expected life of those items:
- (a) for the first time,
- (i) December 14, 2013, in the case of a strata corporation that existed on December 14, 2011, or
- (ii) the prescribed date, in all other cases;
- (b) if the strata corporation has, before or after the coming into force of this section, obtained a depreciation report that complies with the requirements of this section, the date that is the prescribed period after the date on which that report was obtained;
- (c) if the strata corporation has, under subsection (3) (a), waived the requirement under this subsection to obtain a depreciation report, the date that is the prescribed period after the date on which the resolution waiving the requirement was passed.
- (3) A strata corporation need not comply with the requirement under subsection (2) to obtain a depreciation report on or before a certain date if
- (a) the strata corporation, by a resolution passed by a 3/4 vote at an annual or special general meeting within the prescribed period, waives that requirement, or
- (b) the strata corporation is a member of a prescribed class of strata corporations.
- (4) A depreciation report referred to in subsection (2) must contain the information set out in the regulations.



#### Strata Property Act

#### STRATA PROPERTY REGULATION

#### Part 6 — Finances

#### Contributions to contingency reserve fund

- **6.1** For the purposes of section 93 of the **Act**, the amount of the annual contribution to the contingency reserve fund for a fiscal year, other than the fiscal year following the first annual general meeting, must be determined as follows:
- (a) if the amount of money in the contingency reserve fund at the end of any fiscal year after the first annual general meeting is less than 25% of the total amount budgeted for the contribution to the operating fund for the fiscal year that has just ended, the annual contribution to the contingency reserve fund for the current fiscal year must be at least the lesser of
- (i) 10% of the total amount budgeted for the contribution to the operating fund for the current fiscal year, and
- (ii) the amount required to bring the contingency reserve fund to at least 25% of the total amount budgeted for the contribution to the operating fund for the current fiscal year;
- (b) if the amount of money in the contingency reserve fund at the end of any fiscal year after the first annual general meeting is equal to or greater than 25% of the total amount budgeted for the contribution to the operating fund for the fiscal year that has just ended, additional contributions to the contingency reserve fund may be made as part of the annual budget approval process after consideration of the depreciation report, if any, obtained under section 94 of the **Act**.

[en. B.C. Reg. 238/2011, Sch. 1, s. 2.]

#### **Depreciation report**

- **6.2** (1) For the purposes of section 94 of the **Act**, a depreciation report must include all of the following:
- (a) a physical component inventory and evaluation that complies with subsection (2);
- (b) a summary of repairs and maintenance work for common expenses respecting the items isted in subsection (2) (b) that usually occur less often than once a year or that do not usually occur;
- (c) a financial forecasting section that complies with subsection (3);
- (d) the name of the person from whom the depreciation report was obtained and a description of
- (i) that person's qualifications,
- (ii) the error and omission insurance, if any, carried by that person, and



- (iii) the relationship between that person and the strata corporation;
- (e) the date of the report;
- (f) any other information or analysis that the strata corporation or the person providing the depreciation report considers appropriate.
- (2) For the purposes of subsection (1) (a) and (b) of this section, the physical component inventory and evaluation must
- (a) be based on an on-site visual inspection of the site and, where practicable, of the items listed in paragraph (b) conducted by the person preparing the depreciation report,
- (b) include a description and estimated service life over 30 years of those items that comprise 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, including, but not limited to, the following items:
- (i) the building's structure;
- (ii) the building's exterior, including roofs, roof decks, doors, windows and skylights;
- (iii) the building's systems, including the electrical, heating, plumbing, fire protection and security systems;
- (iv) common amenities and facilities;
- (v) parking facilities and roadways;
- (vi) utilities, including water and sewage;
- (vii) landscaping, including paths, sidewalks, fencing and irrigation;
- (viii) interior finishes, including floor covering and furnishings;
- (ix) green building components;
- (x) balconies and patios, and
- (c) identify common property and limited common property that the strata lot owner, and not the strata corporation, is responsible to maintain and repair.
- (3) For the purposes of subsection (1) (c), the financial forecasting section must include
- (a) the anticipated maintenance, repair and replacement costs for common expenses that usually occur less often than once a year or that do not usually occur, projected over 30 years, beginning with the current or previous fiscal year of the strata corporation, of the items listed in subsection (2) (b),
- (b) a description of the factors and assumptions, including interest rates and rates of inflation, used to calculate the costs referred to in paragraph (a),
- (c) a description of how the contingency reserve fund is currently being funded,



- (d) the current balance of the contingency reserve fund minus any expenditures that have been approved but not yet taken from the fund, and
- (e) at least 3 cash-flow funding models for the contingency reserve fund relating to the maintenance, repair and replacement over 30 years, beginning with the current or previous fiscal year of the strata corporation, of the items listed in subsection (2) (b).
- (4) For the purposes of subsection (3) (e), the cash-flow funding models may include any one or more of the following:
- (a) balances of, contributions to and withdrawals from the contingency reserve fund;
- (b) special levies;
- (c) borrowings.
- (5) If a strata corporation contributes to the contingency reserve fund based on a depreciation report, the contributions in respect of an item become part of the contingency reserve fund and may be spent for any purpose permitted under section 96 of the **Act**.
- (6) For the purposes of section 94 (1) of the **Act**, "**qualified person**" means any person who has the knowledge and expertise to understand the individual components, scope and complexity of the strata corporation's common property, 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 and to prepare a depreciation report that complies with subsections (1) to (4).
- (7) The following periods are prescribed:
- (a) for the purposes of section 94 (2) (b) of the **Act**, 3 years;
- (b) for the purposes of section 94 (2) (c) of the **Act**, 18 months;
- (c) for the purposes of section 94 (3) (a) of the **Act**, the one year period immediately preceding the date on or before which the depreciation report is required to be obtained.
- (8) A strata corporation is prescribed for the purposes of section 94 (3) (b) of the **Act** if and for so long as there are fewer than 5 strata lots in the strata plan.

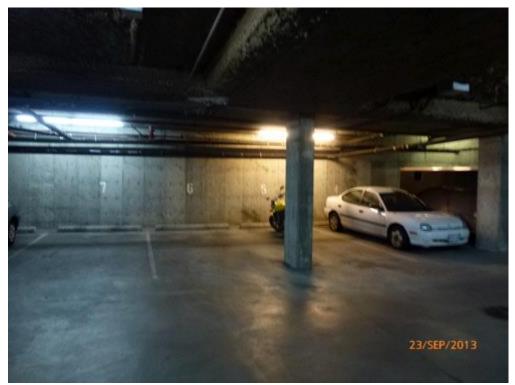
[en. B.C. Reg. 238/2011, Sch. 1, s. 2.]



## Appendix B – Component Data Sheets

Reserve Component A103001	Foundation slab					
Properties	Concrete floor slab					
<b>Potential Deterioration</b>	Settlement over time d	Settlement over time due to grade changes can lead to cracks in the				
	concrete floor. Prolonge	ed load can also lead to extensive wear.				
<b>Condition Analysis</b>	Deterioration	Cracks on foundation floor slab				
	Repair/Replacement	None available				
	History					
	Overall Condition	Good				
Life Cycle Analysis	Date of Installation	1990				
	Chronological Age	23 years				
	Estimated Useful Life	Building life				
	Effective Age	23 years				
	Remaining Useful Life	Building life				
Replacement/Repair	Current Repair/	\$ 5,000 (for repairs of entire parkade				
Estimates	Replacement Cost	approximated over 10 years)				
	Estimate					
	Estimated Year of	N/A				
	Repair/Replacement					
<b>Preventive Maintenance</b>	Sealant injections to rep	pair minor cracks.				
Recommendations	Repair cracks with the Kryton crack repair system.					





Concrete floor slab



Reserve Component A103002	Parkade ceiling slab	
Properties	Concrete ceiling slab	
Potential Deterioration	Settlement over time due to grade changes can lead to cracks in the ceiling slab.	
<b>Condition Analysis</b>	Deterioration	Cracks and efflorescence on suspended slabs.
	Repair/Replacement	Repairs to concrete ceiling slab were made in
	History	2014.
	Overall Condition	Good
Life Cycle Analysis	Date of Installation	1990
	Chronological Age	23 years
	Estimated Useful Life	Building life
	Effective Age	23 years
	Remaining Useful Life	Building life
Replacement/Repair	Current Repair/	N/A (repair costs have been included in cost
Estimates	Replacement Cost	estimate for entire parkade; see Reserve
	Estimate	Component A103001 – Foundation Slab)
	Estimated Year of	N/A
	Repair/Replacement	
Preventive Maintenance	Sealant injections to repair minor cracks.	
Recommendations	Repair cracks with the Kryton crack repair system.	





Repaired ceiling slab



Repaired ceiling slab



Reserve Component A202001	Parkade walls	
Properties	Concrete foundation walls	
Potential Deterioration	Plantation and soil changes can lead to settling of the structure, causing cracks in the foundation over time. Cracks in concrete walls may lead to water penetration.	
Condition Analysis	Deterioration	Cracks and efflorescence on the foundation walls. Efflorescence along cold joints also indicate cracks in cold joints. Area of popout with rebar exposed.
	Repair/Replacement History	Repairs to concrete foundation walls were made in 2014.
	Overall Condition	Good
Life Cycle Analysis	Date of Installation	1990
	Chronological Age	23 years
	Estimated Useful Life	Building life
	Effective Age	23 years
	Remaining Useful Life	Building life
Replacement/Repair	Current Repair/	N/A (repair costs have been included in cost
Estimates	Replacement Cost	estimate for entire parkade; see Reserve
	Estimate	Component A103001 – Foundation Slab)
	Estimated Year of Repair/Replacement	N/A
<b>Preventive Maintenance</b>	Sealant injections to repair minor cracks.	
Recommendations	Repair cracks with the Kryton crack repair system.	





Repaired parkade wall



Repaired parkade wall



Reserve Component B10100101	Patio flooring	
Properties	Concrete pavers	
<b>Potential Deterioration</b>	Prolonged wear and tear, along with soil settlement, can lead to cracks which can pose a tripping hazard.	
<b>Condition Analysis</b>	Deterioration	None observed
	Repair/Replacement	None available
	History	
	Overall Condition	Good
Life Cycle Analysis	Date of Installation	1990
	Chronological Age	23 years
	Estimated Useful Life	Building life
	Effective Age	23 years
	Remaining Useful Life	Building life
Replacement/Repair	Current Repair/	\$ 3,000 (for repairs approximated over 10
Estimates	Replacement Cost	years)
	Estimate	
	Estimated Year of	N/A
	Repair/Replacement	
Preventive Maintenance	Inspect every two years, repair as needed.	
Recommendations	None	





Concrete paver patio



Concrete paver patio