



# CARLYON BEACH HOA

Olympia, Washington



## STANDARD

### LEVEL 2 RESERVE STUDY UPDATE WITH A SITE VISIT

*With funding recommendations for the 2019/2020 fiscal year*

Issued April, 2019

Next Update: **Level 3** by April, 2020

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## EXECUTIVE SUMMARY

### Description

Carlyon Beach HOA is a 689-unit residential community located at 2719 Island Drive NW in Olympia, Washington. This Reserve Study meets the requirements of the Washington Homeowners' Association Act and the Washington Unified Common Interest Owner Act for a Level 2 Reserve Study update with a site visit, and was prepared by an independent Reserve Study Professional.

### Background

The community maintains a clubhouse, rental house, and maintenance building, in addition to maintenance equipment for a potable water system, a sewage treatment facility, and boat docks. The community was established in about 1959.

The recommended annual contribution to reserves for 2019/2020 is \$270,000\*.

\*Note: We expect that the contribution to reserves can be adjusted in 2030 to \$170,000 in constant dollars and still cover the anticipated expenses for the duration of the study.

The year displayed on graphs and charts is the fiscal year end. For example, the fiscal year 2020/2021 is shown as 2021.

### Financial Information for the Current 2018/2019 Fiscal Year

Reserve Account Balance on <b>December 31, 2018</b>	\$131,798
Annual Operating Budget	\$800,424
Component Inclusion Threshold (1% of the Operating Budget)	\$8,004
Capital Cost threshold set by the Association	\$5,000
Annual Budgeted Contribution to Reserves (2018/2019)	\$220,000
Remaining Contributions to Reserves for the Year	\$110,292
Planned or Implemented Special Assessment	None
Fully Funded Balance	\$874,988
Percent Funded at Time of Study	15%
Funding Status at Time of Study	High Risk for a Special Assessment

### Recommended Contribution to Reserves Starting in 2019/2020

2019/2020 Annual Contribution to Reserves	\$270,000*
Recommended Contribution per Month	\$22,500
Average Contribution per Unit per Year	\$392
Average Contribution per Unit Per Month	\$33
Recommended Special Assessment	None
2019/2020 Baseline Funding Plan Contribution Rate	\$245,700
2019/2020 Full Funding Plan Contribution Rate	\$245,700

The recommended reserve contribution represents a Threshold Funding Plan to prevent special assessments over the course of the 30-year study **while maintaining a minimum reserve account balance of at least \$167,000\*** and the percent funded between 25% and 84%. The fiscal year for the Reserve Study is July 1st - June 30th. Cost projection accuracy decreases into the distant future. Assumptions should be reconsidered and updated with each revision of the study.

There is no legal requirement to fund reserves. There is a requirement to have a current Reserve Study with a current recommended reserve contribution rate. Reserve Studies must be updated annually to reflect recent financial information, repairs or replacements, and to adjust for future repair costs. Every three years, the update must be based on a visual on-site inspection conducted by a Reserve Study Professional.



## Five Years At A Glance 2019/2020 Through 2023/2024

The following reserve funded expenses are expected to occur in the next five years at Carlyon Beach HOA in constant dollar values

<b>Year 1 (2019/2020) Anticipated Maintenance</b>	<b>Estimated Cost</b>
2.6.1 Asphalt Road - major repairs	\$75,000
2.9.1 Mooring Docks - repair	\$45,000
11.2.4 Vehicles - contingency	\$12,120
15.1.6 Well Pump 2 - maintenance	\$14,540
15.1.7 Water Meters - installation	\$11,090
15.1.9 Water System Telemetry - maintenance	\$10,010
16.3.1 Emergency Generator - maintenance	\$24,220
<b>Total Estimated Expenses for Year 1 (2019/2020)</b>	<b>\$191,980</b>

<b>Year 2 (2020/2021) Anticipated Maintenance</b>	<b>Estimated Cost</b>
2.6.1 Asphalt Road - major repairs	\$75,000
2.9.1 Mooring Docks - repair	\$45,000
6.2.1 Clubhouse Exterior Surfaces - repair	\$2,980
9.8.1 Clubhouse Exterior Surfaces - paint	\$10,720
15.1.1 Plumbing System - contingency	\$10,000
15.1.7 Water Meters - installation	\$11,090
15.5.4 Aerobic System Controls - contingency	\$20,000
<b>Total Estimated Expenses for Year 2 (2020/2021)</b>	<b>\$174,790</b>

<b>Year 3 (2021/2022) Anticipated Maintenance</b>	<b>Estimated Cost</b>
2.6.1 Asphalt Road - major repairs	\$75,000
2.6.2 Gravel Road - repair	\$35,120
2.9.1 Mooring Docks - repair	\$45,000
9.8.2 Water Tower Exterior - paint	\$52,600
10.1.2 Playground Equipment - replace	\$10,000
15.1.4 Well Pump 1 - maintenance	\$14,540
15.1.7 Water Meters - installation	\$11,090
15.5.5 Mixer Unit - contingency	\$21,760
20.1.1 Reserve Study updates - with site visit	\$4,200
<b>Total Estimated Expenses for Year 3 (2021/2022)</b>	<b>\$269,310</b>



Five Years At A Glance 2019/2020 Through 2023/2024 continued

<b>Year 4 (2022/2023) Anticipated Maintenance</b>	<b>Estimated Cost</b>
2.6.1 Asphalt Road - major repairs	\$75,000
2.9.1 Mooring Docks - repair	\$45,000
11.2.2 Backhoe - replace	\$36,340
11.2.7 Diesel Tank - replace	\$9,940
15.1.7 Water Meters - installation	\$11,090

**Total Estimated Expenses for Year 4 (2022/2023) \$177,370**

<b>Year 5 (2023/2024) Anticipated Maintenance</b>	<b>Estimated Cost</b>
2.6.1 Asphalt Road - major repairs	\$75,000
7.4.4 Maintenance Bldg. Shingle Roof - replace	\$14,000
11.2.1 Bolens Mower - replace	\$7,000
12.1.2 Clubhouse Office Equipment - replace	\$5,000
15.1.1 Plumbing System - contingency	\$10,000
15.1.2 Water Tower - maintenance	\$10,000
15.5.6 Air Compressor - maintenance	\$9,210
15.6.1 Treatment Plant Outfall - contingency	\$10,000
15.6.3 Bioswale - inspection	\$5,000
16.1.1 Electrical System - contingency	\$10,000
16.3.2 Sewage Treatment Emergency Generator - contingency	\$12,120
17.1.1 Security Lighting - replace	\$10,000

**Total Estimated Expenses for Year 5 (2023/2024) \$177,330**



## INTRODUCTION

### Purpose of a Reserve Study

The purpose of a Reserve Study is to recommend a reasonable annual reserve contribution rate made by an association to its reserve account. Reserve accounts are established to fund major maintenance, repair, and replacement of common elements, including limited common elements, expected within the next thirty years. A Reserve Study is intended to project availability of adequate funds for the replacement or major repair of any significant component of the property as it becomes necessary without relying on special assessments. It is a budget planning tool which identifies the current status of the reserve account and a stable and equitable Funding Plan to offset the

anticipated future major shared expenditures. Each reserve component is evaluated to determine the current condition, the remaining useful life, and the estimated replacement cost. This information is combined into a spreadsheet to determine funding requirements and establish the annual contribution rate needed to minimize the potential for special assessments. All costs and annual reserve fund balances are shown in constant dollars, and with adjustments for annual inflation and interest earned. Ideally, an even level of contributions is established that maintains a positive balance in the reserve account over the timeline the study examines.

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A Reserve Study also calculates a theoretical “Fully Funded Balance”. Fully Funded Balance is the sum total of the reserve components’ depreciated value using a straight line depreciation method.

To calculate each component’s depreciated value:

$$\text{Depreciated Value} = \text{Current Replacement Cost} \times \frac{\text{Effective Age}}{\text{Expected Useful Life}}$$

By comparing the actual current reserve fund balance, to the theoretical Fully Funded Balance a Percent Fully Funded is derived.

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These expenses could be emergency repairs not covered by insurance, or expenses that differ from the existing Reserve Study in terms of timing or cost. The Fully Funded Balance is neither the present replacement cost of all of the Association’s reserve components, nor does it have a mathematical relationship to the recommended threshold reserve contribution funding plan.

The percent fully funded acts as a measuring tool to assess an association’s ability to absorb unplanned expenses.





### Three levels of Reserve Studies:

**Level 1:** The first level, an initial Reserve Study, must be based upon a visual site inspection conducted by a Reserve Study Professional. This is also known as a full Level 1 Reserve Study with a site visit.

**Level 2:** Thereafter at least every three years, an updated Reserve Study must be prepared, which again is based upon a visual site inspection conducted by a Reserve Study Professional. This is also known as a Level 2 update with a site visit.

**Level 3:** As noted earlier, the Association is required to update its Reserve Study every year. However, in two of the three years, the annual updates do not require a site visit. This is also known as a Level 3 update without a site visit.

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This study is a Level 2 Reserve Study update with a site visit.

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The next required update for Carlyon Beach HOA is a **Level 3** study by April, 2020

### Our Approach to a Reserve Study

Reserve Consultants LLC employs a “Reasonable Approach” when evaluating reserve components in order to draft a study that is of greatest value to our clients. This means we attempt to predict, based on the costs involved and the client’s objectives, what a reasonable person will decide to have done when maintenance, repairs, or replacement become necessary. For example, a reasonable person will not replace a fence when it only needs to be repainted. The benefit of this is that reserve contributions are minimized to allow for what is most likely to occur. Our studies are not based on a worst-case scenario, but rather on what we expect is most likely to occur. Our approach assumes minor problems will be corrected as they occur, before they become major problem.

#### Several sources were used in drafting this report. These include:

- Site visit and visual inspection of a sampling of the components;
- Input provided by association representatives;
- Review of a list of components the Association is responsible for;
- Generally accepted construction, maintenance, and repair guidelines

Many factors may influence the actual costs that the Association will experience. The quality of replacement materials of items can significantly impact cost, as well as the timing between replacements. The use of Architects or independent construction managers to specify and oversee work may also cause additional expenses.



## **Government Requirements for a Reserve Study**

The content of a Reserve Study for a homeowners' association is regulated by the Washington State government (RCW 64.38.070 §2).

- (a) A reserve component list, including any reserve component that would cost more than one percent of the annual budget of the association, not including the reserve account, for major maintenance, repair, or replacement. If one of these reserve components is not included in the Reserve Study, the study should provide commentary explaining the basis for its exclusion. The study must also include quantities and estimates for useful life of each reserve component, remaining useful life of each reserve component, and current repair and replacement cost for each component;
- (b) The date of the study, and a statement that the study meets the requirements of this section;
- (c) The following level of reserve study performed (i) Level I Full reserve study funding analysis and plan; (ii) Level II Update with visual site inspection; or (iii) Level III Update with no visual site inspection;
- (d) The association's reserve account balance;
- (e) The percentage of the fully funded balance that the reserve account is funded;
- (f) Special assessments already implemented or planned;
- (g) Interest and inflation assumptions;
- (h) Current reserve account contribution rates for a full funding plan and baseline funding plan;
- (i) A recommended reserve account contribution rate; a contribution rate for a full funding plan to achieve one hundred percent fully funded reserves by the end of the thirty-year study period, a baseline funding plan to maintain the reserve (fund) balance above zero throughout the thirty-year study period without special assessments, and a contribution rate recommended by the reserve study professional;
- (j) A projected reserve account balance for thirty years and a funding plan to pay for projected costs from those reserves without reliance on future unplanned special assessments; and
- (k) A statement on whether the reserve study was prepared with the assistance of a reserve study professional.





The Washington State government further requires the following disclosure in every Reserve Study (RCW 64. 38.070§3):

**"This reserve study should be reviewed carefully. It may not include all common and limited common element components that will require major maintenance, repair, or replacement in future years, and may not include regular contributions to a reserve account for the cost of such maintenance, repair, or replacement. The failure to include a component in a reserve study, or to provide contributions to a reserve account for a component, may, under some circumstances, require you to pay on demand as a special assessment your share of common expenses for the cost of major maintenance, repair, or replacement of a reserve component."**

The full Washington Homeowners' Association Act may be reviewed on the Washington State Legislature's website at: <http://apps.leg.wa.gov/rcw/default.aspx?cite=64.38> and parts of **64.38.065** to **64.38.090** for the Reserve Study Amendment's portions. In April 2011, the Act was amended to change the required content within the Reserve Studies, add reporting of the Reserve Study results as part of the budget summary to owners, and extend the Reserve Study requirement to homeowners' associations with significant assets. For questions regarding the Act, we recommend contacting an attorney familiar with homeowners' associations' legal requirements.

Effective July 1, 2018, the **Washington Unified Common Interest Act (WUCIOA)** has impacted common interest communities. Our reserve studies also comply with WUCIOA.

RCW 64.90.550 §2 states that a reserve study must include:

- (a) A reserve component list, including any reserve component, the replacement cost of which exceeds one percent of the annual budget of the association, excluding contributions to the reserves for that reserve component. If one of these reserve components is not included in the reserve study, the study must explain the basis for its exclusion. The study must also include quantities and estimates for the useful life of each reserve component, the remaining useful life of each reserve component, and current major replacement costs for each reserve component;
- (b) The date of the study and a disclosure as to whether the study meets the requirements of this section;
- (c) The following level of reserve study performed:
  - a. Level I: Full reserve study funding analysis and plan;
  - b. Level II: Update with visual site inspection; or
  - c. Level III: Update with no visual site inspection;
- (d) The association's reserve account balance;
- (e) The percentage of the fully funded balance to which the reserve account is funded;
- (f) Special assessments already implemented or planned;
- (g) Interest and inflation assumptions;



- (h) Current reserve account contribution rates for a full funding plan and a baseline funding plan;
- (i) A recommended reserve account contribution rate for a full funding plan to achieve one hundred percent fully funded reserves by the end of the thirty-year study period, a recommended reserve account contribution rate for a baseline funding plan to maintain the reserve account balance above zero throughout the thirty-year study period without special assessments, and a reserve account contribution rate recommended by the reserve study professional;
- (j) A projected reserve account balance for thirty years based on each funding plan presented in the reserve study;
- (k) A disclosure on whether the reserve study was prepared with the assistance of a reserve study professional, and whether the reserve study professional was independent; and
- (l) A statement of the amount of any current deficit or surplus in reserve funding expressed on a dollar per unit basis. The amount is calculated by subtracting the association's reserve account balance as of the date of the study from the fully funded balance, and then multiplying the result by the fraction or percentage of the common expenses of the association allocable to each unit; except that if the fraction or percentage of the common expenses of the association allocable vary by unit, the association must calculate any current deficit or surplus in a manner that reflects the variation.

In addition, the WUCIOA requires the following disclosure in every Reserve Study (RCW 64.90.550 § 3):

**"This reserve study should be reviewed carefully. It may not include all common and limited common element components that will require major maintenance, repair, or replacement in future years, and may not include regular contributions to a reserve account for the cost of such maintenance, repair, or replacement. The failure to include a component in a reserve study, or to provide contributions to a reserve account for a component, may, under some circumstances, require the association to (1) defer major maintenance, repair, or replacement, (2) increase future reserve contributions, (3) borrow funds to pay for major maintenance, repair, or replacement, or (4) impose special assessments for the cost of major maintenance, repair, or replacement."**

Furthermore, RCW 64.90.550 §2 states that the budget must include:

- (d) the current amount of regular assessments budgeted for contribution to the reserve account;
- (e) A statement of whether the association has a reserve study that meets the requirements of RCW 64.90.550 of this act and, if so, the extent to which the budget meets or deviates from the recommendations of that reserve study; and
- (f) The current deficiency or surplus in reserve funding expressed on a per unit basis.

RCW 64.90.550 §2 (d) – (f) requirements are covered by the Supplemental Budget Information disclosure that is prepared with each reserve study when the Association is ready to ratify the budget.



### **Limitations and Assumptions of a Reserve Study**

This Reserve Study is not a report on the condition of the assets maintained by Carlyon Beach HOA, or a detailed report of necessary maintenance to the assets. It is also not an investigation into or comment on the quality of construction of the reserve components, or whether the construction complies with the building code or the requirements of the Washington Homeowners' Association Act and the Washington Common Interest Ownership Act (WUCIOA).

The component list is based on information provided by Carlyon Beach HOA. Reserve Consultants LLC does not provide legal interpretations of governing documents or auditing services on account information provided.

The observations made by Reserve Consultants LLC are limited to a visual inspection of a sample of the reserve components. Unless informed otherwise, our assumption is that the components are constructed in substantial compliance with the building code and to industry standards, and that it will receive ordinary and reasonable maintenance and repair by Carlyon Beach HOA. These assumptions include that most reserve components will achieve their normal useful lives for similar components in the Pacific Northwest, and that they will be replaced when necessary to prevent damage to other reserve components.

This Reserve Study assumes that the assets will be maintained to keep a good level of appearance, with a special emphasis on retaining the original appearance of the assets to the greatest possible extent. The analysis also assumes that Carlyon Beach HOA will replace materials as they are required with good quality materials, installed by qualified, licensed, contractors. We further assume that the assets will experience the full typical useful life for the new materials installed.

The long-term nature of this study requires that certain assumptions and predictions be made about future events. Since there can be no guarantee that these future events will occur as assumed, this analysis must be viewed in light of the circumstances under which it was conducted. Reasonable effort has been made to ensure that the conclusions of this report are based on reliable information and sound reasoning.

This report should be updated annually with actual repair costs, reserve fund balances, etc. Every three years it should be updated with a site inspection and professional review. Regular updating will allow changes based on actual occurrences and adjustments for the cost of repairs to be incorporated into the annual reserve contributions. This will allow any savings or additional costs to be properly allocated among unit owners.



### **Inflation and Interest Rate Projections**

When making estimates on the future inflation and interest rates, we use a staggered approach to more accurately reflect future economic projections.

For **inflation**, we use the construction industry inflation rates published by RS Means, which differ from the consumer inflation index. The average annual construction inflation increase since 1966 is 4.16%. We do not apply inflation to the annual reserve contribution in Year 0. Likewise, we do not apply inflation to the recommended reserve contribution in Year 1 since this is the first year at the recommended contribution rate. Inflation applied to the components on the inflated spreadsheet is compounded annually; the values are listed for each year at the bottom of the inflated spreadsheet.

For **interest** rates, we analyze the historical data provided by the Board of Governors of the Federal Reserve. The average annual interest rate since 1987 is 3.44%. The interest for associations is typically lower than average due to conservative investing options that are usually employed by associations. Interest is applied to Year 0 only in the constant spreadsheet so that the starting reserve fund balance in Year 1 is the same for both the constant and inflated spreadsheets, as illustrated on the following page.

### **Inflation and Interest Rate Projections for Carlyon Beach HOA**

<b>Years Applied</b>	<b>Contribution Inflation</b>	<b>Inflation</b>	<b>Interest</b>
Year 0 (2018/2019) through Year 1 (2019/2020)	0%	3%	2%
Year 2 (2020/2021) through Year 10 (2028/2029)	3%	3%	2%
Year 11 (2029/2030) through Year 30 (2048/2049)	4%	4%	3%



### Starting Reserve Fund Balance for Year 1 (2019/2020)

The starting reserve fund balance for 2019/2020 has been estimated by combining the following figures that were provided by an association representative:

<b>\$131,798</b>	reserve fund balance as of December 31, 2018
- <b>(\$65,000)</b>	anticipated remaining maintenance expenses in 2018/2019
+ <b>\$0</b>	planned special assessment in 2018/2019
+ <b>\$110,292</b>	remaining reserve contributions for 2018/2019
+ <b>\$1,544</b>	projected interest on the 2018/2019 reserve fund balance
<b>\$178,634</b>	estimated beginning balance for fiscal year 2019/2020

Below is a summary of the anticipated remaining maintenance expenses for 2018/2019.

<b>Component Maintenance</b>	<b>Estimated Cost</b>
2.9.1 Mooring Docks - repair	\$45,000
6.2.1 Clubhouse Exterior Surfaces - repair	\$20,000
<b>Total Estimated Costs for 2018/2019:</b>	<b>\$65,000</b>

The actual or projected total reserve fund balance presented in the Reserve Study is based on information provided to RCL and was not audited.



## ASSOCIATION OVERVIEW

Carlyon Beach HOA is a 689-unit residential community located in Olympia, Washington. The community was established in about 1959.

The community maintains a clubhouse, rental house, and maintenance building, in addition to maintenance equipment for a potable water system and a sewage treatment facility. The Association maintains asphalt roads and parking areas, a community park and boat docks.

## Review of General Conditions

The overall appearance of the community was good. The asphalt paving is maintained yearly and seemed to be in good condition overall. The grounds and landscaping seemed to be regularly maintained.

The exterior siding of the clubhouse was maintained in 2018 and appeared to be in good condition; the paint on the siding and trim was weathering as expected.

No problems were reported with the potable water system, the sewage facility, the plumbing, electrical or drainage systems. Minor and major repairs have been conducted on a regular basis.







## COMPONENTS INCLUDED IN THE RESERVE STUDY

Reserve studies for homeowners' associations are required to include any reserve component that would cost more than one percent of the annual budget for major maintenance, repair or replacement (RCW 64.38.070). While the law defines the inclusion threshold to be 1% of the operating budget, or \$8,004, components valued less than the legal threshold may be included to better capture reserve funding for Carlyon Beach HOA.

### Component Funding Excluded from the Reserve Study

The following components have been excluded from the budget because they are below the \$5,000 capital cost threshold set by the Association:

Asphalt Repairs - Courts	Paint - Interior - Community Building
Asphalt Repairs - Walkways	Paint - Interior Maintenance Building
Air Compressors	Paint - Interior - Restrooms
Alarm - Water System	Paint - Interior - Rental House
Benches - Wood/Wrought Iron	Paint - Siding - Rental House
Blinds	Paint - Siding - Trim- Rental House
Boat & Boat Trailer	Picnic Tables
Bulletin Board Building	Power Generator - Well Pump 2
Canoe Rack	Pressure Washer
Ceiling Fans	Pump - Rolachem Rcc503Sc
Chain Saw	Pump - Waste Water Facility
Computer 1, 2 & 3	Pump Motor - Miscellaneous
Concrete Mixer	Radio - 2-way
Container Box	Radio - CB
Copier & Transcriber	Radio - Hand - Held
Culverts	Refrigerator
Equalization Tanks	Refrigerator - Community Building
Equipment - Office - Furniture	Rehab - Well 1
Flag Pole	Rehab - Well 2
Flow Meter	Restrooms & Fixtures
Furnaces	Roof - Rental House
Gates - Entry	Roof - Restroom Building
Garage Doors - Maintenance Shed	Roof - Well 2
Guard House	Roof - Treatment Facility
Guard Rails	Security System & Locks - Clubhouse
Gutters & Downspouts - Community Building	Siding - Treatment Plant
Gutters & Downspouts - Rental House	Trim - Maintenance Building
Gutters & Downspouts - Park Buildings	Siding & Trim - Miscellaneous buildings on site
Lights - Exterior	Diesel Tank - Water Treatment Facility
Line Locator	Vehicle Stops
Meter Calibration - Water Source	Washer & Dryer
Paint - Exterior - Park Area Buildings	Water Heater - Community Building
Paint - Exterior - Well #2	Water Heater - Waste Treatment Building

The Picnic “Wanagan” Shed, Restroom Building, and Maintenance Shop Building are expected to outlast the 30-year span of the reserve study.

We understand that the reservoirs are no longer maintained by the Association and are not included in the budget.



Not all components that are the individual unit owners' responsibility are described in the report. The costs for items maintained by individual unit owners are not included in the budget for the reserve account contribution recommendations. Individual owners are financially responsible for repairs for elements that are not the responsibility of the Association to maintain. We recommend that associations establish policies and processes regarding the maintenance on these "owner responsibility" items.

### **Adjustments to Component Reserve Recommendations**

This reserve study provides updated information on the components from prior reserve studies. All cost estimates were adjusted to reflect the actual inflation rate for construction work in the Pacific Northwest, and costs actually experienced by Carlyon Beach HOA or others in the area. To complete the report, we were provided with a record of recent expenditures on reserve components.

We use those figures, where applicable, for updating component cost projections, applying an appropriate inflation factor. Where updated figures from actual work performed are not available, cost projections from the previous reserve study are updated for inflation and rounded to the nearest \$10, using the RS Means 2018 to 2019 inflation figure of 3.95% for construction work.



## **RESERVE COMPONENT SUMMARY**



**2.6.1 Asphalt Road - major repairs**

<b>Maintenance Cycle:</b> 1 year	<b>Next Maintenance:</b> Year 1 (2020)
<b>Quantity:</b> 575,165 Lump Sum	<b>Unit Cost:</b> \$75,000.00 / LS
<b>Estimate:</b> \$75,000	

It was reported that the Association plans on spending approximately \$75,000 on road repairs every year to maintain the roads. Records indicate that approximately \$60,000 was spent in 2012, \$50,000 in 2013 and \$100,000 in 2014 to overlay asphalt throughout the community.

**2.6.2 Gravel Road - repair**

<b>Maintenance Cycle:</b> 5 years	<b>Next Maintenance:</b> Year 3 (2022)
<b>Quantity:</b> 3,228 Square Yards	<b>Unit Cost:</b> \$40.00 / SY
<b>Estimate:</b> 3,228 SY X 25% X \$40.00/SY = \$32,280 + tax = \$35,120	

We budget for gravel roads provides funds to repair up to 25% of the roads throughout the community per maintenance cycle. The gravel road located at the pump truck turn-around was maintained in 2017 and seemed to be in good condition.

**2.7.1 Chain-link Fence - maintenance**

<b>Maintenance Cycle:</b> 5 years	<b>Next Maintenance:</b> Year 6 (2025)
<b>Quantity:</b> 2,985 Linear Feet	<b>Unit Cost:</b> \$20.00 / LF
<b>Estimate:</b> 2,985 LF X 15% X \$20.00/LF = \$8,955 + tax = \$9,740	

The chain-link fence surrounding the waterfront park and marina appeared to be stable and in good conditions. The budget allows for maintaining approximately 15% of the fencing with each repair cycle.

**2.9.1 Mooring Docks - repair**

<b>Maintenance Cycle:</b> 1 year	<b>Next Maintenance:</b> Year 0 (2019)
<b>Quantity:</b> 7,800 Lump Sum	<b>Unit Cost:</b> \$45,000.00 / LS
<b>Estimate:</b> \$45,000	

The Association plans for a marina improvement project over the next 5 years. One section of the mooring docks was replaced in 2018 at a cost of about \$110,000. At the request of the Association we budget \$60,000 each year for the next 5 years. It is our understanding that the mooring docks were installed in 1974. We have noted that the main section of the dock was rebuilt approximately 6 years ago. This budget maintains a lump sum per year until 2023 for dock replacement.



**2.9.2 Log Boom - repair**

**Maintenance Cycle:** 10 years  
**Quantity:** 1 Lump Sum  
**Estimate:** \$20,000

**Next Maintenance:** Year 9 (2028)  
**Unit Cost:** \$20,000.00 / LS

The Association reported replacing the log boom in 2018 at for about \$20,000. At the request of the Association, we have adjusted the budgeted amount to \$20,000 and shortened the maintenance cycle to 10 years.

**2.9.3 Marina Floats - repair**

**Maintenance Cycle:** 10 years  
**Quantity:** 7,800 Square Feet  
**Estimate:** 7,800 SF X 25% X \$9.00/SF = \$17,550 + tax = \$19,090

**Next Maintenance:** Year 9 (2028)  
**Unit Cost:** \$9.00 / SF

We budget for repairing and replacing floats about 10 years after the new mooring docks have been installed. We have budgeted funds every 10 years to maintain the floats as required. The floats will need periodic replacement.

**2.9.4 Marina Metal Pilings - replace**

**Maintenance Cycle:** 50 years  
**Quantity:** 22 Each  
**Estimate:** 22 EA X 100% X \$2,500.00/EA = \$55,000 + tax = \$59,840

**Next Maintenance:** Year 50 (2069)  
**Unit Cost:** \$2,500.00 / EA

The Association plans to replace the wood pilings over the next 5 years included in the dock repair project. A number of steel pilings were installed in 2018 when one of mooring docks was refurbished. Although the expected useful life of steel pilings exceeds the period of this reserve study, we include a budget to financially prepare the Association for their replacement. The budget provides funds for replacing 22 steel pilings

**2.9.5 Marina Main Walkway - replace**

**Maintenance Cycle:** 50 years  
**Quantity:** 1,120 Square Feet  
**Estimate:** 1,120 SF X 100% X \$120.50/SF = \$134,960 + tax = \$146,840

**Next Maintenance:** Year 44 (2063)  
**Unit Cost:** \$120.50 / SF

The marina main walkway was reported to be performing well. The main dock was replaced in 2013 at a estimated cost of \$120,000. The budget saves for reserves to replace the walkway when it has reached the approximate end of its useful life.



**3.3.1 Bulkhead Retaining Walls - ph. 1 repair**

**Maintenance Cycle:** 50 years **Next Maintenance:** Year 44 (2063)  
**Quantity:** 860 Linear Feet **Unit Cost:** \$411.90 / LF  
**Estimate:** 860 LF X 100% X \$411.90/LF = \$354,234 + tax = \$385,410

The budget for major repairs to the bulkhead is divided into two phases. This phase provides funds for the section of the bulkhead that was repaired about 6 years ago. Major repairs are anticipated to occur on a fifty-year cycle.

**3.3.2 Bulkhead Retaining Walls - ph. 2 repair**

**Maintenance Cycle:** 50 years **Next Maintenance:** Year 6 (2025)  
**Quantity:** 765 Linear Feet **Unit Cost:**  
**Estimate:** 765 LF X 100% X \$411.89/LF = \$315,096 + tax = \$342,820 \$411.89 / LF

The second phase of major repairs to the bulkhead are funded with this component. The funds allow for repairs of the section not repaired in the recent past. According to the Association the remaining bulkhead will require repairs within the next 5-6 years.

**6.2.1 Clubhouse Exterior Surfaces - repair**

**Maintenance Cycle:** 7 years **Next Maintenance:** Year 2 (2021)  
**Quantity:** 4,210 Square Feet **Unit Cost:** \$13.00 / SF  
**Estimate:** 4,210 SF X 5% X \$13.00/SF = \$2,737 + tax = \$2,980

The Association plans to completed extensive repairs to the clubhouse exterior to mediate areas of rot and termite damage at a cost of about \$20,000, including replacing siding and replacing a corner post. Funds for the repairs have been made available in the current year. A drainage ditch around the building was established in 2018 that has helped to keep water away from the building. We have included a reserve budget to fund for regular exterior surface maintenance for up to 15% of the total surfaces per cycle. The maintenance cycle has been set in conjunction with the clubhouse exterior painting cycle since any repairs can be addressed at the same time.

**7.4.1 Clubhouse Shingle Roof - replace**

**Maintenance Cycle:** 24 years **Next Maintenance:** Year 16 (2035)  
**Quantity:** 23 Roofing Squares **Unit Cost:** \$550.00 / SQ  
**Estimate:** 23 SQ X 100% X \$550.00/SQ = \$12,485 + tax = \$13,580

The exact age of the Clubhouse roof has not been verified. The budget is an estimate for replacing the roof. We recommend regular visual roof inspections to determine the condition of the roof. The next maintenance year may need to be adjusted should the roof show signs of deterioration or leakages are noted. At the time of the site visit the roof seemed to be in good condition with no issues noted.





**7.4.2 Rental House Shingle Roof - replace**

<b>Maintenance Cycle:</b> 24 years	<b>Next Maintenance:</b> Year 10 (2029)
<b>Quantity:</b> 18 Roofing Squares	<b>Unit Cost:</b> \$550.00 / SQ
<b>Estimate:</b> 18 SQ X 100% X \$550.00/SQ = \$9,680 + tax = \$10,530	

The roof of the rental house appeared to be weathering as expected with no issues noted. The budget provides funds to replace the roof at the approximate end of its useful life. We understand that the roofing of the rental house was last replaced in 2005.

**7.4.3 Picnic Area "Wanagan" Roof - replace**

<b>Maintenance Cycle:</b> 30 years	<b>Next Maintenance:</b> Year 14 (2033)
<b>Quantity:</b> 11 Roofing Squares	<b>Unit Cost:</b> \$550.00 / SQ
<b>Estimate:</b> 11 SQ X 100% X \$550.00/SQ = \$5,995 + tax = \$6,520	

The age of the roof at the picnic area "Wanagan" is unknown. The replacement year has been approximated based on the condition noted during our site visit. The Association reported no issues with the roof. The budget provides funds to replace the entire roof.

**7.4.4 Maintenance Bldg. Shingle Roof - replace**

<b>Maintenance Cycle:</b> 24 years	<b>Next Maintenance:</b> Year 5 (2024)
<b>Quantity:</b> 23 Roofing Squares	<b>Unit Cost:</b> \$550.00 / SQ
<b>Estimate:</b> 23 SQ X 100% X \$550.00/SQ = \$12,870 + tax = \$14,000	

The roof of the maintenance building was reported to have no issues. We continue to budget for replacing the roof when it has reached the approximate end of useful life. Since the age of the roof is unknown the next maintenance year has been estimated and may need adjustment according to how well the roof ages.

**8.5.1 Clubhouse Windows - replace**

<b>Maintenance Cycle:</b> 40 years	<b>Next Maintenance:</b> Year 10 (2029)
<b>Quantity:</b> 860 Square Feet	<b>Unit Cost:</b> \$46.00 / SF
<b>Estimate:</b> 860 SF X 100% X \$46.00/SF = \$39,560 + tax = \$43,040	

The window of the clubhouse seemed to be performing well. The budget saves for replacing the windows when they have reached the approximate end of useful life. The current age of the windows is uncertain; this is a best guess at their expected remaining useful life. The next maintenance year has been aligned with the clubhouse exterior surfaces repair and painting components so that the siding around the windows can be removed and replaced for installation.



**9.6.1 Clubhouse Carpet Flooring - replace**

<b>Maintenance Cycle:</b> 10 years	<b>Next Maintenance:</b> Year 6 (2025)
<b>Quantity:</b> 200 Square Yards	<b>Unit Cost:</b> \$41.64 / SY
<b>Estimate:</b> 200 SY X 100% X \$41.64/SY = \$8,328 + tax = \$9,060	

The Association has request to move the next maintenance year out an additional five years since the carpet is performing well and there are no plans to replace the carpet in the near future. This is a discretionary expense that may be adjusted in timing and budget to fit the needs of the Association.

**9.6.2 Rental House Int. Finishes - contingency**

<b>Maintenance Cycle:</b> 10 years	<b>Next Maintenance:</b> Year 6 (2025)
<b>Quantity:</b> 1 Lump Sum	<b>Unit Cost:</b> \$8,000.00 / LS
<b>Estimate:</b> \$8,000	

Since the Association has no plans to maintain the interior finishes of the rental house in the near future, we have moved the next maintenance year out an additional five years. The budget allows for maintaining the rental house flooring and interior painting of the walls and ceilings. Funds may be drawn from as needed to keep the house in rentable condition.

**9.8.1 Clubhouse Exterior Surfaces - paint**

<b>Maintenance Cycle:</b> 7 years	<b>Next Maintenance:</b> Year 2 (2021)
<b>Quantity:</b> 4,210 Square Feet	<b>Unit Cost:</b> \$2.34 / SF
<b>Estimate:</b> 4,210 SF X 100% X \$2.34/SF = \$9,851 + tax = \$10,720	

We have aligned the budget to coincide with the exterior surface repair component, 6.2.1, to provide funds to maintain the exterior of the Clubhouse with repairs and painting at the same time. The clubhouse exterior was last painted around 2015. We recommend painting the wood components regularly to protect them from the elements.

**9.8.2 Water Tower Exterior - paint**

<b>Maintenance Cycle:</b> 20 years	<b>Next Maintenance:</b> Year 3 (2022)
<b>Quantity:</b> 9,650 Square Feet	<b>Unit Cost:</b> \$5.01 / SF
<b>Estimate:</b> 9,650 SF X 100% X \$5.01/SF = \$48,347 + tax = \$52,600	

The tower exterior seemed to be in good condition. We budget for regular painting to help protect the tower from corrosion and improve the useful life span of the tower.



**10.1.1 Carport - replace**

**Maintenance Cycle:** 20 years  
**Quantity:** 1 Lump Sum  
**Estimate:** \$3,500

**Next Maintenance:** Year 20 (2039)  
**Unit Cost:** \$3,500.00 / LS

A new carport for maintenance vehicles was installed in 2018 at a cost of about \$8,000. The budget maintains funds to replace the carport when it has reached the approximate end of useful life.

**10.1.2 Playground Equipment - replace**

**Maintenance Cycle:** 15 years  
**Quantity:** 1 Lump Sum  
**Estimate:** \$10,000

**Next Maintenance:** Year 3 (2022)  
**Unit Cost:** \$10,000.00 / LS

The reserves maintain funds to repair the playground equipment, picnic tables and benches as needed to keep the area safe.

**11.2.1 Bolens Mower - replace**

**Maintenance Cycle:** 10 years  
**Quantity:** 1 Lump Sum  
**Estimate:** \$7,000

**Next Maintenance:** Year 5 (2024)  
**Unit Cost:** \$7,000.00 / LS

A used Bolens mower was purchased in 2014 at a cost of about \$6,500. At the request of the Association, we budget for replacing the mower when it has reached the estimated end of useful life.

**11.2.2 Backhoe - replace**

**Maintenance Cycle:** 18 years  
**Quantity:** 1 Each  
**Estimate:** 1 EA X 100% X \$33,397.61/EA = \$33,398 + tax = \$36,340

**Next Maintenance:** Year 4 (2023)  
**Unit Cost:** \$33,397.61 / EA

The backhoe is reportedly in working condition. The next maintenance year has been moved out 4 additional years. We estimate an 18-year lifespan for the equipment. The budget allows for a purchase of a used backhoe as a replacement.



**11.2.3 Hydroexcavator - replace**

**Maintenance Cycle:** 18 years

**Next Maintenance:** Year 6 (2025)

**Quantity:** 1 Each

**Unit Cost:** \$26,161.62 / EA

**Estimate:** 1 EA X 100% X \$26,161.62/EA = \$26,162 + tax = \$28,460

According to the Association the hydro excavator was purchased in 2007 at a cost of approximately \$23,500. No information on the current condition of the equipment was available at the time of the reserve study. The budget provides funds to replace one hydro excavator at the estimated end of typical useful life.

**11.2.4 Vehicles - contingency**

**Maintenance Cycle:** 5 years

**Next Maintenance:** Year 1 (2020)

**Quantity:** 4 Each

**Unit Cost:** \$2,784.66 / EA

**Estimate:** 4 EA X 100% X \$2,784.66/EA = \$11,139 + tax = \$12,120

The vehicles we observed during our site visit appeared to be in good condition and were reported to be functioning properly. We budget for upgrading one vehicle of the four vehicles with a used vehicle every five years.

**11.2.5 Main Pump Truck - replace**

**Maintenance Cycle:** 10 years

**Next Maintenance:** Year 9 (2028)

**Quantity:** 1 Lump Sum

**Unit Cost:** \$165,000.00 / LS

**Estimate:** \$165,000

The main pump truck was replaced in 2018 and seemed to be in good condition. The budget for replacement has been reset to a full cycle.

**11.2.6 Dump Trailer - replace**

**Maintenance Cycle:** 20 years

**Next Maintenance:** Year 6 (2025)

**Quantity:** 1 Each

**Unit Cost:** \$8,677.69 / EA

**Estimate:** 1 EA X 100% X \$8,677.69/EA = \$8,678 + tax = \$9,440

According to the Association the Big Tex dump trailer is a 2005 model. No information on the current condition of the trailer was available at the time of the reserve study. The budget provides funds to replace one hydro excavator at the estimated end of typical useful life.



**11.2.7 Diesel Tank - replace**

<b>Maintenance Cycle:</b> 15 years	<b>Next Maintenance:</b> Year 4 (2023)
<b>Quantity:</b> 2 Each	<b>Unit Cost:</b> \$9,136.82 / EA
<b>Estimate:</b> 2 EA X 50% X \$9,136.82/EA = \$9,137 + tax = \$9,940	

The Association owns two diesel tanks, one of which is located at the maintenance shop. The other is a 150 gallon tank located at the treatment plant. We anticipate the diesel tank may exceed a useful life beyond twenty years. The budget provides funds to replace one diesel tank per cycle.

**11.2.8 Miscellaneous Equipment - contingency**

<b>Maintenance Cycle:</b> 10 years	<b>Next Maintenance:</b> Year 10 (2029)
<b>Quantity:</b> 1 Each	<b>Unit Cost:</b> \$11,138.66 / EA
<b>Estimate:</b> 1 EA X 100% X \$11,138.66/EA = \$11,139 + tax = \$12,120	

No information on the current condition of the equipment was available at the time of the reserve study. The budget has been reset to a full cycle. The budget maintains funds for replacement of miscellaneous equipment in the maintenance shed.

**12.1.1 Clubhouse Interiors - update**

<b>Maintenance Cycle:</b> 10 years	<b>Next Maintenance:</b> Year 6 (2025)
<b>Quantity:</b> 1 Lump Sum	<b>Unit Cost:</b> \$10,000.00 / LS
<b>Estimate:</b> \$10,000	

The Association reported no plans for updating the interior of the clubhouse. The next maintenance year has been extended 5 years. This component saves for interior updates to the clubhouse, including restrooms, furniture, office equipment, cabinets, counters and appliances. This is a discretionary expense and may be adjusted to meet the needs of the Association. Interior finishes are budgeted in a separate component, see 9.6.1 Interior Finishes - Clubhouse.

**12.1.2 Clubhouse Office Equipment - replace**

<b>Maintenance Cycle:</b> 5 years	<b>Next Maintenance:</b> Year 5 (2024)
<b>Quantity:</b> 1 Lump Sum	<b>Unit Cost:</b> \$5,000.00 / LS
<b>Estimate:</b> \$5,000	

The Association requested a reserve budget for replacing the office copy machine. We include a budget for replacing the equipment periodically with a lump sum amount every 5 years.



**12.1.3 Rental House Interiors - update**

**Maintenance Cycle:** 10 years  
**Quantity:** 1 Lump Sum  
**Estimate:** \$8,000

**Next Maintenance:** Year 6 (2025)  
**Unit Cost:** \$8,000.00 / LS

The next maintenance year has been moved out 5 years since the Association currently has no plans for updating the building. The budget maintains funds for interior updates to the rental house, including restrooms, cabinets, counters and appliances. This discretionary expense may be adjusted to meet the needs of the Association. Interior finishes are budgeted in a separate component, see 9.6.2 Interior Finishes - Rental House.

**12.1.4 Misc. Building repair - contingency**

**Maintenance Cycle:** 10 years  
**Quantity:** 1 Lump Sum  
**Estimate:** \$5,000

**Next Maintenance:** Year 10 (2029)  
**Unit Cost:** \$5,000.00 / LS

We budget for miscellaneous expenses for upkeep of all the buildings that the Association maintains. Funds may be drawn from as needed. The budget cycle has been reset since the Association has reported that there are no upcoming projects that need to be funded in the near future.

**15.1.1 Plumbing System - contingency**

**Maintenance Cycle:** 3 years  
**Quantity:** 1 Lump Sum  
**Estimate:** \$10,000

**Next Maintenance:** Year 2 (2021)  
**Unit Cost:** \$10,000.00 / LS

We continue to budget for a plumbing repair allowance to help financially prepare the Association for any unforeseen problems with the common supply and drain plumbing lines. This allowance is may be drawn from as needed.

**15.1.2 Water Tower - maintenance**

**Maintenance Cycle:** 5 years  
**Quantity:** 1 Lump Sum  
**Estimate:** \$10,000

**Next Maintenance:** Year 5 (2024)  
**Unit Cost:** \$10,000.00 / LS

The reserves provide funds for inspecting, cleaning and repairing the water tower ladder, door, etc. It is our understanding that the tower was installed in 2000. The Association reported no issues with the current condition of the tower.





**15.1.3 Water System Computer 1 - contingency**

<b>Maintenance Cycle:</b> 15 years	<b>Next Maintenance:</b> Year 6 (2025)
<b>Quantity:</b> 1 Each	<b>Unit Cost:</b> \$8,898.07 / EA
<b>Estimate:</b> 1 EA X 100% X \$8,898.07/EA = \$8,898 + tax = \$9,680	

No information on the current condition of the water system computer 1 was available at the time of the reserve study. The budget provides a contingency fund to replace the computer system at the estimated end of typical useful life.

**15.1.4 Well Pump 1 - maintenance**

<b>Maintenance Cycle:</b> 12 years	<b>Next Maintenance:</b> Year 3 (2022)
<b>Quantity:</b> 1 Each	<b>Unit Cost:</b> \$13,360.88 / EA
<b>Estimate:</b> 1 EA X 100% X \$13,360.88/EA = \$13,361 + tax = \$14,540	

Updated information on the current condition of the well pump 1 was not available at the time of the reserve study. The budget provides funds to maintain the well pump 1 every 12 years. The Association reported that a new pump was installed in 2010.

**15.1.5 Water System Computer 2 - contingency**

<b>Maintenance Cycle:</b> 15 years	<b>Next Maintenance:</b> Year 6 (2025)
<b>Quantity:</b> 1 Each	<b>Unit Cost:</b> \$8,898.07 / EA
<b>Estimate:</b> 1 EA X 100% X \$8,898.07/EA = \$8,898 + tax = \$9,680	

Current information on the condition of the water system computer 2 was not available at the time of the reserve study. The budget provides a contingency fund to replace the computer system at the estimated end of typical useful life.

**15.1.6 Well Pump 2 - maintenance**

<b>Maintenance Cycle:</b> 12 years	<b>Next Maintenance:</b> Year 1 (2020)
<b>Quantity:</b> 1 Each	<b>Unit Cost:</b> \$13,360.88 / EA
<b>Estimate:</b> 1 EA X 100% X \$13,360.88/EA = \$13,361 + tax = \$14,540	

The Association reported that the pump was replaced in 2007. The budget provides funds base on a useful life of twelve years. No information on the current condition of the well pump 2 was available at the time of the reserve study.



**15.1.7 Water Meters - installation**

<b>Maintenance Cycle:</b> 1 year	<b>Next Maintenance:</b> Year 1 (2020)
<b>Quantity:</b> 750 Each	<b>Unit Cost:</b> \$135.90 / EA
<b>Estimate:</b> 750 EA X 10% X \$135.90/EA = \$10,193 + tax = \$11,090	

The Association anticipates installing new water meters every year for the next four years. Funds are budgeted for 10% of the total water meters per year.

**15.1.8 Water Meters - maintenance**

<b>Maintenance Cycle:</b> 5 years	<b>Next Maintenance:</b> Year 9 (2028)
<b>Quantity:</b> 750 Each	<b>Unit Cost:</b> \$135.90 / EA
<b>Estimate:</b> 750 EA X 10% X \$135.90/EA = \$10,193 + tax = \$11,090	

This component budgets funds for maintaining up to 10% of the total water meters 5 years after the new water meters have been installed.

**15.1.9 Water System Telemetry - maintenance**

<b>Maintenance Cycle:</b> 20 years	<b>Next Maintenance:</b> Year 1 (2020)
<b>Quantity:</b> 1 Each	<b>Unit Cost:</b> \$9,201.10 / EA
<b>Estimate:</b> 1 EA X 100% X \$9,201.10/EA = \$9,201 + tax = \$10,010	

The telemetry system ensures that the proper amount of water is maintained in the water tower at all times. The Association reported no issues with the current condition of the telemetry system. The budget provides funds to replace the equipment at the estimated end of typical useful life.

**15.5.1 Clubhouse Septic Tanks - contingency**

<b>Maintenance Cycle:</b> 30 years	<b>Next Maintenance:</b> Year 6 (2025)
<b>Quantity:</b> 2 Each	<b>Unit Cost:</b> \$6,790.63 / EA
<b>Estimate:</b> 2 EA X 100% X \$6,790.63/EA = \$13,581 + tax = \$14,780	

At the time of the study there were no issues noted with the clubhouse septic system. The budget maintains funds specifically for the septic tanks used by the Clubhouse.



**15.5.2 Decanter Unit - contingency**

**Maintenance Cycle:** 10 years  
**Quantity:** 2 Lump Sum  
**Estimate:** \$18,000

**Next Maintenance:** Year 6 (2025)  
**Unit Cost:** \$18,000.00 / LS

There are two decanter units. One unit was replaced in 2018. The other is budgeted to be repaired in about six years. The budget provides funds to replace one decanter unit per cycle. The cycle is set at 50% every 10 years, so that each unit is replaced about every 20 years.

**15.5.3 Aeration Manifold - contingency**

**Maintenance Cycle:** 20 years  
**Quantity:** 2 Each  
**Estimate:** 2 EA X 100% X \$10,000.00/EA = \$20,000 + tax = \$21,760

**Next Maintenance:** Year 6 (2025)  
**Unit Cost:** \$10,000.00 / EA

We budget for maintenance of the aeration manifold with a lump sum contingency. The condition of the unit was not verified at the time of the study. Updates to the maintenance cycle may be adjusted as more information becomes available.

**15.5.4 Aerobic System Controls - contingency**

**Maintenance Cycle:** 20 years  
**Quantity:** 1 Lump Sum  
**Estimate:** \$20,000

**Next Maintenance:** Year 2 (2021)  
**Unit Cost:** \$20,000.00 / LS

The maintenance of the aerobic system controls is budgeted with funds from this reserve component. The condition of the system controls was not confirmed by the Association. The budget provides a maintenance allowance to keep the system operational at all times.

**15.5.5 Mixer Unit - contingency**

**Maintenance Cycle:** 20 years  
**Quantity:** 2 Each  
**Estimate:** 2 EA X 100% X \$10,000.00/EA = \$20,000 + tax = \$21,760

**Next Maintenance:** Year 3 (2022)  
**Unit Cost:** \$10,000.00 / EA

Updated information on the current condition of the mixer unit was not available at the time of the reserve study. We continue to budget for maintaining the mixer unit with a lump sum contingency.



**15.5.6 Air Compressor - maintenance**

<b>Maintenance Cycle:</b> 10 years	<b>Next Maintenance:</b> Year 5 (2024)
<b>Quantity:</b> 2 Each	<b>Unit Cost:</b> \$8,461.89 / EA
<b>Estimate:</b> 2 EA X 50% X \$8,461.89/EA = \$8,462 + tax = \$9,210	

This component budget for the two air compressors that are part of the SBR tanks. The air compressors work in conjunction with the mixer unit. We budget for replacing 1 unit per maintenance cycle.

**15.5.7 UV Disinfection Controller - contingency**

<b>Maintenance Cycle:</b> 20 years	<b>Next Maintenance:</b> Year 18 (2037)
<b>Quantity:</b> 1 Lump Sum	<b>Unit Cost:</b> \$40,000.00 / LS
<b>Estimate:</b> \$40,000	

The UV disinfection controller was replaced in about 2017, with no further issues noted. The budget for the maintenance contingency has been reset accordingly.

**15.5.8 Sewage Treatment Facility - contingency**

<b>Maintenance Cycle:</b> 20 years	<b>Next Maintenance:</b> Year 16 (2035)
<b>Quantity:</b> 1 Lump Sum	<b>Unit Cost:</b> \$85,000.00 / LS
<b>Estimate:</b> \$85,000	

The sewage treatment facility contingency allows for periodic maintenance of the facility.

**15.5.9 Expansion Sampler - contingency**

<b>Maintenance Cycle:</b> 10 years	<b>Next Maintenance:</b> Year 6 (2025)
<b>Quantity:</b> 2 Each	<b>Unit Cost:</b> \$10,000.00 / EA
<b>Estimate:</b> 2,000.00/EA = \$10,000 + tax = \$10,880	

There are two expansion sampler units. One unit was replaced in 2018. We budget to have the second unit replaced in six years. The budget is set so one unit is replaced every 10 years, estimating each unit to have a useful life of about 20 years. The budgeted allowance is intended to cover the cost of maintaining the equipment as needed.



**15.6.1 Treatment Plant Outfall - contingency**

<b>Maintenance Cycle:</b> 15 years	<b>Next Maintenance:</b> Year 5 (2024)
<b>Quantity:</b> 1 Lump Sum	<b>Unit Cost:</b> \$10,000.00 / LS
<b>Estimate:</b> \$10,000	

This budget provides funds to replace the treatment plant outfall equipment.

**15.6.2 Bioswale - maintenance**

<b>Maintenance Cycle:</b> 25 years	<b>Next Maintenance:</b> Year 16 (2035)
<b>Quantity:</b> 1 Lump Sum	<b>Unit Cost:</b> \$78,000.00 / LS
<b>Estimate:</b> \$78,000	

The condition of the bioswale could not be verified at the time of this study. The budget provides funds for periodic maintenance of the infrastructure on the property to ensure it operates as designed, including cleaning, and clearing of the bioswale and surrounding area.

**15.6.3 Bioswale - inspection**

<b>Maintenance Cycle:</b> 5 years	<b>Next Maintenance:</b> Year 5 (2024)
<b>Quantity:</b> 1 Lump Sum	<b>Unit Cost:</b> \$5,000.00 / LS
<b>Estimate:</b> \$5,000	

The budget is intended for regular bioswale inspections.

**15.7.1 Bio-Filter Park - maintenance**

<b>Maintenance Cycle:</b> 15 years	<b>Next Maintenance:</b> Year 16 (2035)
<b>Quantity:</b> 1 Lump Sum	<b>Unit Cost:</b> \$30,000.00 / LS
<b>Estimate:</b> \$30,000	

Replacement of the bio-filter equipment at the park schedule next year is being funded through a pledge drive. We budget for the subsequent maintenance of the equipment.



**15.8.1 Fire Hydrant PSV - maintenance**

<b>Maintenance Cycle:</b> 25 years	<b>Next Maintenance:</b> Year 13 (2032)
<b>Quantity:</b> 1 Linear Feet	<b>Unit Cost:</b> \$8,833.79 / LF
<b>Estimate:</b> \$8,833.79/LF = \$8,834 + tax = \$9,610	

The budget maintains funds to maintain the fire hydrant. Funds may be drawn from as needed to keep the equipment functional at all times.

**16.1.1 Electrical System - contingency**

<b>Maintenance Cycle:</b> 5 years	<b>Next Maintenance:</b> Year 5 (2024)
<b>Quantity:</b> 1 Lump Sum	<b>Unit Cost:</b> \$10,000.00 / LS
<b>Estimate:</b> \$10,000	

The Association reported no issues with the electrical system. The maintenance cycle has been reset to a full cycle. A new electrical panel was installed at the office building in 2011.

**16.3.1 Emergency Generator - maintenance**

<b>Maintenance Cycle:</b> 10 years	<b>Next Maintenance:</b> Year 1 (2020)
<b>Quantity:</b> 1 Each	<b>Unit Cost:</b> \$22,258.95 / EA
<b>Estimate:</b> 22,258.95/EA = \$22,259 + tax = \$24,220	

The emergency generator at the maintenance shop is reported to be functioning properly. The unit was repaired in 2018. The budget provides funds to repair the generator as needed to keep it functional at all times.

**16.3.2 Sewage Treatment Emergency Generator - contingency**

<b>Maintenance Cycle:</b> 10 years	<b>Next Maintenance:</b> Year 5 (2024)
<b>Quantity:</b> 1 Each	<b>Unit Cost:</b> \$11,138.66 / EA
<b>Estimate:</b>	

1 EA X 100% X \$11,138.66/EA = \$11,139 + tax = \$12,120

The Association reported no issues with the emergency generator of the sewage system. The budget provides funds to replace the generator at the sewage treatment plant.



**17.1.1 Security Lighting - replace**

**Maintenance Cycle:** 10 years

**Next Maintenance:** Year 5 (2024)

**Quantity:** 1 Lump Sum

**Unit Cost:** \$10,000.00 / LS

**Estimate:** \$10,000

The Association plans to add security lighting around the marina and park area. We have included a new component to the reserve study to provide funds for installation and replacement of outdoor security lighting with a lump sum amount. Once the security lights are installed, the budget amount should be updated to reflect the installation cost of the new lights.

**18.1.1 Surveillance System - update**

**Maintenance Cycle:** 10 years

**Next Maintenance:** Year 10 (2029)

**Quantity:** 1 Lump Sum

**Unit Cost:** \$20,000.00 / LS

**Estimate:** \$20,000

The Association reported replacing surveillance cameras around the marina and maintenance shop in 2018. The surveillance system has approximately twelve cameras and a DVR. The budget allows for periodic updates to the surveillance system.

**20.1.1 Reserve Study updates - with site visit**

**Maintenance Cycle:** 3 years

**Next Maintenance:** Year 3 (2022)

**Quantity:** 1 Lump Sum

**Unit Cost:** \$4,200.00 / LS

**Estimate:** \$4,200

We continue to budget for a reserve study with a site visit at least once every three years as required by Washington State law.



## FINANCIAL ANALYSIS & RESERVE CONTRIBUTION RECOMMENDATIONS

The contribution as a percentage of average unit value is calculated to provide a way for owners, and prospective owners, to compare the reserve requirements of one association with that of another association or of single-family home ownership.

Using an average unit value of \$400,000, the average contribution per unit per year as a percentage of the average unit value at Carlyon Beach HOA is 0.10%. Typically, condominium associations in the Puget Sound area need to set aside from 1/2% to 1% of their average unit value, homeowners' associations need to put aside 1/3% to 1/2% and single-family homeowners should put aside 1% to 2% each year.

Carlyon Beach HOA should determine the best reserve funding level for their association based on their maintenance needs and risk aversion.

<b>Recommended 2019/2020 Contribution</b>	<b>\$270,000*</b>
Recommended Contribution per Month	\$22,500
Average Contribution per Unit per Year	\$392
Average Contribution per Unit Per Month	\$33

For budgeting purposes, we recommend that Carlyon Beach HOA set the contribution rate at \$270,000 for reserves beginning in 2019/2020 (\*with an adjustment in the reserve contribution in 2030 to \$170,000 in constant dollars). The annual reserve contribution should increase annually with inflation. This amount is determined using the Cash Flow method with a Threshold Funding plan, to provide adequate reserves each time an expense is anticipated, with a minimum level of reserves (the threshold) equal to at least \$167,000 at all times during the study period while also maintaining the percent funded between 25% and 84%, so that no special assessments will be required.

## FUNDING PLANS

<b>THRESHOLD FUNDING</b>	<b>BASELINE FUNDING</b>	<b>FULLY FUNDING</b>
<b>\$270,000 - with an adjustment in the reserve contribution in 2030</b>	<b>\$245,700, not including the anticipated contribution adjustment</b>	<b>\$245,700, not including the anticipated contribution adjustment</b>
A starting annual contribution of \$270,000 (with an adjustment in the reserve contribution in 2030) fulfills the definition of a Threshold Funding plan which provides funding as expenses are incurred over time, while always maintaining a minimum reserve fund balance of at least \$167,000 and the percent funded between 25% and 84%. This is our recommended funding plan.	An alternative strategy Carlyon Beach HOA could employ is Baseline Funding. This provides for necessary expenditures without maintaining a minimum reserve fund balance. To pursue such a strategy, the recommended Baseline Funding contribution rate would be \$245,700, not including the anticipated contribution adjustment.	Carlyon Beach HOA could also consider contributions to obtain and maintain the level of reserves to be Fully Funded, so that the Percent Fully Funded is 100% by Year 30. The recommended Full Funding contribution rate would be \$245,700, not including the anticipated contribution adjustment.



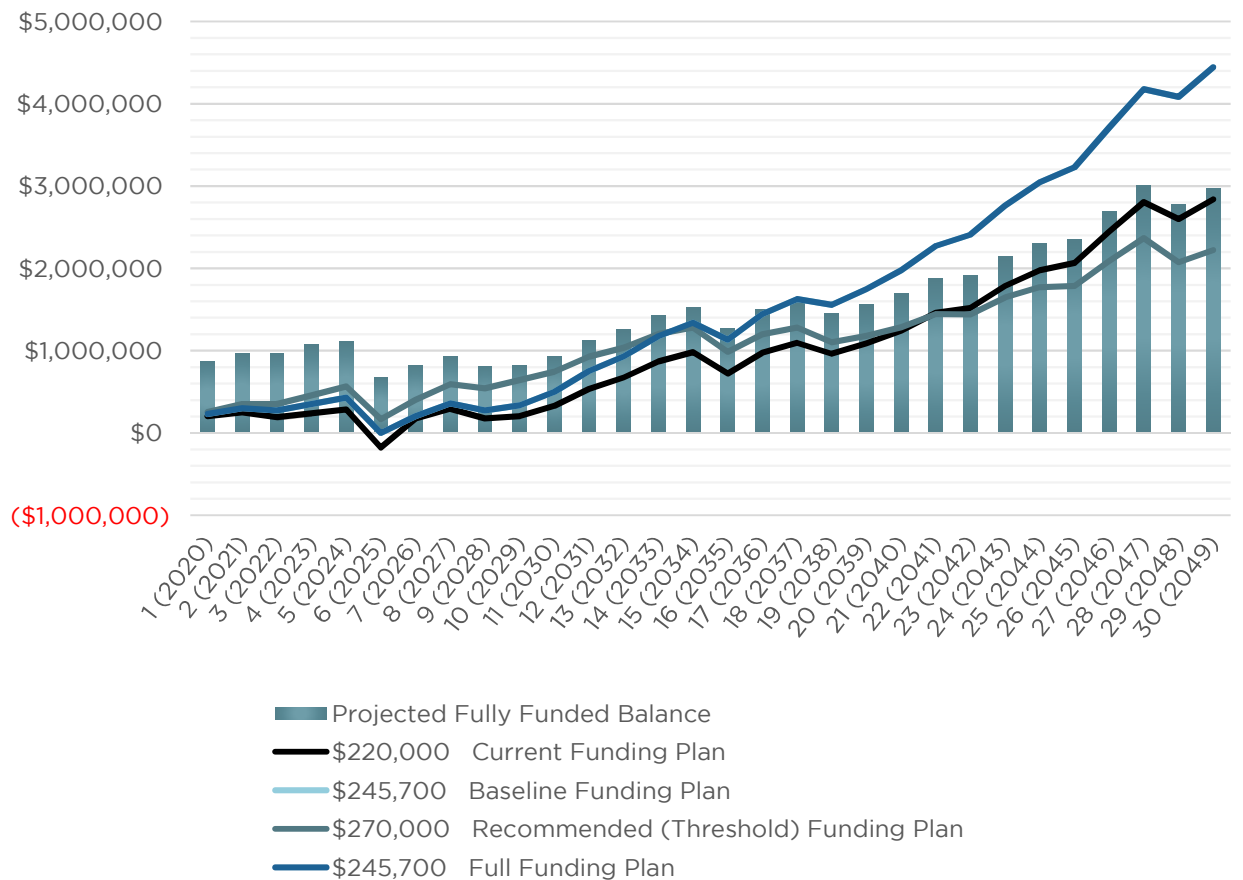


### Comparison of Funding Plans and Fully Funded Balance Over 30 Years

Below is a line graph in compliance with RCW 64.90.550 §2(j) which depicts the projected fiscal year end reserve balance for the Current, Baseline, Recommended and Full Funding Plans for Carlyon Beach HOA, including the adjustment in the reserve contribution in 2030 to \$170,000 in constant dollars.

The bar graph represents the projected Fully Funded Balance each year for the next 30 years. Since the Baseline and Full Funding Plans are identical, only one line is visible on the chart.

**Carlyon Beach HOA  
Comparison of Fully Funded Balance and Funding Plans**





### Projected Reserve Account Balance for Funding Plans Over 30 Years

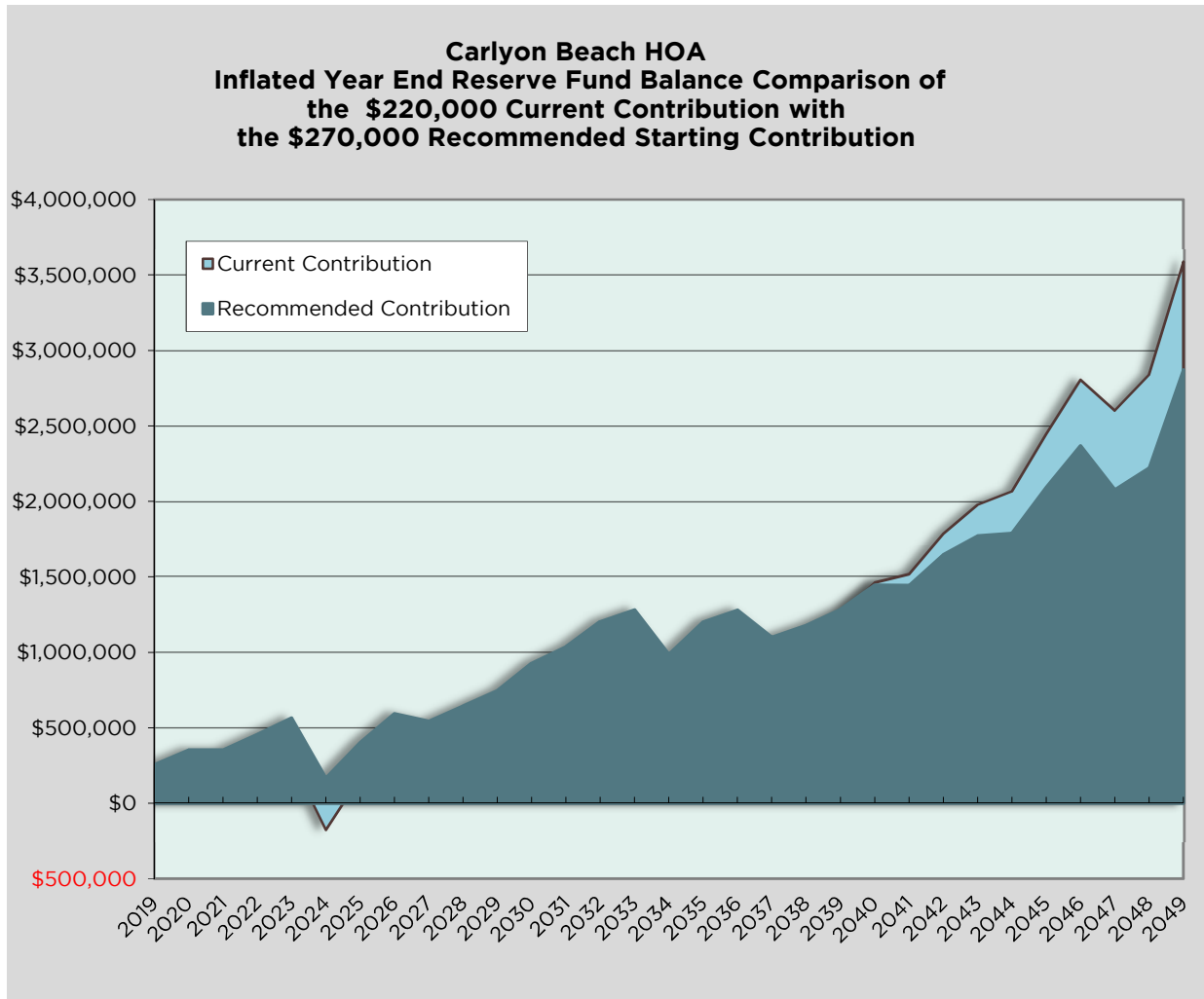
Per RCW 64.90.550 §2 (j) of the Washington Unified Common Interest Owners Act (WUCIOA), the projected reserve account balance for each of the funding plans over the next 30 years is provided, along with the current funding plan projections. The values in the Recommended Funding Plan include the previously mentioned adjustment in the annual reserve contribution starting in 2030.

Fiscal Year End	\$220,000 Current Funding Plan	\$270,000 Recommended (Threshold) Funding Plan	\$245,700 Baseline Funding Plan	\$245,700 Full Funding Plan
1 (2020)	\$204,690	\$255,190	\$230,647	\$230,647
2 (2021)	\$250,361	\$353,886	\$303,573	\$303,573
3 (2022)	\$193,875	\$353,046	\$275,689	\$275,689
4 (2023)	\$238,929	\$456,466	\$350,743	\$350,743
5 (2024)	\$286,166	\$564,892	\$429,431	\$429,431
6 (2025)	(\$177,160)	\$166,774	\$152	\$152
7 (2026)	\$172,155	\$402,565	\$203,305	\$203,305
8 (2027)	\$295,190	\$592,317	\$358,886	\$358,886
9 (2028)	\$176,576	\$543,617	\$274,428	\$274,428
10 (2029)	\$204,408	\$644,680	\$338,084	\$338,084
11 (2030)	\$327,595	\$744,381	\$500,679	\$500,679
12 (2031)	\$535,703	\$926,831	\$750,792	\$750,792
13 (2032)	\$673,486	\$1,036,659	\$933,313	\$933,313
14 (2033)	\$870,793	\$1,203,586	\$1,178,232	\$1,178,232
15 (2034)	\$982,423	\$1,282,273	\$1,340,495	\$1,340,495
16 (2035)	\$722,814	\$987,015	\$1,134,694	\$1,134,694
17 (2036)	\$975,325	\$1,201,023	\$1,444,350	\$1,444,350
18 (2037)	\$1,096,568	\$1,280,750	\$1,626,244	\$1,626,244
19 (2038)	\$961,471	\$1,100,960	\$1,555,480	\$1,555,480
20 (2039)	\$1,087,179	\$1,178,625	\$1,749,390	\$1,749,390
21 (2040)	\$1,243,569	\$1,283,443	\$1,978,042	\$1,978,042
22 (2041)	\$1,460,509	\$1,445,090	\$2,271,509	\$2,271,509
23 (2042)	\$1,516,617	\$1,441,987	\$2,408,619	\$2,408,619
24 (2043)	\$1,786,146	\$1,648,179	\$2,763,846	\$2,763,846
25 (2044)	\$1,976,619	\$1,770,970	\$3,044,946	\$3,044,946
26 (2045)	\$2,065,534	\$1,787,632	\$3,229,660	\$3,229,660
27 (2046)	\$2,445,957	\$2,090,991	\$3,711,305	\$3,711,305
28 (2047)	\$2,805,268	\$2,368,176	\$4,177,526	\$4,177,526
29 (2048)	\$2,600,346	\$2,075,807	\$4,085,480	\$4,085,480
30 (2049)	\$2,838,476	\$2,220,892	\$4,442,741	\$4,442,741



Below is a graph illustrating the projected year end reserve fund balance using both the current (2018/2019) budgeted annual contribution and the recommended starting (2019/2020) contribution (with an adjustment in the reserve contribution in 2030 to \$170,000 in constant dollars).

The year displayed on graphs and charts is the fiscal year end. For example, the fiscal year 2020/2021 is shown as 2021.



We recommend that Carlyon Beach HOA adopt a policy regarding their reserve funding which would address the level of funding that the Association would strive to maintain, as well as methods of investing reserve funds to best match risk with return and investment length with expected.



## Five Year Funding Plan Comparison

Below is a comparison of the fully funded balance and year end reserve fund balance using the budgeted reserve funding for the current 2018/2019 fiscal year and the three funding plans presented in the report. The calculations include inflated values, interest and special assessments (if applicable) through Year 5 (2023/2024).

**The year displayed on graphs and charts is the fiscal year end. For example, the fiscal year 2020/2021 is shown as 2021.**\*Note: We expect that the contribution to reserves can be adjusted in 2030 to \$170,000 in constant dollars and still cover the anticipated expenses for the duration of the study.

### Carlyon Beach HOA Five Year Funding Plan Comparison

Including Inflated Values, Interest and Special Assessments

#### \$220,000 Current Funding Plan

Year	Annual Reserve Contribution	Special Assessment	Year End Reserve Balance	% Funded	Special Assessment Risk Level
1 (2020)	\$220,000	\$0	\$204,690	23%	High Risk
2 (2021)	\$226,600	\$0	\$250,361	26%	Moderate Risk
3 (2022)	\$233,398	\$0	\$193,875	20%	High Risk
4 (2023)	\$240,400	\$0	\$238,929	22%	High Risk
5 (2024)	\$247,612	\$0	\$286,166	26%	Moderate Risk

#### \$245,700 Baseline Funding Plan

Year	Annual Reserve Contribution	Special Assessment	Year End Reserve Balance	% Funded	Special Assessment Risk Level
1 (2020)	\$245,700	\$0	\$230,647	26%	Moderate Risk
2 (2021)	\$253,071	\$0	\$303,573	31%	Moderate Risk
3 (2022)	\$260,663	\$0	\$275,689	28%	Moderate Risk
4 (2023)	\$268,483	\$0	\$350,743	33%	Moderate Risk
5 (2024)	\$276,538	\$0	\$429,431	38%	Moderate Risk

#### \$270,000 Recommended (Threshold) Funding Plan

Year	Annual Reserve Contribution	Special Assessment	Year End Reserve Balance	% Funded	Special Assessment Risk Level
1 (2020)	\$270,000	\$0	\$255,190	29%	Moderate Risk
2 (2021)	\$278,100	\$0	\$353,886	36%	Moderate Risk
3 (2022)	\$286,443	\$0	\$353,046	36%	Moderate Risk
4 (2023)	\$295,036	\$0	\$456,466	43%	Moderate Risk
5 (2024)	\$303,887	\$0	\$564,892	51%	Moderate Risk

#### \$245,700 Full Funding Plan

Year	Annual Reserve Contribution	Special Assessment	Year End Reserve Balance	% Funded	Special Assessment Risk Level
1 (2020)	\$245,700	\$0	\$230,647	26%	Moderate Risk
2 (2021)	\$253,071	\$0	\$303,573	31%	Moderate Risk
3 (2022)	\$260,663	\$0	\$275,689	28%	Moderate Risk
4 (2023)	\$268,483	\$0	\$350,743	33%	Moderate Risk
5 (2024)	\$276,538	\$0	\$429,431	38%	Moderate Risk



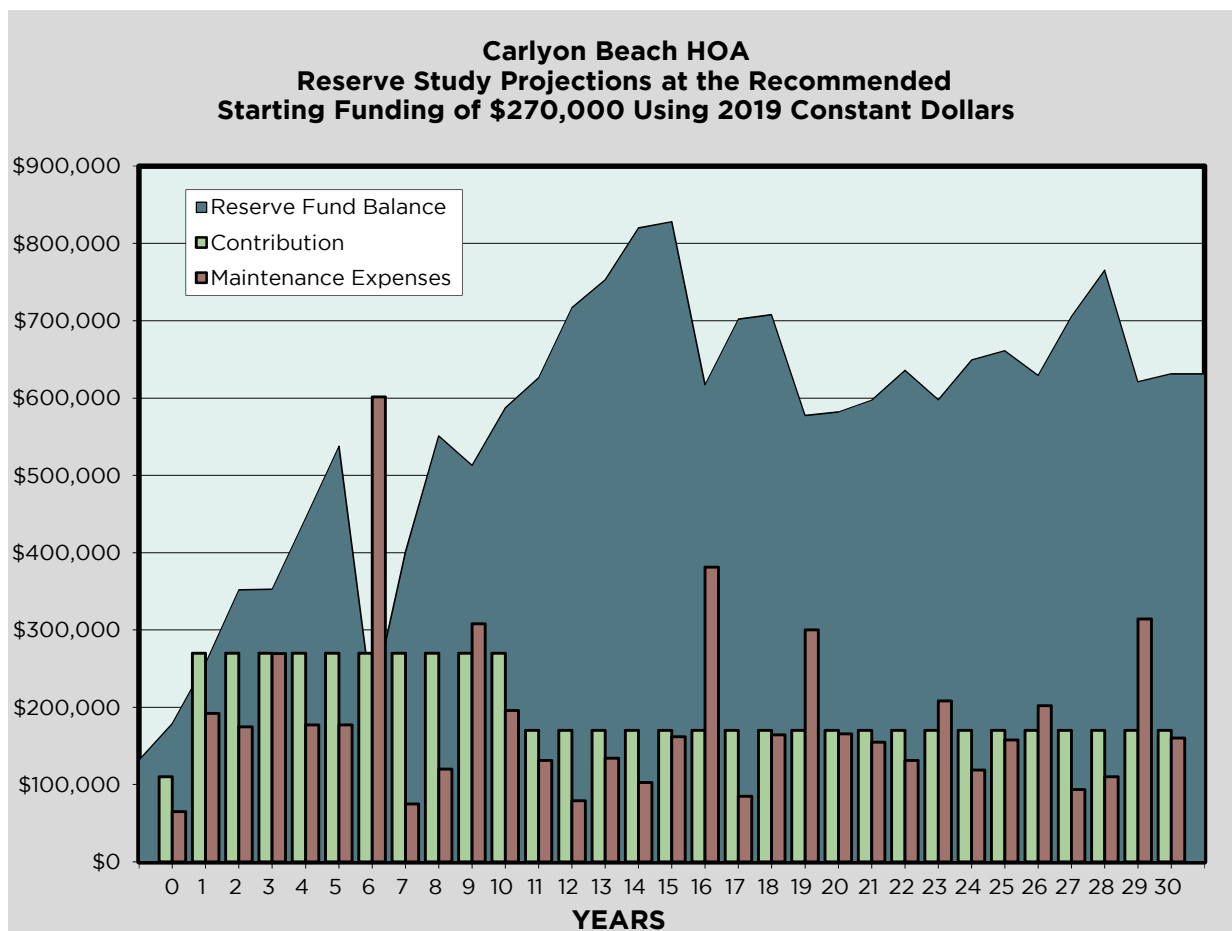
### Reserve Study Projections using Constant Dollar Values

**Teal Line Graph:** The year-end running reserve fund balance is shown as a line graph in teal. Our recommended funding plan is a threshold funding plan which ensures that the reserve account balance does not dip below a designated “threshold”, which is set to at least \$167,000 while maintaining the percent funded between 25% and 84%.

**Mint Green Bars:** The annual reserve fund contributions are shown as mint green bars. This chart depicts the annual contribution in constant dollars, so the contributions are constantly \$270,000 over the 30 year timeline of the study, with exception of the anticipated contribution adjustment in 2030.

**Brick Red Bars:** The anticipated yearly maintenance expenses are shown as brick red bars, depicting the

Below is a graph depicting the projected fiscal year end running reserve fund balance over 30 years, the annual contribution and the anticipated yearly maintenance expenses using constant dollar values.



anticipated expenses over the next 30 years.



**Reserve Study Projections at the Starting Recommended Funding of \$270,000  
Using Constant Dollar Values**



# Carlyon Beach HOA

## Reserve Study Projections at Recommended Funding of \$270,000 Reserve Consultants LLC

30-YEAR SPREADSHEET WITH CONSTANT DOLLARS  
PER YEAR EXPENSES IN 2019 DOLLARS

18-Apr-19

#	COMPONENT NAME	MAINT. CYCLE	NEXT MAINT.	1 2019/ 2020	2 2020/ 2021	3 2021/ 2022	4 2022/ 2023	5 2023/ 2024
2.6.1	Asphalt Road - major repairs	1	1	\$75,000	\$75,000	\$75,000	\$75,000	\$75,000
2.6.2	Gravel Road - repair	5	3			\$35,120		
2.7.1	Chain-link Fence - maintenance	5	6					
2.9.1	Mooring Docks - repair	1	0	\$45,000	\$45,000	\$45,000	\$45,000	
2.9.2	Log Boom - repair	10	9					
2.9.3	Marina Floats - repair	10	9					
2.9.4	Marina Metal Pilings - replace	50	50					
2.9.5	Marina Main Walkway - replace	50	44					
3.3.1	Bulkhead Retaining Walls - ph. 1 repair	50	44					
3.3.2	Bulkhead Retaining Walls - ph. 2 repair	50	6					
6.2.1	Clubhouse Exterior Surfaces - repair	7	2		\$2,980			
7.4.1	Clubhouse Shingle Roof - replace	24	16					
7.4.2	Rental House Shingle Roof - replace	24	10					
7.4.3	Picnic Area "Wanagan" Roof - replace	30	14					
7.4.4	Maintenance Bldg. Shingle Roof - replace	24	5					\$14,000
8.5.1	Clubhouse Windows - replace	40	10					
9.6.1	Clubhouse Carpet Flooring - replace	10	6					
9.6.2	Rental House Int. Finishes - contingency	10	6					
9.8.1	Clubhouse Exterior Surfaces - paint	7	2		\$10,720			
9.8.2	Water Tower Exterior - paint	20	3			\$52,600		
10.1.1	Carport - replace	20	20					
10.1.2	Playground Equipment - replace	15	3			\$10,000		
11.2.1	Bolens Mower - replace	10	5					\$7,000
11.2.2	Backhoe - replace	18	4				\$36,340	
11.2.3	Hydroexcavator - replace	18	6					
11.2.4	Vehicles - contingency	5	1	\$12,120				
11.2.5	Main Pump Truck - replace	10	9					
11.2.6	Dump Trailer - replace	20	6					
11.2.7	Diesel Tank - replace	15	4				\$9,940	
11.2.8	Miscellaneous Equipment - contingency	10	10					
12.1.1	Clubhouse Interiors - update	10	6					
12.1.2	Clubhouse Office Equipment - replace	5	5					\$5,000
12.1.3	Rental House Interiors - update	10	6					
12.1.4	Misc. Building repair - contingency	10	10					
15.1.1	Plumbing System - contingency	3	2		\$10,000			\$10,000
15.1.2	Water Tower - maintenance	5	5					\$10,000
15.1.3	Water System Computer 1 - contingency	15	6					
15.1.4	Well Pump 1 - maintenance	12	3			\$14,540		
15.1.5	Water System Computer 2 - contingency	15	6					
15.1.6	Well Pump 2 - maintenance	12	1	\$14,540				
15.1.7	Water Meters - installation	1	1	\$11,090	\$11,090	\$11,090	\$11,090	
15.1.8	Water Meters - maintenance	5	9					
15.1.9	Water System Telemetry - maintenance	20	1	\$10,010				
15.5.1	Clubhouse Septic Tanks - contingency	30	6					
15.5.2	Decanter Unit - contingency	10	6					
15.5.3	Aeration Manifold - contingency	20	6					
15.5.4	Aerobic System Controls - contingency	20	2		\$20,000			
15.5.5	Mixer Unit - contingency	20	3			\$21,760		
15.5.6	Air Compressor - maintenance	10	5					\$9,210
15.5.7	UV Disinfection Controller - contingency	20	18					
15.5.8	Sewage Treatment Facility - contingency	20	16					
15.5.9	Expansion Sampler - contingency	10	6					
15.6.1	Treatment Plant Outfall - contingency	15	5					\$10,000
15.6.2	Bioswale - maintenance	25	16					
15.6.3	Bioswale - inspection	5	5					\$5,000
15.7.1	Bio-Filter Park - maintenance	15	16					
15.8.1	Fire Hydrant PSV - maintenance	25	13					
16.1.1	Electrical System - contingency	5	5					\$10,000
16.3.1	Emergency Generator - maintenance	10	1	\$24,220				
16.3.2	Sewage Treatment Emergency Generator - contir	10	5					\$12,120
17.1.1	Security Lighting - replace	10	5					\$10,000
18.1.1	Surveillance System - update	10	10					
20.1.1	Reserve Study updates - with site visit	3	3			\$4,200		
<b>TOTAL EXPENDED BY YEAR</b>				<b>\$191,980</b>	<b>\$174,790</b>	<b>\$269,310</b>	<b>\$177,370</b>	<b>\$177,330</b>
CARRY OVER RESERVES				\$178,634	\$256,654	\$351,864	\$352,554	\$445,184
ANNUAL RESERVE CONTRIB				\$270,000	\$270,000	\$270,000	\$270,000	\$270,000
RESERVE EXPENDITURES				\$191,980	\$174,790	\$269,310	\$177,370	\$177,330
ACCUMULATED RESERVES				\$256,654	\$351,864	\$352,554	\$445,184	\$537,854
INTEREST EARNED				\$0	\$0	\$0	\$0	\$0
<b>SPECIAL ASSESSMENT</b>								
YEAR-END BALANCE				<b>\$256,654</b>	<b>\$351,864</b>	<b>\$352,554</b>	<b>\$445,184</b>	<b>\$537,854</b>
STUDY YEAR				1 (2020)	2 (2021)	3 (2022)	4 (2023)	5 (2024)

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# Carlyon Beach HOA

## Reserve Study Projections at Recommended Funding of \$270,000 Reserve Consultants LLC

30-YEAR SPREADSHEET WITH CONSTANT DOLLARS  
PER YEAR EXPENSES IN 2019 DOLLARS

18-Apr-19

#	COMPONENT NAME	MAINT. CYCLE	NEXT MAINT.	6 2024/ 2025	7 2025/ 2026	8 2026/ 2027	9 2027/ 2028	10 2028/ 2029
2.6.1	Asphalt Road - major repairs	1	1	\$75,000	\$75,000	\$75,000	\$75,000	\$75,000
2.6.2	Gravel Road - repair	5	3					
2.7.1	Chain-link Fence - maintenance	5	6	\$9,740		\$35,120		
2.9.1	Mooring Docks - repair	1	0					
2.9.2	Log Boom - repair	10	9				\$20,000	
2.9.3	Marina Floats - repair	10	9				\$19,090	
2.9.4	Marina Metal Pilings - replace	50	50					
2.9.5	Marina Main Walkway - replace	50	44					
3.3.1	Bulkhead Retaining Walls - ph. 1 repair	50	44					
3.3.2	Bulkhead Retaining Walls - ph. 2 repair	50	6	\$342,820				
6.2.1	Clubhouse Exterior Surfaces - repair	7	2				\$2,980	
7.4.1	Clubhouse Shingle Roof - replace	24	16					\$10,530
7.4.2	Rental House Shingle Roof - replace	24	10					
7.4.3	Picnic Area "Wanagan" Roof - replace	30	14					
7.4.4	Maintenance Bldg. Shingle Roof - replace	24	5					
8.5.1	Clubhouse Windows - replace	40	10					\$43,040
9.6.1	Clubhouse Carpet Flooring - replace	10	6	\$9,060				
9.6.2	Rental House Int. Finishes - contingency	10	6	\$8,000				
9.8.1	Clubhouse Exterior Surfaces - paint	7	2				\$10,720	
9.8.2	Water Tower Exterior - paint	20	3					
10.1.1	Carport - replace	20	20					
10.1.2	Playground Equipment - replace	15	3					
11.2.1	Bolens Mower - replace	10	5					
11.2.2	Backhoe - replace	18	4					
11.2.3	Hydroexcavator - replace	18	6	\$28,460				
11.2.4	Vehicles - contingency	5	1	\$12,120				
11.2.5	Main Pump Truck - replace	10	9				\$165,000	
11.2.6	Dump Trailer - replace	20	6	\$9,440				
11.2.7	Diesel Tank - replace	15	4					
11.2.8	Miscellaneous Equipment - contingency	10	10					\$12,120
12.1.1	Clubhouse Interiors - update	10	6	\$10,000				
12.1.2	Clubhouse Office Equipment - replace	5	5					\$5,000
12.1.3	Rental House Interiors - update	10	6	\$8,000				
12.1.4	Misc. Building repair - contingency	10	10					\$5,000
15.1.1	Plumbing System - contingency	3	2			\$10,000		
15.1.2	Water Tower - maintenance	5	5					\$10,000
15.1.3	Water System Computer 1 - contingency	15	6	\$9,680				
15.1.4	Well Pump 1 - maintenance	12	3					
15.1.5	Water System Computer 2 - contingency	15	6	\$9,680				
15.1.6	Well Pump 2 - maintenance	12	1					
15.1.7	Water Meters - installation	1	1					
15.1.8	Water Meters - maintenance	5	9				\$11,090	
15.1.9	Water System Telemetry - maintenance	20	1					
15.5.1	Clubhouse Septic Tanks - contingency	30	6	\$14,780				
15.5.2	Decanter Unit - contingency	10	6				\$18,000	
15.5.3	Aeration Manifold - contingency	20	6	\$21,760				
15.5.4	Aerobic System Controls - contingency	20	2					
15.5.5	Mixer Unit - contingency	20	3					
15.5.6	Air Compressor - maintenance	10	5					
15.5.7	UV Disinfection Controller - contingency	20	18					
15.5.8	Sewage Treatment Facility - contingency	20	16					
15.5.9	Expansion Sampler - contingency	10	6	\$10,880				
15.6.1	Treatment Plant Outfall - contingency	15	5					
15.6.2	Bioswale - maintenance	25	16					
15.6.3	Bioswale - inspection	5	5					\$5,000
15.7.1	Bio-Filter Park - maintenance	15	16					
15.8.1	Fire Hydrant PSV - maintenance	25	13					
16.1.1	Electrical System - contingency	5	5					\$10,000
16.3.1	Emergency Generator - maintenance	10	1					
16.3.2	Sewage Treatment Emergency Generator - contir	10	5					
17.1.1	Security Lighting - replace	10	5					
18.1.1	Surveillance System - update	10	10					\$20,000
20.1.1	Reserve Study updates - with site visit	3	3	\$4,200			\$4,200	
<b>TOTAL EXPENDED BY YEAR</b>				<b>\$601,620</b>	<b>\$75,000</b>	<b>\$120,120</b>	<b>\$308,080</b>	<b>\$195,690</b>
CARRY OVER RESERVES				\$537,854	\$206,234	\$401,234	\$551,114	\$513,034
ANNUAL RESERVE CONTRIB				\$270,000	\$270,000	\$270,000	\$270,000	\$270,000
RESERVE EXPENDITURES				\$601,620	\$75,000	\$120,120	\$308,080	\$195,690
ACCUMULATED RESERVES				\$206,234	\$401,234	\$551,114	\$513,034	\$587,344
INTEREST EARNED				\$0	\$0	\$0	\$0	\$0
<b>SPECIAL ASSESSMENT</b>								
YEAR-END BALANCE				<b>\$206,234</b>	<b>\$401,234</b>	<b>\$551,114</b>	<b>\$513,034</b>	<b>\$587,344</b>
STUDY YEAR				6 (2025)	7 (2026)	8 (2027)	9 (2028)	10 (2029)

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# Carlyon Beach HOA

## Reserve Study Projections at Recommended Funding of \$270,000 Reserve Consultants LLC

30-YEAR SPREADSHEET WITH CONSTANT DOLLARS  
PER YEAR EXPENSES IN 2019 DOLLARS

18-Apr-19

#	COMPONENT NAME	MAINT. CYCLE	NEXT MAINT.	11 2029/ 2030	12 2030/ 2031	13 2031/ 2032	14 2032/ 2033	15 2033/ 2034
2.6.1	Asphalt Road - major repairs	1	1	\$75,000	\$75,000	\$75,000	\$75,000	\$75,000
2.6.2	Gravel Road - repair	5	3					
2.7.1	Chain-link Fence - maintenance	5	6	\$9,740		\$35,120		
2.9.1	Mooring Docks - repair	1	0					
2.9.2	Log Boom - repair	10	9					
2.9.3	Marina Floats - repair	10	9					
2.9.4	Marina Metal Pilings - replace	50	50					
2.9.5	Marina Main Walkway - replace	50	44					
3.3.1	Bulkhead Retaining Walls - ph. 1 repair	50	44					
3.3.2	Bulkhead Retaining Walls - ph. 2 repair	50	6					
6.2.1	Clubhouse Exterior Surfaces - repair	7	2					
7.4.1	Clubhouse Shingle Roof - replace	24	16					
7.4.2	Rental House Shingle Roof - replace	24	10					
7.4.3	Picnic Area "Wanagan" Roof - replace	30	14				\$6,520	
7.4.4	Maintenance Bldg. Shingle Roof - replace	24	5					
8.5.1	Clubhouse Windows - replace	40	10					
9.6.1	Clubhouse Carpet Flooring - replace	10	6					
9.6.2	Rental House Int. Finishes - contingency	10	6					
9.8.1	Clubhouse Exterior Surfaces - paint	7	2					
9.8.2	Water Tower Exterior - paint	20	3					
10.1.1	Carport - replace	20	20					
10.1.2	Playground Equipment - replace	15	3					
11.2.1	Bolens Mower - replace	10	5					\$7,000
11.2.2	Backhoe - replace	18	4					
11.2.3	Hydroexcavator - replace	18	6					
11.2.4	Vehicles - contingency	5	1	\$12,120				
11.2.5	Main Pump Truck - replace	10	9					
11.2.6	Dump Trailer - replace	20	6					
11.2.7	Diesel Tank - replace	15	4					
11.2.8	Miscellaneous Equipment - contingency	10	10					
12.1.1	Clubhouse Interiors - update	10	6					
12.1.2	Clubhouse Office Equipment - replace	5	5					\$5,000
12.1.3	Rental House Interiors - update	10	6					
12.1.4	Misc. Building repair - contingency	10	10					
15.1.1	Plumbing System - contingency	3	2	\$10,000			\$10,000	
15.1.2	Water Tower - maintenance	5	5					\$10,000
15.1.3	Water System Computer 1 - contingency	15	6					
15.1.4	Well Pump 1 - maintenance	12	3					\$14,540
15.1.5	Water System Computer 2 - contingency	15	6					
15.1.6	Well Pump 2 - maintenance	12	1			\$14,540		
15.1.7	Water Meters - installation	1	1					
15.1.8	Water Meters - maintenance	5	9				\$11,090	
15.1.9	Water System Telemetry - maintenance	20	1					
15.5.1	Clubhouse Septic Tanks - contingency	30	6					
15.5.2	Decanter Unit - contingency	10	6					
15.5.3	Aeration Manifold - contingency	20	6					
15.5.4	Aerobic System Controls - contingency	20	2					
15.5.5	Mixer Unit - contingency	20	3					
15.5.6	Air Compressor - maintenance	10	5					\$9,210
15.5.7	UV Disinfection Controller - contingency	20	18					
15.5.8	Sewage Treatment Facility - contingency	20	16					
15.5.9	Expansion Sampler - contingency	10	6					
15.6.1	Treatment Plant Outfall - contingency	15	5					
15.6.2	Bioswale - maintenance	25	16					
15.6.3	Bioswale - inspection	5	5					\$5,000
15.7.1	Bio-Filter Park - maintenance	15	16					
15.8.1	Fire Hydrant PSV - maintenance	25	13			\$9,610		
16.1.1	Electrical System - contingency	5	5					\$10,000
16.3.1	Emergency Generator - maintenance	10	1	\$24,220				
16.3.2	Sewage Treatment Emergency Generator - contir	10	5					\$12,120
17.1.1	Security Lighting - replace	10	5					\$10,000
18.1.1	Surveillance System - update	10	10					
20.1.1	Reserve Study updates - with site visit	3	3		\$4,200			\$4,200
<b>TOTAL EXPENDED BY YEAR</b>				<b>\$131,080</b>	<b>\$79,200</b>	<b>\$134,270</b>	<b>\$102,610</b>	<b>\$162,070</b>
CARRY OVER RESERVES				\$587,344	\$626,264	\$717,064	\$752,794	\$820,184
ANNUAL RESERVE CONTRIB				\$170,000	\$170,000	\$170,000	\$170,000	\$170,000
RESERVE EXPENDITURES				\$131,080	\$79,200	\$134,270	\$102,610	\$162,070
ACCUMULATED RESERVES				\$626,264	\$717,064	\$752,794	\$820,184	\$828,114
INTEREST EARNED				\$0	\$0	\$0	\$0	\$0
<b>SPECIAL ASSESSMENT</b>								
YEAR-END BALANCE				<b>\$626,264</b>	<b>\$717,064</b>	<b>\$752,794</b>	<b>\$820,184</b>	<b>\$828,114</b>
STUDY YEAR				11 (2030)	12 (2031)	13 (2032)	14 (2033)	15 (2034)

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# Carlyon Beach HOA

## Reserve Study Projections at Recommended Funding of \$270,000 Reserve Consultants LLC

30-YEAR SPREADSHEET WITH CONSTANT DOLLARS  
PER YEAR EXPENSES IN 2019 DOLLARS

18-Apr-19

#	COMPONENT NAME	MAINT. CYCLE	NEXT MAINT.	16 2034/ 2035	17 2035/ 2036	18 2036/ 2037	19 2037/ 2038	20 2038/ 2039
2.6.1	Asphalt Road - major repairs	1	1	\$75,000	\$75,000	\$75,000	\$75,000	\$75,000
2.6.2	Gravel Road - repair	5	3					
2.7.1	Chain-link Fence - maintenance	5	6	\$9,740		\$35,120		
2.9.1	Mooring Docks - repair	1	0					
2.9.2	Log Boom - repair	10	9				\$20,000	
2.9.3	Marina Floats - repair	10	9				\$19,090	
2.9.4	Marina Metal Pilings - replace	50	50					
2.9.5	Marina Main Walkway - replace	50	44					
3.3.1	Bulkhead Retaining Walls - ph. 1 repair	50	44					
3.3.2	Bulkhead Retaining Walls - ph. 2 repair	50	6					
6.2.1	Clubhouse Exterior Surfaces - repair	7	2	\$2,980				
7.4.1	Clubhouse Shingle Roof - replace	24	16	\$13,580				
7.4.2	Rental House Shingle Roof - replace	24	10					
7.4.3	Picnic Area "Wanagan" Roof - replace	30	14					
7.4.4	Maintenance Bldg. Shingle Roof - replace	24	5					
8.5.1	Clubhouse Windows - replace	40	10					
9.6.1	Clubhouse Carpet Flooring - replace	10	6	\$9,060				
9.6.2	Rental House Int. Finishes - contingency	10	6	\$8,000				
9.8.1	Clubhouse Exterior Surfaces - paint	7	2	\$10,720				
9.8.2	Water Tower Exterior - paint	20	3					
10.1.1	Carport - replace	20	20					\$3,500
10.1.2	Playground Equipment - replace	15	3			\$10,000		
11.2.1	Bolens Mower - replace	10	5					
11.2.2	Backhoe - replace	18	4					
11.2.3	Hydroexcavator - replace	18	6					
11.2.4	Vehicles - contingency	5	1	\$12,120				
11.2.5	Main Pump Truck - replace	10	9				\$165,000	
11.2.6	Dump Trailer - replace	20	6					
11.2.7	Diesel Tank - replace	15	4				\$9,940	
11.2.8	Miscellaneous Equipment - contingency	10	10					\$12,120
12.1.1	Clubhouse Interiors - update	10	6	\$10,000				
12.1.2	Clubhouse Office Equipment - replace	5	5					\$5,000
12.1.3	Rental House Interiors - update	10	6	\$8,000				
12.1.4	Misc. Building repair - contingency	10	10					\$5,000
15.1.1	Plumbing System - contingency	3	2		\$10,000			\$10,000
15.1.2	Water Tower - maintenance	5	5					\$10,000
15.1.3	Water System Computer 1 - contingency	15	6					
15.1.4	Well Pump 1 - maintenance	12	3					
15.1.5	Water System Computer 2 - contingency	15	6					
15.1.6	Well Pump 2 - maintenance	12	1					
15.1.7	Water Meters - installation	1	1					
15.1.8	Water Meters - maintenance	5	9				\$11,090	
15.1.9	Water System Telemetry - maintenance	20	1					
15.5.1	Clubhouse Septic Tanks - contingency	30	6					
15.5.2	Decanter Unit - contingency	10	6	\$18,000				
15.5.3	Aeration Manifold - contingency	20	6					
15.5.4	Aerobic System Controls - contingency	20	2					
15.5.5	Mixer Unit - contingency	20	3					
15.5.6	Air Compressor - maintenance	10	5					
15.5.7	UV Disinfection Controller - contingency	20	18			\$40,000		
15.5.8	Sewage Treatment Facility - contingency	20	16	\$85,000				
15.5.9	Expansion Sampler - contingency	10	6	\$10,880				
15.6.1	Treatment Plant Outfall - contingency	15	5					\$10,000
15.6.2	Bioswale - maintenance	25	16	\$78,000				
15.6.3	Bioswale - inspection	5	5					\$5,000
15.7.1	Bio-Filter Park - maintenance	15	16	\$30,000				
15.8.1	Fire Hydrant PSV - maintenance	25	13					
16.1.1	Electrical System - contingency	5	5					\$10,000
16.3.1	Emergency Generator - maintenance	10	1					
16.3.2	Sewage Treatment Emergency Generator - contir	10	5					
17.1.1	Security Lighting - replace	10	5					
18.1.1	Surveillance System - update	10	10					\$20,000
20.1.1	Reserve Study updates - with site visit	3	3			\$4,200		
<b>TOTAL EXPENDED BY YEAR</b>				<b>\$381,080</b>	<b>\$85,000</b>	<b>\$164,320</b>	<b>\$300,120</b>	<b>\$165,620</b>
CARRY OVER RESERVES				\$828,114	\$617,034	\$702,034	\$707,714	\$577,594
ANNUAL RESERVE CONTRIB				\$170,000	\$170,000	\$170,000	\$170,000	\$170,000
RESERVE EXPENDITURES				\$381,080	\$85,000	\$164,320	\$300,120	\$165,620
ACCUMULATED RESERVES				\$617,034	\$702,034	\$707,714	\$577,594	\$581,974
INTEREST EARNED				\$0	\$0	\$0	\$0	\$0
<b>SPECIAL ASSESSMENT</b>								
YEAR-END BALANCE				<b>\$617,034</b>	<b>\$702,034</b>	<b>\$707,714</b>	<b>\$577,594</b>	<b>\$581,974</b>
STUDY YEAR				16 (2035)	17 (2036)	18 (2037)	19 (2038)	20 (2039)

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# Carlyon Beach HOA

## Reserve Study Projections at Recommended Funding of \$270,000 Reserve Consultants LLC

30-YEAR SPREADSHEET WITH CONSTANT DOLLARS  
PER YEAR EXPENSES IN 2019 DOLLARS

18-Apr-19

#	COMPONENT NAME	MAINT. CYCLE	NEXT MAINT.	21 2039/ 2040	22 2040/ 2041	23 2041/ 2042	24 2042/ 2043	25 2043/ 2044
2.6.1	Asphalt Road - major repairs	1	1	\$75,000	\$75,000	\$75,000	\$75,000	\$75,000
2.6.2	Gravel Road - repair	5	3					
2.7.1	Chain-link Fence - maintenance	5	6	\$9,740		\$35,120		
2.9.1	Mooring Docks - repair	1	0					
2.9.2	Log Boom - repair	10	9					
2.9.3	Marina Floats - repair	10	9					
2.9.4	Marina Metal Pilings - replace	50	50					
2.9.5	Marina Main Walkway - replace	50	44					
3.3.1	Bulkhead Retaining Walls - ph. 1 repair	50	44					
3.3.2	Bulkhead Retaining Walls - ph. 2 repair	50	6					
6.2.1	Clubhouse Exterior Surfaces - repair	7	2			\$2,980		
7.4.1	Clubhouse Shingle Roof - replace	24	16					
7.4.2	Rental House Shingle Roof - replace	24	10					
7.4.3	Picnic Area "Wanagan" Roof - replace	30	14					
7.4.4	Maintenance Bldg. Shingle Roof - replace	24	5					
8.5.1	Clubhouse Windows - replace	40	10					
9.6.1	Clubhouse Carpet Flooring - replace	10	6					
9.6.2	Rental House Int. Finishes - contingency	10	6					
9.8.1	Clubhouse Exterior Surfaces - paint	7	2			\$10,720		
9.8.2	Water Tower Exterior - paint	20	3			\$52,600		
10.1.1	Carport - replace	20	20					
10.1.2	Playground Equipment - replace	15	3					
11.2.1	Bolens Mower - replace	10	5					\$7,000
11.2.2	Backhoe - replace	18	4		\$36,340			
11.2.3	Hydroexcavator - replace	18	6				\$28,460	
11.2.4	Vehicles - contingency	5	1	\$12,120				
11.2.5	Main Pump Truck - replace	10	9					
11.2.6	Dump Trailer - replace	20	6					
11.2.7	Diesel Tank - replace	15	4					
11.2.8	Miscellaneous Equipment - contingency	10	10					
12.1.1	Clubhouse Interiors - update	10	6					
12.1.2	Clubhouse Office Equipment - replace	5	5					\$5,000
12.1.3	Rental House Interiors - update	10	6					
12.1.4	Misc. Building repair - contingency	10	10					
15.1.1	Plumbing System - contingency	3	2			\$10,000		
15.1.2	Water Tower - maintenance	5	5					\$10,000
15.1.3	Water System Computer 1 - contingency	15	6	\$9,680				
15.1.4	Well Pump 1 - maintenance	12	3					
15.1.5	Water System Computer 2 - contingency	15	6	\$9,680				
15.1.6	Well Pump 2 - maintenance	12	1					\$14,540
15.1.7	Water Meters - installation	1	1					
15.1.8	Water Meters - maintenance	5	9				\$11,090	
15.1.9	Water System Telemetry - maintenance	20	1	\$10,010				
15.5.1	Clubhouse Septic Tanks - contingency	30	6					
15.5.2	Decanter Unit - contingency	10	6					
15.5.3	Aeration Manifold - contingency	20	6					
15.5.4	Aerobic System Controls - contingency	20	2		\$20,000			
15.5.5	Mixer Unit - contingency	20	3			\$21,760		
15.5.6	Air Compressor - maintenance	10	5					\$9,210
15.5.7	UV Disinfection Controller - contingency	20	18					
15.5.8	Sewage Treatment Facility - contingency	20	16					
15.5.9	Expansion Sampler - contingency	10	6					
15.6.1	Treatment Plant Outfall - contingency	15	5					
15.6.2	Bioswale - maintenance	25	16					
15.6.3	Bioswale - inspection	5	5					\$5,000
15.7.1	Bio-Filter Park - maintenance	15	16					
15.8.1	Fire Hydrant PSV - maintenance	25	13					
16.1.1	Electrical System - contingency	5	5					\$10,000
16.3.1	Emergency Generator - maintenance	10	1	\$24,220				
16.3.2	Sewage Treatment Emergency Generator - contir	10	5					\$12,120
17.1.1	Security Lighting - replace	10	5					\$10,000
18.1.1	Surveillance System - update	10	10					
20.1.1	Reserve Study updates - with site visit	3	3	\$4,200			\$4,200	
<b>TOTAL EXPENDED BY YEAR</b>				<b>\$154,650</b>	<b>\$131,340</b>	<b>\$208,180</b>	<b>\$118,750</b>	<b>\$157,870</b>
CARRY OVER RESERVES				\$581,974	\$597,324	\$635,984	\$597,804	\$649,054
ANNUAL RESERVE CONTRIB				\$170,000	\$170,000	\$170,000	\$170,000	\$170,000
RESERVE EXPENDITURES				\$154,650	\$131,340	\$208,180	\$118,750	\$157,870
ACCUMULATED RESERVES				\$597,324	\$635,984	\$597,804	\$649,054	\$661,184
INTEREST EARNED				\$0	\$0	\$0	\$0	\$0
<b>SPECIAL ASSESSMENT</b>								
YEAR-END BALANCE				<b>\$597,324</b>	<b>\$635,984</b>	<b>\$597,804</b>	<b>\$649,054</b>	<b>\$661,184</b>
STUDY YEAR				21 (2040)	22 (2041)	23 (2042)	24 (2043)	25 (2044)

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# Carlyon Beach HOA

## Reserve Study Projections at Recommended Funding of \$270,000 Reserve Consultants LLC

30-YEAR SPREADSHEET WITH CONSTANT DOLLARS  
PER YEAR EXPENSES IN 2019 DOLLARS

18-Apr-19

#	COMPONENT NAME	MAINT. CYCLE	NEXT MAINT.	26 2044/ 2045	27 2045/ 2046	28 2046/ 2047	29 2047/ 2048	30 2048/ 2049
2.6.1	Asphalt Road - major repairs	1	1	\$75,000	\$75,000	\$75,000	\$75,000	\$75,000
2.6.2	Gravel Road - repair	5	3					
2.7.1	Chain-link Fence - maintenance	5	6	\$9,740		\$35,120		
2.9.1	Mooring Docks - repair	1	0					
2.9.2	Log Boom - repair	10	9				\$20,000	
2.9.3	Marina Floats - repair	10	9				\$19,090	
2.9.4	Marina Metal Pilings - replace	50	50					
2.9.5	Marina Main Walkway - replace	50	44					
3.3.1	Bulkhead Retaining Walls - ph. 1 repair	50	44					
3.3.2	Bulkhead Retaining Walls - ph. 2 repair	50	6					
6.2.1	Clubhouse Exterior Surfaces - repair	7	2					\$2,980
7.4.1	Clubhouse Shingle Roof - replace	24	16					
7.4.2	Rental House Shingle Roof - replace	24	10					
7.4.3	Picnic Area "Wanagan" Roof - replace	30	14					
7.4.4	Maintenance Bldg. Shingle Roof - replace	24	5				\$14,000	
8.5.1	Clubhouse Windows - replace	40	10					
9.6.1	Clubhouse Carpet Flooring - replace	10	6	\$9,060				
9.6.2	Rental House Int. Finishes - contingency	10	6	\$8,000				
9.8.1	Clubhouse Exterior Surfaces - paint	7	2					\$10,720
9.8.2	Water Tower Exterior - paint	20	3					
10.1.1	Carport - replace	20	20					
10.1.2	Playground Equipment - replace	15	3					
11.2.1	Bolens Mower - replace	10	5					
11.2.2	Backhoe - replace	18	4					
11.2.3	Hydroexcavator - replace	18	6					
11.2.4	Vehicles - contingency	5	1	\$12,120				
11.2.5	Main Pump Truck - replace	10	9				\$165,000	
11.2.6	Dump Trailer - replace	20	6	\$9,440				
11.2.7	Diesel Tank - replace	15	4					
11.2.8	Miscellaneous Equipment - contingency	10	10					\$12,120
12.1.1	Clubhouse Interiors - update	10	6	\$10,000				
12.1.2	Clubhouse Office Equipment - replace	5	5					\$5,000
12.1.3	Rental House Interiors - update	10	6	\$8,000				
12.1.4	Misc. Building repair - contingency	10	10					\$5,000
15.1.1	Plumbing System - contingency	3	2	\$10,000			\$10,000	
15.1.2	Water Tower - maintenance	5	5					\$10,000
15.1.3	Water System Computer 1 - contingency	15	6					
15.1.4	Well Pump 1 - maintenance	12	3		\$14,540			
15.1.5	Water System Computer 2 - contingency	15	6					
15.1.6	Well Pump 2 - maintenance	12	1					
15.1.7	Water Meters - installation	1	1					
15.1.8	Water Meters - maintenance	5	9				\$11,090	
15.1.9	Water System Telemetry - maintenance	20	1					
15.5.1	Clubhouse Septic Tanks - contingency	30	6					
15.5.2	Decanter Unit - contingency	10	6	\$18,000				
15.5.3	Aeration Manifold - contingency	20	6	\$21,760				
15.5.4	Aerobic System Controls - contingency	20	2					
15.5.5	Mixer Unit - contingency	20	3					
15.5.6	Air Compressor - maintenance	10	5					
15.5.7	UV Disinfection Controller - contingency	20	18					
15.5.8	Sewage Treatment Facility - contingency	20	16					
15.5.9	Expansion Sampler - contingency	10	6	\$10,880				
15.6.1	Treatment Plant Outfall - contingency	15	5					
15.6.2	Bioswale - maintenance	25	16					
15.6.3	Bioswale - inspection	5	5					\$5,000
15.7.1	Bio-Filter Park - maintenance	15	16					
15.8.1	Fire Hydrant PSV - maintenance	25	13					
16.1.1	Electrical System - contingency	5	5					\$10,000
16.3.1	Emergency Generator - maintenance	10	1					
16.3.2	Sewage Treatment Emergency Generator - contir	10	5					
17.1.1	Security Lighting - replace	10	5					\$20,000
18.1.1	Surveillance System - update	10	10					\$4,200
20.1.1	Reserve Study updates - with site visit	3	3		\$4,200			\$4,200
<b>TOTAL EXPENDED BY YEAR</b>				<b>\$202,000</b>	<b>\$93,740</b>	<b>\$110,120</b>	<b>\$314,180</b>	<b>\$160,020</b>
CARRY OVER RESERVES				\$661,184	\$629,184	\$705,444	\$765,324	\$621,144
ANNUAL RESERVE CONTRIB				\$170,000	\$170,000	\$170,000	\$170,000	\$170,000
RESERVE EXPENDITURES				\$202,000	\$93,740	\$110,120	\$314,180	\$160,020
ACCUMULATED RESERVES				\$629,184	\$705,444	\$765,324	\$621,144	\$631,124
INTEREST EARNED				\$0	\$0	\$0	\$0	\$0
<b>SPECIAL ASSESSMENT</b>								
YEAR-END BALANCE				<b>\$629,184</b>	<b>\$705,444</b>	<b>\$765,324</b>	<b>\$621,144</b>	<b>\$631,124</b>
STUDY YEAR				26 (2045)	27 (2046)	28 (2047)	29 (2048)	30 (2049)

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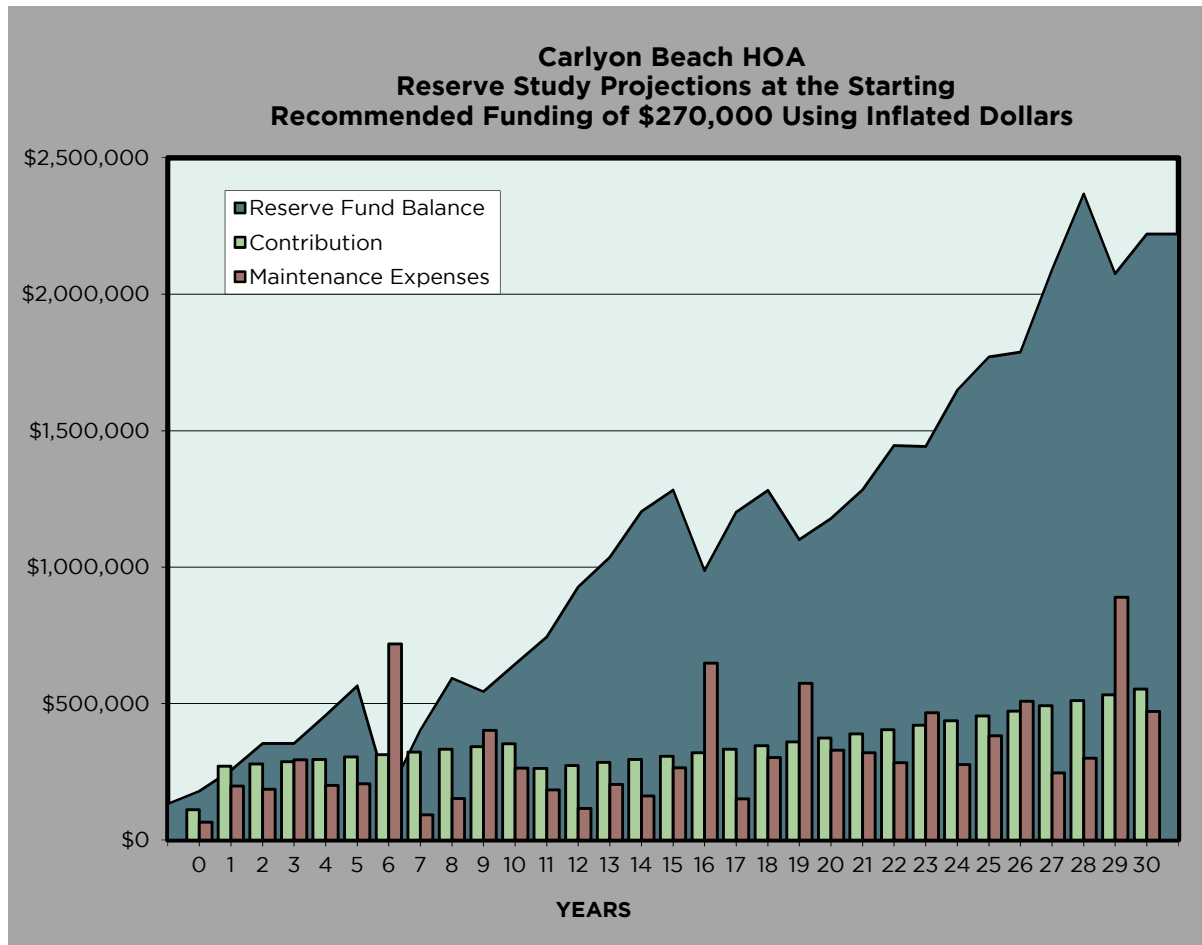
### Reserve Study Projections using Inflated Dollar Values

**Teal Line Graph:** The year-end running reserve fund balance is shown as a line graph in teal and includes compound interest. Our recommended funding plan is a threshold funding plan which ensures that the reserve account balance does not dip below a designated “threshold”, which is set to at least \$167,000 while maintaining the percent funded between between 25% and 84%.

**Mint Green Bars:** The annual reserve fund contributions are shown as mint green bars. This chart depicts the annual contribution in inflated dollars, so the contributions are increasing over the 30 year timeline of the study, with exception of the anticipated contribution adjustment in 2030.

**Brick Red Bars:** The anticipated yearly maintenance expenses are shown as brick red bars, depicting the anticipated inflated expenses over the next 30 years.

Below is a graph depicting the projected fiscal year end running reserve fund balance over 30 years with interest, the annual inflated contribution and the anticipated yearly maintenance expenses using inflated dollar values.





**Reserve Study Projections at the Starting Recommended Funding of \$270,000  
Using Inflated Dollar Values**



# Carlyon Beach HOA

## Reserve Study Projections at Recommended Funding of \$270,000

### Reserve Consultants LLC

30-YEAR SPREADSHEET WITH INFLATED DOLLARS  
PER YEAR EXPENSES IN 2019 DOLLARS

18-Apr-19

#	COMPONENT NAME	MAINT. CYCLE	NEXT MAINT.	1 2019/ 2020	2 2020/ 2021	3 2021/ 2022	4 2022/ 2023	5 2023/ 2024			
2.6.1	Asphalt Road - major repairs	1	1	\$77,250	\$79,568	\$81,955	\$84,413	\$86,946			
2.6.2	Gravel Road - repair	5	3			\$38,377					
2.7.1	Chain-link Fence - maintenance	5	6								
2.9.1	Moorng Docks - repair	1	0	\$46,350	\$47,741	\$49,173	\$50,648				
2.9.2	Log Boom - repair	10	9								
2.9.3	Marina Floats - repair	10	9								
2.9.4	Marina Metal Pilings - replace	50	50								
2.9.5	Marina Main Walkway - replace	50	44								
3.3.1	Bulkhead Retaining Walls - ph. 1 repair	50	44								
3.3.2	Bulkhead Retaining Walls - ph. 2 repair	50	6								
6.2.1	Clubhouse Exterior Surfaces - repair	7	2		\$3,161						
7.4.1	Clubhouse Shingle Roof - replace	24	16								
7.4.2	Rental House Shingle Roof - replace	24	10								
7.4.3	Picnic Area "Wanagan" Roof - replace	30	14								
7.4.4	Maintenance Bldg. Shingle Roof - replace	24	5					\$16,230			
8.5.1	Clubhouse Windows - replace	40	10								
9.6.1	Clubhouse Carpet Flooring - replace	10	6								
9.6.2	Rental House Int. Finishes - contingency	10	6								
9.8.1	Clubhouse Exterior Surfaces - paint	7	2		\$11,373						
9.8.2	Water Tower Exterior - paint	20	3			\$57,477					
10.1.1	Carport - replace	20	20								
10.1.2	Playground Equipment - replace	15	3			\$10,927					
11.2.1	Bolens Mower - replace	10	5					\$8,115			
11.2.2	Backhoe - replace	18	4				\$40,901				
11.2.3	Hydroexcavator - replace	18	6								
11.2.4	Vehicles - contingency	5	1	\$12,484							
11.2.5	Main Pump Truck - replace	10	9								
11.2.6	Dump Trailer - replace	20	6								
11.2.7	Diesel Tank - replace	15	4				\$11,188				
11.2.8	Miscellaneous Equipment - contingency	10	10								
12.1.1	Clubhouse Interiors - update	10	6								
12.1.2	Clubhouse Office Equipment - replace	5	5					\$5,796			
12.1.3	Rental House Interiors - update	10	6								
12.1.4	Misc. Building repair - contingency	10	10								
15.1.1	Plumbing System - contingency	3	2		\$10,609			\$11,593			
15.1.2	Water Tower - maintenance	5	5					\$11,593			
15.1.3	Water System Computer 1 - contingency	15	6								
15.1.4	Well Pump 1 - maintenance	12	3			\$15,888					
15.1.5	Water System Computer 2 - contingency	15	6								
15.1.6	Well Pump 2 - maintenance	12	1	\$14,976							
15.1.7	Water Meters - installation	1	1	\$11,423	\$11,765	\$12,118	\$12,482				
15.1.8	Water Meters - maintenance	5	9								
15.1.9	Water System Telemetry - maintenance	20	1	\$10,310							
15.5.1	Clubhouse Septic Tanks - contingency	30	6								
15.5.2	Decanter Unit - contingency	10	6								
15.5.3	Aeration Manifold - contingency	20	6								
15.5.4	Aerobic System Controls - contingency	20	2		\$21,218						
15.5.5	Mixer Unit - contingency	20	3			\$23,778					
15.5.6	Air Compressor - maintenance	10	5					\$10,677			
15.5.7	UV Disinfection Controller - contingency	20	18								
15.5.8	Sewage Treatment Facility - contingency	20	16								
15.5.9	Expansion Sampler - contingency	10	6								
15.6.1	Treatment Plant Outfall - contingency	15	5					\$11,593			
15.6.2	Bioswale - maintenance	25	16								
15.6.3	Bioswale - inspection	5	5					\$5,796			
15.7.1	Bio-Filter Park - maintenance	15	16								
15.8.1	Fire Hydrant PSV - maintenance	25	13								
16.1.1	Electrical System - contingency	5	5					\$11,593			
16.3.1	Emergency Generator - maintenance	10	1	\$24,947							
16.3.2	Sewage Treatment Emergency Generator - contingency	10	5					\$14,050			
17.1.1	Security Lighting - replace	10	5					\$11,593			
18.1.1	Surveillance System - update	10	10								
20.1.1	Reserve Study updates - with site visit	3	3			\$4,589					
TOTAL EXPENDED BY YEAR				<b>\$197,739</b>	<b>\$185,435</b>	<b>\$294,282</b>	<b>\$199,631</b>	<b>\$205,574</b>			
CARRY OVER RESERVES				\$178,634	\$255,190	\$353,886	\$353,046	\$456,466			
ANNUAL RESERVE CONTRIB				\$270,000	\$278,100	\$286,443	\$295,036	\$303,887			
RESERVE EXPENDITURES				\$197,739	\$185,435	\$294,282	\$199,631	\$205,574			
ACCUMULATED RESERVES				\$250,895	\$347,856	\$346,047	\$448,451	\$554,779			
INTEREST EARNED				\$4,295	\$6,030	\$6,999	\$8,015	\$10,112			
SPECIAL ASSESSMENT											
YEAR-END BALANCE				<b>\$255,190</b>	<b>\$353,886</b>	<b>\$353,046</b>	<b>\$456,466</b>	<b>\$564,892</b>			
YEARS				<b>0-1</b>	<b>2-10</b>	<b>11-30</b>	<b>1 (2020)</b>	<b>2 (2021)</b>	<b>3 (2022)</b>	<b>4 (2023)</b>	<b>5 (2024)</b>
CONTRIBUTION INFLATION				0%	3%	4%	0%	3%	3%	3%	3%
COMPONENT COMPOUND INFLATION				3%	3%	4%	103%	106%	109%	113%	116%
INTEREST RATE MULTIPLIER				2%	2%	3%	2%	2%	2%	2%	2%

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# Carlyon Beach HOA

## Reserve Study Projections at Recommended Funding of \$270,000 Reserve Consultants LLC

30-YEAR SPREADSHEET WITH INFLATED DOLLARS  
PER YEAR EXPENSES IN 2019 DOLLARS

18-Apr-19

#	COMPONENT NAME	MAINT. CYCLE	NEXT MAINT.	6 2024/ 2025	7 2025/ 2026	8 2026/ 2027	9 2027/ 2028	10 2028/ 2029
2.6.1	Asphalt Road - major repairs	1	1	\$89,554	\$92,241	\$95,008	\$97,858	\$100,794
2.6.2	Gravel Road - repair	5	3			\$44,489		
2.7.1	Chain-link Fence - maintenance	5	6	\$11,630				
2.9.1	Mooring Docks - repair	1	0					
2.9.2	Log Boom - repair	10	9				\$26,095	
2.9.3	Marina Floats - repair	10	9				\$24,908	
2.9.4	Marina Metal Pillings - replace	50	50					
2.9.5	Marina Main Walkway - replace	50	44					
3.3.1	Bulkhead Retaining Walls - ph. 1 repair	50	44					
3.3.2	Bulkhead Retaining Walls - ph. 2 repair	50	6	\$409,345				
6.2.1	Clubhouse Exterior Surfaces - repair	7	2				\$3,888	
7.4.1	Clubhouse Shingle Roof - replace	24	16					
7.4.2	Rental House Shingle Roof - replace	24	10					\$14,151
7.4.3	Picnic Area "Wanagan" Roof - replace	30	14					
7.4.4	Maintenance Bldg. Shingle Roof - replace	24	5					
8.5.1	Clubhouse Windows - replace	40	10					\$57,842
9.6.1	Clubhouse Carpet Flooring - replace	10	6	\$10,818				
9.6.2	Rental House Int. Finishes - contingency	10	6	\$9,552				
9.8.1	Clubhouse Exterior Surfaces - paint	7	2				\$13,987	
9.8.2	Water Tower Exterior - paint	20	3					
10.1.1	Carport - replace	20	20					
10.1.2	Playground Equipment - replace	15	3					
11.2.1	Bolens Mower - replace	10	5					
11.2.2	Backhoe - replace	18	4					
11.2.3	Hydroexcavator - replace	18	6	\$33,983				
11.2.4	Vehicles - contingency	5	1	\$14,472				
11.2.5	Main Pump Truck - replace	10	9				\$215,288	
11.2.6	Dump Trailer - replace	20	6	\$11,272				
11.2.7	Diesel Tank - replace	15	4					
11.2.8	Miscellaneous Equipment - contingency	10	10					\$16,288
12.1.1	Clubhouse Interiors - update	10	6	\$11,941				
12.1.2	Clubhouse Office Equipment - replace	5	5					\$6,720
12.1.3	Rental House Interiors - update	10	6	\$9,552				
12.1.4	Misc. Building repair - contingency	10	10					\$6,720
15.1.1	Plumbing System - contingency	3	2			\$12,668		
15.1.2	Water Tower - maintenance	5	5					\$13,439
15.1.3	Water System Computer 1 - contingency	15	6	\$11,558				
15.1.4	Well Pump 1 - maintenance	12	3					
15.1.5	Water System Computer 2 - contingency	15	6	\$11,558				
15.1.6	Well Pump 2 - maintenance	12	1					
15.1.7	Water Meters - installation	1	1					
15.1.8	Water Meters - maintenance	5	9				\$14,470	
15.1.9	Water System Telemetry - maintenance	20	1					
15.5.1	Clubhouse Septic Tanks - contingency	30	6	\$17,648				
15.5.2	Decanter Unit - contingency	10	6	\$21,493				
15.5.3	Aeration Manifold - contingency	20	6	\$25,983				
15.5.4	Aerobic System Controls - contingency	20	2					
15.5.5	Mixer Unit - contingency	20	3					
15.5.6	Air Compressor - maintenance	10	5					
15.5.7	UV Disinfection Controller - contingency	20	18					
15.5.8	Sewage Treatment Facility - contingency	20	16					
15.5.9	Expansion Sampler - contingency	10	6	\$12,991				
15.6.1	Treatment Plant Outfall - contingency	15	5					
15.6.2	Bioswale - maintenance	25	16					
15.6.3	Bioswale - inspection	5	5					\$6,720
15.7.1	Bio-Filter Park - maintenance	15	16					
15.8.1	Fire Hydrant PSV - maintenance	25	13					
16.1.1	Electrical System - contingency	5	5					\$13,439
16.3.1	Emergency Generator - maintenance	10	1					
16.3.2	Sewage Treatment Emergency Generator - contingency	10	5					
17.1.1	Security Lighting - replace	10	5					
18.1.1	Surveillance System - update	10	10					\$26,878
20.1.1	Reserve Study updates - with site visit	3	3	\$5,015			\$5,480	
TOTAL EXPENDED BY YEAR				<b>\$718,366</b>	<b>\$92,241</b>	<b>\$152,164</b>	<b>\$401,975</b>	<b>\$262,991</b>
CARRY OVER RESERVES				\$564,892	\$166,774	\$402,565	\$592,317	\$543,617
ANNUAL RESERVE CONTRIB				\$313,004	\$322,394	\$332,066	\$342,028	\$352,289
RESERVE EXPENDITURES				\$718,366	\$92,241	\$152,164	\$401,975	\$262,991
ACCUMULATED RESERVES				\$159,530	\$396,928	\$582,466	\$532,370	\$632,915
INTEREST EARNED				\$7,244	\$5,637	\$9,850	\$11,247	\$11,765
SPECIAL ASSESSMENT								
YEAR-END BALANCE				<b>\$166,774</b>	<b>\$402,565</b>	<b>\$592,317</b>	<b>\$543,617</b>	<b>\$644,680</b>
YEARS				0-1	2-10	11-30		
CONTRIBUTION INFLATION				0%	3%	4%	3%	3%
COMPONENT COMPOUND INFLATION				3%	3%	4%	119%	123%
INTEREST RATE MULTIPLIER				2%	2%	3%	2%	2%

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# Carlyon Beach HOA

## Reserve Study Projections at Recommended Funding of \$270,000 Reserve Consultants LLC

30-YEAR SPREADSHEET WITH INFLATED DOLLARS  
PER YEAR EXPENSES IN 2019 DOLLARS

18-Apr-19

#	COMPONENT NAME	MAINT. CYCLE	NEXT MAINT.	11 2029/ 2030	12 2030/ 2031	13 2031/ 2032	14 2032/ 2033	15 2033/ 2034			
2.6.1	Asphalt Road - major repairs	1	1	\$104,825	\$109,018	\$113,379	\$117,914	\$122,631			
2.6.2	Gravel Road - repair	5	3			\$53,092					
2.7.1	Chain-link Fence - maintenance	5	6	\$13,613							
2.9.1	Mooring Docks - repair	1	0								
2.9.2	Log Boom - repair	10	9								
2.9.3	Marina Floats - repair	10	9								
2.9.4	Marina Metal Pillings - replace	50	50								
2.9.5	Marina Main Walkway - replace	50	44								
3.3.1	Bulkhead Retaining Walls - ph. 1 repair	50	44								
3.3.2	Bulkhead Retaining Walls - ph. 2 repair	50	6								
6.2.1	Clubhouse Exterior Surfaces - repair	7	2								
7.4.1	Clubhouse Shingle Roof - replace	24	16								
7.4.2	Rental House Shingle Roof - replace	24	10								
7.4.3	Picnic Area "Wanagan" Roof - replace	30	14				\$10,251				
7.4.4	Maintenance Bldg. Shingle Roof - replace	24	5								
8.5.1	Clubhouse Windows - replace	40	10								
9.6.1	Clubhouse Carpet Flooring - replace	10	6								
9.6.2	Rental House Int. Finishes - contingency	10	6								
9.8.1	Clubhouse Exterior Surfaces - paint	7	2								
9.8.2	Water Tower Exterior - paint	20	3								
10.1.1	Carport - replace	20	20								
10.1.2	Playground Equipment - replace	15	3								
11.2.1	Bolens Mower - replace	10	5					\$11,446			
11.2.2	Backhoe - replace	18	4								
11.2.3	Hydroexcavator - replace	18	6								
11.2.4	Vehicles - contingency	5	1	\$16,940							
11.2.5	Main Pump Truck - replace	10	9								
11.2.6	Dump Trailer - replace	20	6								
11.2.7	Diesel Tank - replace	15	4								
11.2.8	Miscellaneous Equipment - contingency	10	10								
12.1.1	Clubhouse Interiors - update	10	6								
12.1.2	Clubhouse Office Equipment - replace	5	5					\$8,175			
12.1.3	Rental House Interiors - update	10	6								
12.1.4	Misc. Building repair - contingency	10	10								
15.1.1	Plumbing System - contingency	3	2	\$13,977			\$15,722				
15.1.2	Water Tower - maintenance	5	5					\$16,351			
15.1.3	Water System Computer 1 - contingency	15	6								
15.1.4	Well Pump 1 - maintenance	12	3					\$23,774			
15.1.5	Water System Computer 2 - contingency	15	6								
15.1.6	Well Pump 2 - maintenance	12	1			\$21,980					
15.1.7	Water Meters - installation	1	1								
15.1.8	Water Meters - maintenance	5	9				\$17,436				
15.1.9	Water System Telemetry - maintenance	20	1								
15.5.1	Clubhouse Septic Tanks - contingency	30	6								
15.5.2	Decanter Unit - contingency	10	6								
15.5.3	Aeration Manifold - contingency	20	6								
15.5.4	Aerobic System Controls - contingency	20	2								
15.5.5	Mixer Unit - contingency	20	3								
15.5.6	Air Compressor - maintenance	10	5					\$15,059			
15.5.7	UV Disinfection Controller - contingency	20	18								
15.5.8	Sewage Treatment Facility - contingency	20	16								
15.5.9	Expansion Sampler - contingency	10	6								
15.6.1	Treatment Plant Outfall - contingency	15	5								
15.6.2	Bioswale - maintenance	25	16								
15.6.3	Bioswale - inspection	5	5					\$8,175			
15.7.1	Bio-Filter Park - maintenance	15	16								
15.8.1	Fire Hydrant PSV - maintenance	25	13			\$14,528					
16.1.1	Electrical System - contingency	5	5					\$16,351			
16.3.1	Emergency Generator - maintenance	10	1	\$33,852							
16.3.2	Sewage Treatment Emergency Generator - contingency	10	5					\$19,817			
17.1.1	Security Lighting - replace	10	5					\$16,351			
18.1.1	Surveillance System - update	10	10								
20.1.1	Reserve Study updates - with site visit	3	3		\$6,105			\$6,867			
TOTAL EXPENDED BY YEAR				\$183,207	\$115,124	\$202,979	\$161,323	\$264,997			
CARRY OVER RESERVES				\$644,680	\$744,381	\$926,831	\$1,036,659	\$1,203,586			
ANNUAL RESERVE CONTRIB				\$262,380	\$272,876	\$283,791	\$295,142	\$306,948			
RESERVE EXPENDITURES				\$183,207	\$115,124	\$202,979	\$161,323	\$264,997			
ACCUMULATED RESERVES				\$723,853	\$902,133	\$1,007,642	\$1,170,479	\$1,245,537			
INTEREST EARNED				\$20,528	\$24,698	\$29,017	\$33,107	\$36,737			
SPECIAL ASSESSMENT											
YEAR-END BALANCE				\$744,381	\$926,831	\$1,036,659	\$1,203,586	\$1,282,273			
YEARS				0-1	2-10	11-30					
CONTRIBUTION INFLATION				0%	3%	4%	11 (2030 )	12 (2031 )	13 (2032 )	14 (2033 )	15 (2034 )
COMPONENT COMPOUND INFLATION				3%	3%	4%	4%	4%	4%	4%	4%
INTEREST RATE MULTIPLIER				2%	2%	3%	140%	145%	151%	157%	164%
							3%	3%	3%	3%	3%

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# Carlyon Beach HOA

## Reserve Study Projections at Recommended Funding of \$270,000 Reserve Consultants LLC

30-YEAR SPREADSHEET WITH INFLATED DOLLARS  
PER YEAR EXPENSES IN 2019 DOLLARS

18-Apr-19

#	COMPONENT NAME	MAINT. CYCLE	NEXT MAINT.	16 2034/ 2035	17 2035/ 2036	18 2036/ 2037	19 2037/ 2038	20 2038/ 2039
2.6.1	Asphalt Road - major repairs	1	1	\$127,536	\$132,638	\$137,943	\$143,461	\$149,199
2.6.2	Gravel Road - repair	5	3			\$64,594		
2.7.1	Chain-link Fence - maintenance	5	6	\$16,563				
2.9.1	Mooring Docks - repair	1	0					
2.9.2	Log Boom - repair	10	9				\$38,256	
2.9.3	Marina Floats - repair	10	9				\$36,516	
2.9.4	Marina Metal Pillings - replace	50	50					
2.9.5	Marina Main Walkway - replace	50	44					
3.3.1	Bulkhead Retaining Walls - ph. 1 repair	50	44					
3.3.2	Bulkhead Retaining Walls - ph. 2 repair	50	6					
6.2.1	Clubhouse Exterior Surfaces - repair	7	2	\$5,067				
7.4.1	Clubhouse Shingle Roof - replace	24	16	\$23,093				
7.4.2	Rental House Shingle Roof - replace	24	10					
7.4.3	Picnic Area "Wanagan" Roof - replace	30	14					
7.4.4	Maintenance Bldg. Shingle Roof - replace	24	5					
8.5.1	Clubhouse Windows - replace	40	10					
9.6.1	Clubhouse Carpet Flooring - replace	10	6	\$15,406				
9.6.2	Rental House Int. Finishes - contingency	10	6	\$13,604				
9.8.1	Clubhouse Exterior Surfaces - paint	7	2	\$18,229				
9.8.2	Water Tower Exterior - paint	20	3					
10.1.1	Carport - replace	20	20					\$6,963
10.1.2	Playground Equipment - replace	15	3			\$18,392		
11.2.1	Bolens Mower - replace	10	5					
11.2.2	Backhoe - replace	18	4					
11.2.3	Hydroexcavator - replace	18	6					
11.2.4	Vehicles - contingency	5	1	\$20,610				
11.2.5	Main Pump Truck - replace	10	9				\$315,614	
11.2.6	Dump Trailer - replace	20	6					
11.2.7	Diesel Tank - replace	15	4				\$19,013	
11.2.8	Miscellaneous Equipment - contingency	10	10					\$24,111
12.1.1	Clubhouse Interiors - update	10	6	\$17,005				
12.1.2	Clubhouse Office Equipment - replace	5	5					\$9,947
12.1.3	Rental House Interiors - update	10	6	\$13,604				
12.1.4	Misc. Building repair - contingency	10	10					\$9,947
15.1.1	Plumbing System - contingency	3	2		\$17,685			\$19,893
15.1.2	Water Tower - maintenance	5	5					\$19,893
15.1.3	Water System Computer 1 - contingency	15	6					
15.1.4	Well Pump 1 - maintenance	12	3					
15.1.5	Water System Computer 2 - contingency	15	6					
15.1.6	Well Pump 2 - maintenance	12	1					
15.1.7	Water Meters - installation	1	1					
15.1.8	Water Meters - maintenance	5	9				\$21,213	
15.1.9	Water System Telemetry - maintenance	20	1					
15.5.1	Clubhouse Septic Tanks - contingency	30	6					
15.5.2	Decanter Unit - contingency	10	6	\$30,609				
15.5.3	Aeration Manifold - contingency	20	6					
15.5.4	Aerobic System Controls - contingency	20	2					
15.5.5	Mixer Unit - contingency	20	3					
15.5.6	Air Compressor - maintenance	10	5					
15.5.7	UV Disinfection Controller - contingency	20	18			\$73,570		
15.5.8	Sewage Treatment Facility - contingency	20	16	\$144,541				
15.5.9	Expansion Sampler - contingency	10	6	\$18,501				
15.6.1	Treatment Plant Outfall - contingency	15	5					\$19,893
15.6.2	Bioswale - maintenance	25	16	\$132,638				
15.6.3	Bioswale - inspection	5	5					\$9,947
15.7.1	Bio-Filter Park - maintenance	15	16	\$51,014				
15.8.1	Fire Hydrant PSV - maintenance	25	13					
16.1.1	Electrical System - contingency	5	5					\$19,893
16.3.1	Emergency Generator - maintenance	10	1					
16.3.2	Sewage Treatment Emergency Generator - contingency	10	5					
17.1.1	Security Lighting - replace	10	5					
18.1.1	Surveillance System - update	10	10					\$39,786
20.1.1	Reserve Study updates - with site visit	3	3			\$7,725		
TOTAL EXPENDED BY YEAR				\$648,020	\$150,323	\$302,224	\$574,073	\$329,472
CARRY OVER RESERVES				\$1,282,273	\$987,015	\$1,201,023	\$1,280,750	\$1,100,960
ANNUAL RESERVE CONTRIB				\$319,226	\$331,995	\$345,275	\$359,086	\$373,449
RESERVE EXPENDITURES				\$648,020	\$150,323	\$302,224	\$574,073	\$329,472
ACCUMULATED RESERVES				\$953,479	\$1,168,688	\$1,244,073	\$1,065,762	\$1,144,937
INTEREST EARNED				\$33,536	\$32,336	\$36,676	\$35,198	\$33,688
SPECIAL ASSESSMENT								
YEAR-END BALANCE				\$987,015	\$1,201,023	\$1,280,750	\$1,100,960	\$1,178,625
YEARS				0-1	2-10	11-30		
CONTRIBUTION INFLATION				0%	3%	4%		
COMPONENT COMPOUND INFLATION				3%	3%	4%		
INTEREST RATE MULTIPLIER				2%	2%	3%		
				16 (2035 )	17 (2036 )	18 (2037 )	19 (2038 )	20 (2039 )
				4%	4%	4%	4%	4%
				170%	177%	184%	191%	199%
				3%	3%	3%	3%	3%

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# Carlyon Beach HOA

## Reserve Study Projections at Recommended Funding of \$270,000 Reserve Consultants LLC

30-YEAR SPREADSHEET WITH INFLATED DOLLARS  
PER YEAR EXPENSES IN 2019 DOLLARS

18-Apr-19

#	COMPONENT NAME	MAINT. CYCLE	NEXT MAINT.	21 2039/ 2040	22 2040/ 2041	23 2041/ 2042	24 2042/ 2043	25 2043/ 2044			
2.6.1	Asphalt Road - major repairs	1	1	\$155,167	\$161,374	\$167,829	\$174,542	\$181,524			
2.6.2	Gravel Road - repair	5	3			\$78,589					
2.7.1	Chain-link Fence - maintenance	5	6	\$20,151							
2.9.1	Mooring Docks - repair	1	0								
2.9.2	Log Boom - repair	10	9								
2.9.3	Marina Floats - repair	10	9								
2.9.4	Marina Metal Pillings - replace	50	50								
2.9.5	Marina Main Walkway - replace	50	44								
3.3.1	Bulkhead Retaining Walls - ph. 1 repair	50	44								
3.3.2	Bulkhead Retaining Walls - ph. 2 repair	50	6								
6.2.1	Clubhouse Exterior Surfaces - repair	7	2			\$6,668					
7.4.1	Clubhouse Shingle Roof - replace	24	16								
7.4.2	Rental House Shingle Roof - replace	24	10								
7.4.3	Picnic Area "Wanagan" Roof - replace	30	14								
7.4.4	Maintenance Bldg. Shingle Roof - replace	24	5								
8.5.1	Clubhouse Windows - replace	40	10								
9.6.1	Clubhouse Carpet Flooring - replace	10	6								
9.6.2	Rental House Int. Finishes - contingency	10	6								
9.8.1	Clubhouse Exterior Surfaces - paint	7	2			\$23,988					
9.8.2	Water Tower Exterior - paint	20	3			\$117,704					
10.1.1	Carport - replace	20	20								
10.1.2	Playground Equipment - replace	15	3								
11.2.1	Bolens Mower - replace	10	5					\$16,942			
11.2.2	Backhoe - replace	18	4		\$78,191						
11.2.3	Hydroexcavator - replace	18	6				\$66,233				
11.2.4	Vehicles - contingency	5	1	\$25,075							
11.2.5	Main Pump Truck - replace	10	9								
11.2.6	Dump Trailer - replace	20	6								
11.2.7	Diesel Tank - replace	15	4								
11.2.8	Miscellaneous Equipment - contingency	10	10								
12.1.1	Clubhouse Interiors - update	10	6								
12.1.2	Clubhouse Office Equipment - replace	5	5					\$12,102			
12.1.3	Rental House Interiors - update	10	6								
12.1.4	Misc. Building repair - contingency	10	10								
15.1.1	Plumbing System - contingency	3	2			\$22,377					
15.1.2	Water Tower - maintenance	5	5					\$24,203			
15.1.3	Water System Computer 1 - contingency	15	6	\$20,027							
15.1.4	Well Pump 1 - maintenance	12	3								
15.1.5	Water System Computer 2 - contingency	15	6	\$20,027							
15.1.6	Well Pump 2 - maintenance	12	1					\$35,191			
15.1.7	Water Meters - installation	1	1								
15.1.8	Water Meters - maintenance	5	9				\$25,809				
15.1.9	Water System Telemetry - maintenance	20	1	\$20,710							
15.5.1	Clubhouse Septic Tanks - contingency	30	6								
15.5.2	Decanter Unit - contingency	10	6								
15.5.3	Aeration Manifold - contingency	20	6								
15.5.4	Aerobic System Controls - contingency	20	2		\$43,033						
15.5.5	Mixer Unit - contingency	20	3			\$48,693					
15.5.6	Air Compressor - maintenance	10	5					\$22,291			
15.5.7	UV Disinfection Controller - contingency	20	18								
15.5.8	Sewage Treatment Facility - contingency	20	16								
15.5.9	Expansion Sampler - contingency	10	6								
15.6.1	Treatment Plant Outfall - contingency	15	5								
15.6.2	Bioswale - maintenance	25	16								
15.6.3	Bioswale - inspection	5	5					\$12,102			
15.7.1	Bio-Filter Park - maintenance	15	16								
15.8.1	Fire Hydrant PSV - maintenance	25	13								
16.1.1	Electrical System - contingency	5	5					\$24,203			
16.3.1	Emergency Generator - maintenance	10	1	\$50,109							
16.3.2	Sewage Treatment Emergency Generator - contingency	10	5					\$29,334			
17.1.1	Security Lighting - replace	10	5					\$24,203			
18.1.1	Surveillance System - update	10	10								
20.1.1	Reserve Study updates - with site visit	3	3	\$8,689			\$9,774				
TOTAL EXPENDED BY YEAR				\$319,955	\$282,598	\$465,848	\$276,358	\$382,096			
CARRY OVER RESERVES				\$1,178,625	\$1,283,443	\$1,445,090	\$1,441,987	\$1,648,179			
ANNUAL RESERVE CONTRIB				\$388,387	\$403,922	\$420,079	\$436,883	\$454,358			
RESERVE EXPENDITURES				\$319,955	\$282,598	\$465,848	\$276,358	\$382,096			
ACCUMULATED RESERVES				\$1,247,057	\$1,404,767	\$1,399,321	\$1,602,511	\$1,720,441			
INTEREST EARNED				\$36,385	\$40,323	\$42,666	\$45,667	\$50,529			
SPECIAL ASSESSMENT											
YEAR-END BALANCE				\$1,283,443	\$1,445,090	\$1,441,987	\$1,648,179	\$1,770,970			
YEARS				0-1	2-10	11-30	21 (2040 )	22 (2041 )	23 (2042 )	24 (2043 )	25 (2044 )
CONTRIBUTION INFLATION				0%	3%	4%	4%	4%	4%	4%	4%
COMPONENT COMPOUND INFLATION				3%	3%	4%	207%	215%	224%	233%	242%
INTEREST RATE MULTIPLIER				2%	2%	3%	3%	3%	3%	3%	3%

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# Carlyon Beach HOA

## Reserve Study Projections at Recommended Funding of \$270,000 Reserve Consultants LLC

30-YEAR SPREADSHEET WITH INFLATED DOLLARS  
PER YEAR EXPENSES IN 2019 DOLLARS

18-Apr-19

#	COMPONENT NAME	MAINT. CYCLE	NEXT MAINT.	26 2044/ 2045	27 2045/ 2046	28 2046/ 2047	29 2047/ 2048	30 2048/ 2049			
2.6.1	Asphalt Road - major repairs	1	1	\$188,785	\$196,336	\$204,190	\$212,357	\$220,851			
2.6.2	Gravel Road - repair	5	3			\$95,615					
2.7.1	Chain-link Fence - maintenance	5	6	\$24,517							
2.9.1	Mooring Docks - repair	1	0								
2.9.2	Log Boom - repair	10	9				\$56,629				
2.9.3	Marina Floats - repair	10	9				\$54,052				
2.9.4	Marina Metal Pillings - replace	50	50								
2.9.5	Marina Main Walkway - replace	50	44								
3.3.1	Bulkhead Retaining Walls - ph. 1 repair	50	44								
3.3.2	Bulkhead Retaining Walls - ph. 2 repair	50	6								
6.2.1	Clubhouse Exterior Surfaces - repair	7	2					\$8,775			
7.4.1	Clubhouse Shingle Roof - replace	24	16								
7.4.2	Rental House Shingle Roof - replace	24	10								
7.4.3	Picnic Area "Wanagan" Roof - replace	30	14								
7.4.4	Maintenance Bldg. Shingle Roof - replace	24	5				\$39,640				
8.5.1	Clubhouse Windows - replace	40	10								
9.6.1	Clubhouse Carpet Flooring - replace	10	6	\$22,805							
9.6.2	Rental House Int. Finishes - contingency	10	6	\$20,137							
9.8.1	Clubhouse Exterior Surfaces - paint	7	2					\$31,567			
9.8.2	Water Tower Exterior - paint	20	3								
10.1.1	Carport - replace	20	20								
10.1.2	Playground Equipment - replace	15	3								
11.2.1	Bolens Mower - replace	10	5								
11.2.2	Backhoe - replace	18	4								
11.2.3	Hydroexcavator - replace	18	6								
11.2.4	Vehicles - contingency	5	1	\$30,508							
11.2.5	Main Pump Truck - replace	10	9				\$467,186				
11.2.6	Dump Trailer - replace	20	6	\$23,762							
11.2.7	Diesel Tank - replace	15	4								
11.2.8	Miscellaneous Equipment - contingency	10	10					\$35,690			
12.1.1	Clubhouse Interiors - update	10	6	\$25,171							
12.1.2	Clubhouse Office Equipment - replace	5	5					\$14,723			
12.1.3	Rental House Interiors - update	10	6	\$20,137							
12.1.4	Misc. Building repair - contingency	10	10					\$14,723			
15.1.1	Plumbing System - contingency	3	2	\$25,171			\$28,314				
15.1.2	Water Tower - maintenance	5	5					\$29,447			
15.1.3	Water System Computer 1 - contingency	15	6								
15.1.4	Well Pump 1 - maintenance	12	3		\$38,063						
15.1.5	Water System Computer 2 - contingency	15	6								
15.1.6	Well Pump 2 - maintenance	12	1								
15.1.7	Water Meters - installation	1	1								
15.1.8	Water Meters - maintenance	5	9				\$31,401				
15.1.9	Water System Telemetry - maintenance	20	1								
15.5.1	Clubhouse Septic Tanks - contingency	30	6								
15.5.2	Decanter Unit - contingency	10	6	\$45,308							
15.5.3	Aeration Manifold - contingency	20	6	\$54,773							
15.5.4	Aerobic System Controls - contingency	20	2								
15.5.5	Mixer Unit - contingency	20	3								
15.5.6	Air Compressor - maintenance	10	5								
15.5.7	UV Disinfection Controller - contingency	20	18								
15.5.8	Sewage Treatment Facility - contingency	20	16								
15.5.9	Expansion Sampler - contingency	10	6	\$27,386							
15.6.1	Treatment Plant Outfall - contingency	15	5								
15.6.2	Bioswale - maintenance	25	16								
15.6.3	Bioswale - inspection	5	5					\$14,723			
15.7.1	Bio-Filter Park - maintenance	15	16								
15.8.1	Fire Hydrant PSV - maintenance	25	13								
16.1.1	Electrical System - contingency	5	5					\$29,447			
16.3.1	Emergency Generator - maintenance	10	1								
16.3.2	Sewage Treatment Emergency Generator - contingency	10	5								
17.1.1	Security Lighting - replace	10	5					\$58,894			
18.1.1	Surveillance System - update	10	10					\$12,368			
20.1.1	Reserve Study updates - with site visit	3	3		\$10,995						
TOTAL EXPENDED BY YEAR				\$508,460	\$245,394	\$299,805	\$889,578	\$471,209			
CARRY OVER RESERVES				\$1,770,970	\$1,787,632	\$2,090,991	\$2,368,176	\$2,075,807			
ANNUAL RESERVE CONTRIB				\$472,532	\$491,433	\$511,091	\$531,534	\$552,796			
RESERVE EXPENDITURES				\$508,460	\$245,394	\$299,805	\$889,578	\$471,209			
ACCUMULATED RESERVES				\$1,735,042	\$2,033,672	\$2,302,277	\$2,010,132	\$2,157,394			
INTEREST EARNED				\$52,590	\$57,320	\$65,899	\$65,675	\$63,498			
SPECIAL ASSESSMENT											
YEAR-END BALANCE				\$1,787,632	\$2,090,991	\$2,368,176	\$2,075,807	\$2,220,892			
YEARS				0-1	2-10	11-30					
CONTRIBUTION INFLATION				0%	3%	4%	26 (2045)	27 (2046)	28 (2047)	29 (2048)	30 (2049)
COMPONENT COMPOUND INFLATION				3%	3%	4%	4%	4%	4%	4%	4%
INTEREST RATE MULTIPLIER				2%	2%	3%	252%	262%	272%	283%	294%
							3%	3%	3%	3%	3%

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### 30 Year Summary at the Recommended Starting Funding of \$270,000 Using Inflated Dollar Values

The year displayed on graphs and charts is the fiscal year end. For example, the fiscal year 2020/2021 is shown as 2021.\*Note: We expect that the contribution to reserves can be adjusted in 2030 to \$170,000 in constant dollars and still cover the anticipated expenses for the duration of the study.

#### Inflation & Interest Assumptions

	Inflation	Interest
Years 0-1	0%	2%
Years 2-10	3%	2%
Years 11-30	4%	3%

#### Risk of Special Assessment

Nominal Risk	100% and above
Low Risk	70% 99%
Moderate Risk	25% to 69%
Highest Risk	0% to 24%

Fiscal Year End	Fiscal Year Beginning Reserve Balance	Recommended Annual Reserve Contribution	Average Contribution per Unit per Month	Projected Reserve Expenditures	Projected Interest Earned	Fiscal Year End Reserve Balance	Projected Fully Funded Balance	% Funded
1 (2020)	\$178,634	\$270,000	\$33	(\$197,739)	\$4,295	\$255,190	\$876,096	29%
2 (2021)	\$255,190	\$278,100	\$34	(\$185,435)	\$6,030	\$353,886	\$971,643	36%
3 (2022)	\$353,886	\$286,443	\$35	(\$294,282)	\$6,999	\$353,046	\$971,858	36%
4 (2023)	\$353,046	\$295,036	\$36	(\$199,631)	\$8,015	\$456,466	\$1,071,677	43%
5 (2024)	\$456,466	\$303,887	\$37	(\$205,574)	\$10,112	\$564,892	\$1,116,021	51%
6 (2025)	\$564,892	\$313,004	\$38	(\$718,366)	\$7,244	\$166,774	\$670,194	25%
7 (2026)	\$166,774	\$322,394	\$39	(\$92,241)	\$5,637	\$402,565	\$825,424	49%
8 (2027)	\$402,565	\$332,066	\$40	(\$152,164)	\$9,850	\$592,317	\$933,873	63%
9 (2028)	\$592,317	\$342,028	\$41	(\$401,975)	\$11,247	\$543,617	\$809,983	67%
10 (2029)	\$543,617	\$352,289	\$43	(\$262,991)	\$11,765	\$644,680	\$824,464	78%
11 (2030)	\$644,680	\$262,380	\$32	(\$183,207)	\$20,528	\$744,381	\$934,904	80%
12 (2031)	\$744,381	\$272,876	\$33	(\$115,124)	\$24,698	\$926,831	\$1,126,075	82%
13 (2032)	\$926,831	\$283,791	\$34	(\$202,979)	\$29,017	\$1,036,659	\$1,250,219	83%
14 (2033)	\$1,036,659	\$295,142	\$36	(\$161,323)	\$33,107	\$1,203,586	\$1,430,818	84%
15 (2034)	\$1,203,586	\$306,948	\$37	(\$264,997)	\$36,737	\$1,282,273	\$1,529,475	84%
16 (2035)	\$1,282,273	\$319,226	\$39	(\$648,020)	\$33,536	\$987,015	\$1,272,159	78%
17 (2036)	\$987,015	\$331,995	\$40	(\$150,323)	\$32,336	\$1,201,023	\$1,500,178	80%
18 (2037)	\$1,201,023	\$345,275	\$42	(\$302,224)	\$36,676	\$1,280,750	\$1,602,764	80%
19 (2038)	\$1,280,750	\$359,086	\$43	(\$574,073)	\$35,198	\$1,100,960	\$1,458,962	75%
20 (2039)	\$1,100,960	\$373,449	\$45	(\$329,472)	\$33,688	\$1,178,625	\$1,560,862	76%
21 (2040)	\$1,178,625	\$388,387	\$47	(\$319,955)	\$36,385	\$1,283,443	\$1,690,615	76%
22 (2041)	\$1,283,443	\$403,922	\$49	(\$282,598)	\$40,323	\$1,445,090	\$1,876,945	77%
23 (2042)	\$1,445,090	\$420,079	\$51	(\$465,848)	\$42,666	\$1,441,987	\$1,908,538	76%
24 (2043)	\$1,441,987	\$436,883	\$53	(\$276,358)	\$45,667	\$1,648,179	\$2,141,718	77%
25 (2044)	\$1,648,179	\$454,358	\$55	(\$382,096)	\$50,529	\$1,770,970	\$2,298,574	77%
26 (2045)	\$1,770,970	\$472,532	\$57	(\$508,460)	\$52,590	\$1,787,632	\$2,356,705	76%
27 (2046)	\$1,787,632	\$491,433	\$59	(\$245,394)	\$57,320	\$2,090,991	\$2,690,960	78%
28 (2047)	\$2,090,991	\$511,091	\$62	(\$299,805)	\$65,899	\$2,368,176	\$3,004,888	79%
29 (2048)	\$2,368,176	\$531,534	\$64	(\$889,578)	\$65,675	\$2,075,807	\$2,778,672	75%
30 (2049)	\$2,075,807	\$552,796	\$67	(\$471,209)	\$63,498	\$2,220,892	\$2,970,281	75%

Note: The long term nature of this study requires that certain assumptions and predictions be made about future events. Since there can be no guarantee that these future events will occur as assumed, this analysis must be viewed in light of the circumstances under which it was conducted. Reasonable effort has been made to ensure that the conclusions of this report are based on reliable information and sound reasoning.



## FULLY FUNDED BALANCE CALCULATIONS

### RCW 64.38.070 (j) states that a reserve study shall include:

“Projected reserve account balance for thirty years and a funding plan to pay for projected costs from those reserves without reliance on future unplanned special assessments”. Furthermore, RCW 64.38.070 (e) stipulates that a reserve study shall include “The percentage of the fully funded balance that the reserve account is funded”.

“Fully funded balance” means the current value of the deteriorated portion, not the total replacement value, of all the reserve components. The fully funded balance for each reserve component is calculated by multiplying the current replacement cost of that reserve component by its effective age, then dividing the result by that reserve component’s useful life.

The sum total of all reserve components’ fully funded balances is the association’s fully funded balance, as defined by RCW 64.38.010 (9).

$$FFB = \text{the sum of } \frac{\text{replacement cost} * \text{effective age}}{\text{useful life}} \text{ for all reserve components}$$

The **percent fully funded** relates to how much the building has deteriorated, or been used up, compared to the cost of making it new again. Another way of thinking of this is the percent fully funded illustrates how much you should have saved thus far to pay for the future replacement of a component, based on the replacement cost and how many years you have to save.

## Example of how it works: A Roof Replacement

SCENARIO	ANALYSIS
<p><b>If you have a roof that will last 10 years and cost \$100,000 to replace:</b></p> <ul style="list-style-type: none"> <li>To pay for the future replacement in 10 years, you should save \$10,000 each year to have enough money to cover the replacement cost.</li> <li>When it is 2 years old, it is 20% used up, and the Fully Funded Balance for its future replacement is \$20,000. If you have saved \$10,000 for the future replacement in 2 years, you are 50% fully funded. If you have saved \$20,000, you are 100% fully funded.</li> <li>When the roof is 8 years old it will be 80% deteriorated, and its Fully Funded Balance would be \$80,000. If you have saved only \$10,000 by Year 8 you are 13% fully funded. If you have saved \$20,000, you are at 25%, and at \$80,000 you are at 100% fully funded.</li> </ul>	<ol style="list-style-type: none"> <li>In effect, the percent fully funded is a measure of how well an association can withstand the risk of unexpected expenses. Such unexpected expenses include: emergency expenses not covered by insurance, expenses that are higher than predicted, and expenses that are required earlier than anticipated.</li> <li>A higher percent funded means more money is in the bank, and that lowers the risk of special assessment when unexpected expenses occur. A poorly funded association would have less money available for unexpected expenses, and a higher risk of a special assessment to generate the needed funds.</li> <li>By looking at cash flow demands we are able to determine how much money is needed to fund anticipated replacement and maintenance of the reserve components and recommend a steady contribution over the 30 year span of the study. Budgeting to maintain a minimum balance, or threshold, helps to ensure that a special assessment will not be required if an unexpected expense arises.</li> </ol>





We typically recommend that an association select a minimum reserve account balance (or Threshold) it wants to maintain and select a contribution rate to maintain that minimum rather than try to build their account to 100% fully funded.

We usually recommend that an association consider a threshold equal to the recommended annual reserve contribution because this is the average maintenance expense over the thirty years. However, each association must judge their unique risk tolerance.

The Fully Funded Balance for Carlyon Beach HOA is \$874,988. The actual current funding is \$131,798. The Association is approximately 15% funded.

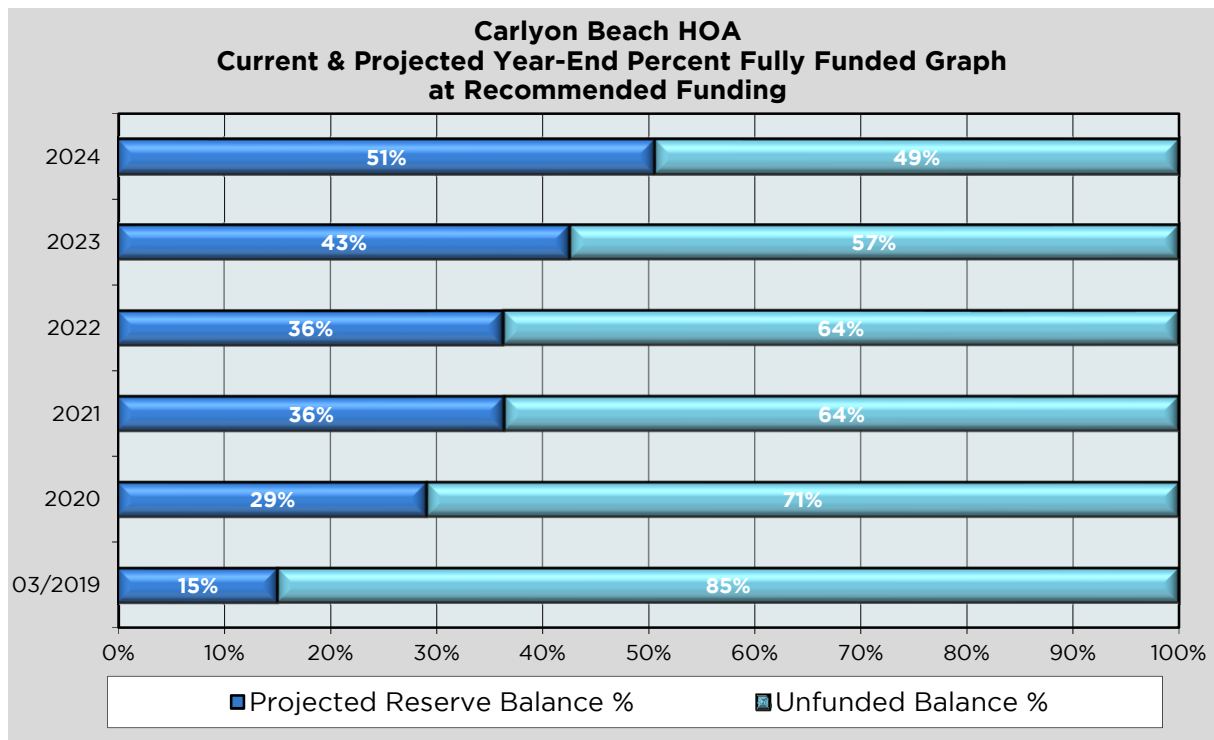
This means that based on a straight line savings for each reserve component, the Association saved 15% of the accumulated depreciation of the reserve components.

At 15%, Carlyon Beach HOA is considered to be at **high risk for a special assessment**.

% Funded	Special Assessment Risk Level
100% +	Nominal Risk
70% to 99%	Low Risk
25% to 69%	Moderate Risk
24% or less	High Risk

Below is a graph with the current and projected year-end percent fully funded calculated at the recommended starting annual reserve contribution of \$270,000.

**The year displayed on graphs and charts is the fiscal year end. For example, the fiscal year 2020/2021 is shown as 2021.**\*Note: We expect that the contribution to reserves can be adjusted in 2030 to \$170,000 in constant dollars and still cover the anticipated expenses for the duration of the study.





### Deficit or Surplus in Reserve Funding

RCW 64.90.550 §2(l) requires that the reserve study include the amount of any current deficit or surplus in reserve funding expressed on a dollars per unit basis. This is calculated by subtracting the association’s reserve account balance as of the date of the study from the fully funded balance, and then multiplying the result by the fraction or percentage of the common expenses of the association allocable to each unit.

Reserve Account Balance as of December 31, 2018	\$131,798
Current Fully Funded Balance	\$874,988
Reserve Fund (Deficit)	(\$743,190)
Number of Units	689
Average (Deficit) per Unit	(\$1,079)

### Unit Allocation

Qty	Lot Description	Allocated Interests	Total Allocated Interest	(Deficit) per Lot	(Deficit) per Lot Type
616	single lots	0.1415%	87%	(\$1,052)	(\$647,990)
35	combined lots	0.2123%	7%	(\$1,578)	(\$55,226)
38	slide lots	0.1415%	5%	(\$1,052)	(\$39,973)
<b>Column Totals</b>			<b>100%</b>	<b>(\$3,682)</b>	<b>(\$743,190)</b>

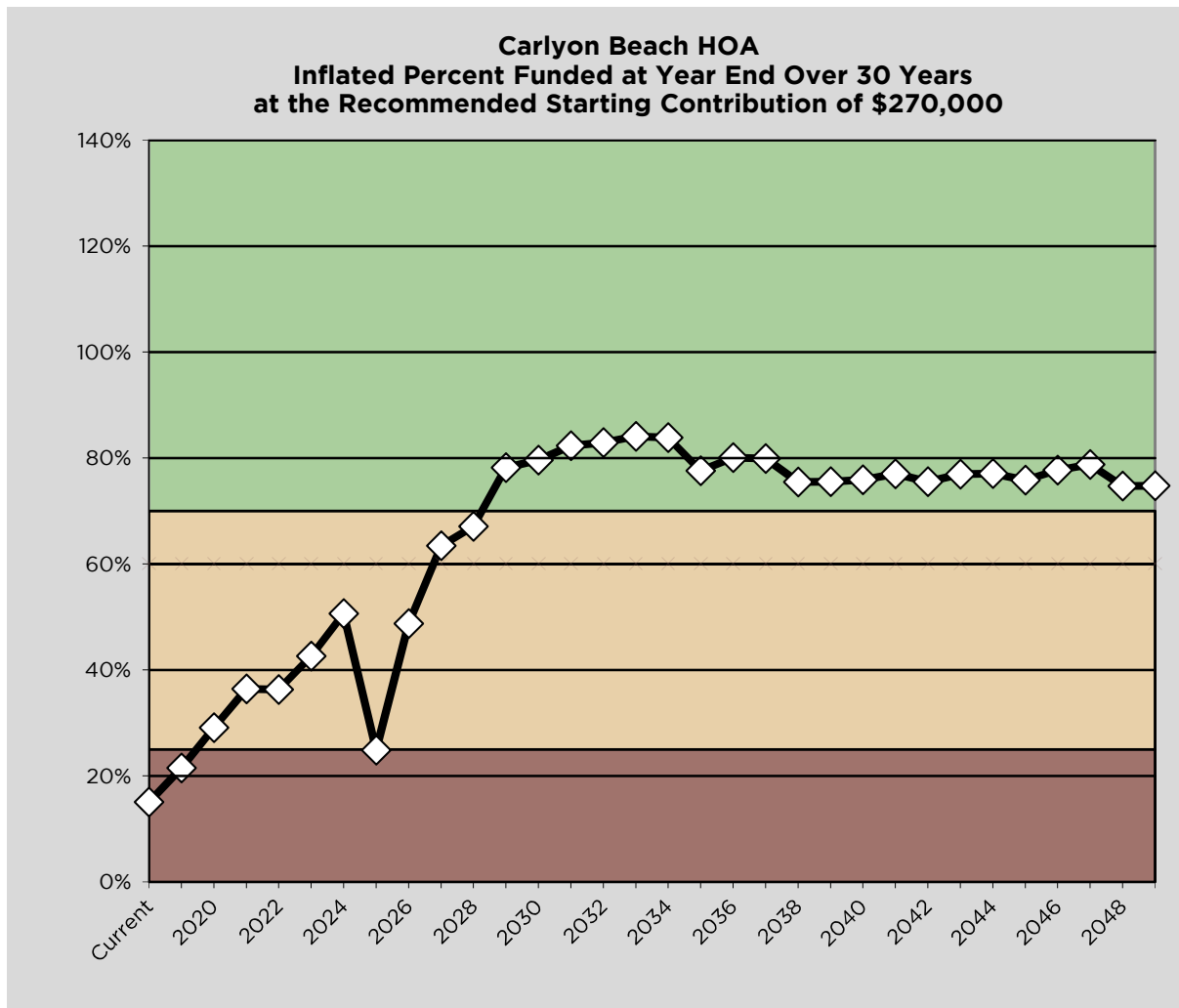




### Inflated Percent Funded at Year End Over 30 Years

The following chart illustrates the projected percent funded at year end over the next 30 years at the recommended starting contribution rate of \$270,000 (including the adjustment to the annual reserve contribution in 2030 to \$170,000 in constant dollars). The values include interest and inflation rate assumptions, planned and recommended special assessments, and the anticipated contribution adjustment in 2030.

The year displayed on graphs and charts is the fiscal year end. For example, the fiscal year 2020/2021 is shown as 2021.





**FULLY FUNDED BALANCE CALCULATION TABLE**



Fully Funded Balance Calculations

Carlyon Beach HOA

$$FFB = \text{the sum of } \frac{\text{replacement cost} * \text{effective age}}{\text{useful life}} \text{ for all reserve components}$$

Component Description	Quantity	Unit	Maintenance Cycle (Useful Life)	Remaining Useful Life	Effective Age	Current Replacement Cost	Fully Funded Balance
2.6.1 Asphalt Road - major repairs	575165	SF	1	1	-	\$75,000	\$0
2.6.2 Gravel Road - repair	3228	SY	5	3	2	\$35,120	\$14,048
2.7.1 Chain-link Fence - maintenance	2985	LF	5	6	-	\$9,740	\$0
2.9.1 Mooring Docks - repair	7800	SF	1	0	1	\$45,000	\$45,000
2.9.2 Log Boom - repair	1	LS	10	9	1	\$20,000	\$2,000
2.9.3 Marina Floats - repair	7800	SF	10	9	1	\$19,090	\$1,909
2.9.4 Marina Metal Pilings - replace	22	EA	50	50	-	\$59,840	\$0
2.9.5 Marina Main Walkway - replace	1120	SF	50	44	6	\$146,840	\$17,621
3.3.1 Bulkhead Retaining Walls - ph. 1 repair	860	LF	50	44	6	\$385,410	\$46,249
3.3.2 Bulkhead Retaining Walls - ph. 2 repair	765	LF	50	6	44	\$342,820	\$301,682
6.2.1 Clubhouse Exterior Surfaces - repair	4210	SF	7	2	5	\$2,980	\$2,129
7.4.1 Clubhouse Shingle Roof - replace	23	SQ	24	16	8	\$13,580	\$4,527
7.4.2 Rental House Shingle Roof - replace	18	SQ	24	10	14	\$10,530	\$6,143
7.4.3 Picnic Area "Wanagan" Roof - replace	11	SQ	30	14	16	\$6,520	\$3,477
7.4.4 Maintenance Bldg. Shingle Roof - replace	23	SQ	24	5	19	\$14,000	\$11,083
8.5.1 Clubhouse Windows - replace	860	SF	40	10	30	\$43,040	\$32,280
9.6.1 Clubhouse Carpet Flooring - replace	200	SY	10	6	4	\$9,060	\$3,624
9.6.2 Rental House Int. Finishes - contingency	1	LS	10	6	4	\$8,000	\$3,200
9.8.1 Clubhouse Exterior Surfaces - paint	4210	SF	7	2	5	\$10,720	\$7,657
9.8.2 Water Tower Exterior - paint	9650	SF	20	3	17	\$52,600	\$44,710
10.1.1 Carport - replace	1	LS	20	20	-	\$3,500	\$0
10.1.2 Playground Equipment - replace	1	LS	15	3	12	\$10,000	\$8,000
11.2.1 Bolens Mower - replace	1	EA	10	5	5	\$7,000	\$3,500
11.2.2 Backhoe - replace	1	EA	18	4	14	\$36,340	\$28,264
11.2.3 Hydroexcavator - replace	1	EA	18	6	12	\$28,460	\$18,973
11.2.4 Vehicles - contingency	4	EA	5	1	4	\$12,120	\$9,696
11.2.5 Main Pump Truck - replace	1	EA	10	9	1	\$165,000	\$16,500
11.2.6 Dump Trailer - replace	1	EA	20	6	14	\$9,440	\$6,608
11.2.7 Diesel Tank - replace	2	EA	15	4	11	\$9,940	\$7,289
11.2.8 Miscellaneous Equipment - contingency	1	EA	10	10	-	\$12,120	\$0
12.1.1 Clubhouse Interiors - update	1	LS	10	6	4	\$10,000	\$4,000
12.1.2 Clubhouse Office Equipment - replace	1	LS	5	5	-	\$5,000	\$0
12.1.3 Rental House Interiors - update	1	LS	10	6	4	\$8,000	\$3,200
12.1.4 Misc. Building repair - contingency	1	LS	10	10	-	\$5,000	\$0
15.1.1 Plumbing System - contingency	1	LS	3	2	1	\$10,000	\$3,333
15.1.2 Water Tower - maintenance	1	LS	5	5	-	\$10,000	\$0
15.1.3 Water System Computer 1 - contingency	1	EA	15	6	9	\$9,680	\$5,808
15.1.4 Well Pump 1 - maintenance	1	EA	12	3	9	\$14,540	\$10,905
15.1.5 Water System Computer 2 - contingency	1	EA	15	6	9	\$9,680	\$5,808
15.1.6 Well Pump 2 - maintenance	1	EA	12	1	11	\$14,540	\$13,328
15.1.7 Water Meters - installation	750	EA	1	1	-	\$11,090	\$0
15.1.8 Water Meters - maintenance	750	EA	5	9	-	\$11,090	\$0
15.1.9 Water System Telemetry - maintenance	1	EA	20	1	19	\$10,010	\$9,510
15.5.1 Clubhouse Septic Tanks - contingency	2	EA	30	6	24	\$14,780	\$11,824
15.5.2 Decanter Unit - contingency	2	EA	10	6	4	\$18,000	\$7,200
15.5.3 Aeration Manifold - contingency	2	EA	20	6	14	\$21,760	\$15,232
15.5.4 Aerobic System Controls - contingency	1	LS	20	2	18	\$20,000	\$18,000
15.5.5 Mixer Unit - contingency	2	EA	20	3	17	\$21,760	\$18,496
15.5.6 Air Compressor - maintenance	2	EA	10	5	5	\$9,210	\$4,605
15.5.7 UV Disinfection Controller - contingency	1	LS	20	18	2	\$40,000	\$4,000



Continued

Component Description	Quantity	Unit	Maintenance Cycle (Useful Life)	Remaining Useful Life	#REFI	Current Replacement Cost	Fully Funded Balance
15.5.8 Sewage Treatment Facility - contingency	1	LS	20	16	4	\$85,000	\$17,000
15.5.9 Expansion Sampler - contingency	2	EA	10	6	4	\$10,880	\$4,352
15.6.1 Treatment Plant Outfall - contingency	1	LS	15	5	10	\$10,000	\$6,667
15.6.2 Bioswale - maintenance	1	LS	25	16	9	\$78,000	\$28,080
15.6.3 Bioswale - inspection	1	LS	5	5	-	\$5,000	\$0
15.7.1 Bio-Filter Park - maintenance	1	LS	15	16	-	\$30,000	\$0
15.8.1 Fire Hydrant PSV - maintenance	1	LF	25	13	12	\$9,610	\$4,613
16.1.1 Electrical System - contingency	1	LS	5	5	-	\$10,000	\$0
16.3.1 Emergency Generator - maintenance	1	EA	10	1	9	\$24,220	\$21,798
16.3.2 Sewage Treatment Emergency Generator - contingency	1	EA	10	5	5	\$12,120	\$6,060
17.1.1 Security Lighting - replace	1	LS	10	5	5	\$10,000	\$5,000
18.1.1 Surveillance System - update	1	LS	10	10	-	\$20,000	\$0
20.1.1 Reserve Study updates - with site visit	1	LS	3	3	-	\$4,200	\$0
<b>FULLY FUNDED BALANCE</b>						<b>Total</b>	<b>\$874,988</b>

**CURRENT RESERVE BALANCE = \$131,798**  
**PERCENT FULLY FUNDED = 15%**

April 18, 2019

**ABBREVIATION KEY**

EA each	LF linear foot	SQ roofing square
BLDG building(s)	LS lump sum	SY square yard
FIXT fixture(s)	SF square feet	ZN zone



## SUPPLEMENTAL BUDGET INFORMATION (SBI)

RCW 64.38.025 states that within thirty days after adoption of any proposed budget for the association, the board of directors shall provide a summary of the budget to all the unit owners and shall set a date for a meeting of the unit owners to consider ratification of the budget not less than fourteen nor more than sixty days after mailing of the summary. As part of the summary of the budget to all owners, the board of directors shall disclose the supplemental budget information as outlined in RCW 64.38.025 §4, which we refer to as the Supplemental Budget Information (SBI). Below is a sample of the SBI we will compile when the association is ready to provide a summary of the budget to the unit owners. Please contact RCL one week before the Association plans on sending the budget summary to unit owners and we will issue a completed SBI at no additional charge within one year of issuing the draft of the reserve study report.

### Supplemental Budget Information on Reserves for Sample Association

In Compliance with RCW 64.34.308 & RCW 64.38.025  
April 4, 2018

Funding Information	
\$19,000	Proposed annual contribution to reserves for the fiscal year ending in 2019 per the budget.
\$80,000	Projected fiscal year end 2018 reserve balance per the budget.
\$17,800	Budgeted annual contribution to reserves for the current fiscal year ending in 2018.

Information from the Most Recent Reserve Study	
65%	Percent fully funded as of the date of the most recent reserve study.
\$19,700	Recommended annual contribution to reserves for the fiscal year ending in 2019.
Threshold	Type of funding plan used for recommended annual funding per the most recent reserve study.
\$90,563	Projected fiscal year end 2018 reserve balance per the most recent reserve study.
Yes	Based upon the most recent reserve study, will the Association have funds to meet obligations for the next 30 years at the <b>current contribution rate</b> ?

\* We assume the current contribution rate will be adjusted annually for inflation. Not doing so may cause a failure to meet obligations

### Anticipated Reserve Funding Shortfalls Over the Next 30 Years

\$17,800 Current Fiscal Year Reserve Contribution			\$19,000 Proposed Annual Reserve Contribution		
Fiscal Year End	Projected Funding Shortfall	Average Shortfall Per Unit Per Year	Fiscal Year End	Projected Funding Shortfall	Average Shortfall Per Unit Per Year
	None			None	

### Proposed Additional Regular or Special Assessment for Fiscal Year End 2019

No	Is additional funding (Regular or Special Assessment) planned in the proposed budget?	
N/A	Amount of additional Regular or Special Assessment.	The purpose for the additional funding:
N/A	Average amount per unit per year.	N/A
N/A	Average amount per unit per month.	
N/A	Date assessment is due.	

### Comparison of Fiscal Year End Projections for Next Five Years

\$17,800 Current Reserve Contribution			\$19,700 Recommended Reserve Contribution			\$19,000 Proposed Reserve Contribution		
Fiscal Year End	Reserve Account Balance	Percent Fully Funded	Fiscal Year End	Reserve Account Balance	Percent Fully Funded	Fiscal Year End	Reserve Account Balance	Percent Fully Funded
2019	\$91,070	72%	2019	\$92,970	73%	2019	\$92,270	73%
2020	\$102,582	73%	2020	\$106,458	75%	2020	\$105,030	74%
2021	\$116,924	74%	2021	\$122,854	78%	2021	\$120,669	76%
2022	\$123,895	74%	2022	\$131,961	79%	2022	\$128,990	77%
2023	\$128,184	73%	2023	\$138,469	79%	2023	\$134,680	77%

Contributions and expenses are both inflated for the 5 Year Projection calculations

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RCW 64.90.525 §2 of the WUCIOA requires that the budget disclosure include:

- (d) The current amount of regular assessments budgeted for contribution to the reserve account;
- (e) A statement of whether the association has a reserve study that meets the requirements of RCW 64.90.550 of this act and, if so, the extent to which the budget meets or deviates from the recommendations of that reserve study; and
- (f) The current deficiency or surplus in reserve funding expressed on a per unit basis

Below is a sample of the SBI we will compile when the association is ready to provide a summary of the budget to the unit owners. Please contact RCL one week before the Association plans on sending the budget summary to unit owners and we will issue a completed WUCIOA SBI at no additional charge within one year of issuing the draft of the reserve study report.

### Supplemental Budget Information on Reserves for Sample Association

In Compliance with RCW 64.90.525 (Washington Uniform Common Interest Owners Act - WUCIOA) Sections 2(d) through 2(f)  
September 18, 2018

#### Funding Information

✓	Sample Association does have a current reserve study that complies with RCW 64.90.550 (WUCIOA).
✓	Sample Association does have a reserve study that complies with RCW 64.34.382 (Condominium Act).
\$17,800	The current regular reserve assessments budgeted for annual contribution to the reserve account.
\$19,700	The Recommended annual contribution to reserves for the fiscal year ending in 2019.
\$19,500	The Proposed annual contribution to reserves for the fiscal year ending in 2019 per the budget.
✗	<b>The proposed budget does not meet or exceed the reserve study recommendations.</b>
(\$200)	Difference between the Proposed and Recommended annual contribution to reserves.

#### Current (Deficiency) In Reserve Funds Compared to the Fully Funded Balance on a per Unit Basis

\$102,000	The projected fiscal year end 2018 reserve balance per the budget.
\$117,106	The projected fiscal year end 2018 Fully Funded Balance per the reserve study.
(\$15,106)	The total (deficiency) in reserves, compared to the Fully Funded Balance.

Unit Number	Allocated Interest	(Deficiency) per Unit	Unit Number	Allocated Interest	(Deficiency) per Unit	Unit Number	Allocated Interest	(Deficiency) per Unit
101	6.00%	(\$906.35)	201	6.00%	(\$906.35)	301	6.00%	(\$906.35)
102	7.00%	(\$1,057.40)	202	7.00%	(\$1,057.40)	302	7.00%	(\$1,057.40)
103	9.00%	(\$1,359.52)	203	9.00%	(\$1,359.52)	303	9.00%	(\$1,359.52)
104	11.30%	(\$1,706.95)	204	11.30%	(\$1,706.95)	304	11.40%	(\$1,722.06)
<b>Column Total</b>	<b>33.30%</b>	<b>(\$5,030.22)</b>	<b>Column Total</b>	<b>33.30%</b>	<b>(\$5,030.22)</b>	<b>Column Total</b>	<b>33.40%</b>	<b>(\$5,045.33)</b>



## DISCLOSURES

1. Reserve Consultants LLC also provides construction inspection services for condominiums and does design and construction oversight for major repair projects, including roofing, decks and building envelope replacement.
2. No shareholder or employee of Reserve Consultants LLC has any interest in, or obligation to, any construction company, management company, or development entity that creates condominiums.
3. Reserve Consultants LLC has been a member of the Community Associations Institute since about 1993, and has worked with a variety of management companies, associations and other types of clients in Washington State.
4. This report and analysis is based upon observations of the visible and apparent condition of the building and its major components on the date of the inspection. Although care has been taken in the performance of this inspection, Reserve Consultants LLC (and/or its representatives) make no representations regarding latent or concealed defects which may exist and no warranty or guarantee is expressed or implied. This report is made only in the best exercise of our ability and judgment. Conclusions in this report are based on estimates of the age and normal working life of various items of equipment and appliances. Predictions of life expectancy and the balance of useful life are necessarily based on industry and/or statistical comparisons. It is essential to understand that actual conditions can alter the useful life of any item. The previous use or misuse, irregularity of servicing, faulty manufacture, unfavorable conditions, acts of god, and unforeseen circumstances make it impossible to state precisely when each item would require replacement. The client herein should be aware that certain components within the above referenced property may function consistent with their purpose at the time of inspection, but due to their nature, are subject to deterioration without notice.
5. Unless otherwise noted, all reserve components are assumed to meet the building code requirements in force at the time of construction. Any on-site inspection should not be considered a project audit or quality inspection.
6. Conclusions reached in this report assume responsible ownership and competent management of the property. Information provided by others is believed to be reliable. Information provided by others was not audited; we assume no responsibility for accuracy thereof.
7. The reserve study is a reflection of information provided to the consultant and assembled for the association's use, not for the purpose of performing an audit, quality/forensic analyses or background checks of historical record.





## APPENDIX - GLOSSARY OF TERMS

**Allocated Interests** - the following interests allocated to each unit: (a) In a condominium, the undivided interest in the common elements, the common expense liability, and votes in the association; (b) In a cooperative, the common expense liability, the ownership interest, and votes in the association; and (c) In a plat community and miscellaneous community, the common expense liability and the votes in the association, and also the undivided interest in the common elements if owned in common by the unit owners rather than an association. RCW 64.90.010 §2.

**Assessment** - all sums chargeable by the association against a unit, including any assessments levied pursuant to RCW 64.90.480, fines or fees levied or imposed by the association pursuant to this chapter or the governing documents, interest and late charges on any delinquent account, and all costs of collection incurred by the association in connection with the collection of a delinquent owner's account, including reasonable attorneys' fees. RCW 64.90.010 §3.

**Association or Unit Owners Association** - the unit owners association organized under RCW 64.90.400 of WUCIOA and, to the extent necessary to construe sections of this chapter made applicable to common interest communities pursuant to RCW 64.90.085, 64.90.095, or 64.90.100 of WUCIOA, the association organized or created to administer such common interest communities. RCW §64.90.010 §4)

**Baseline Funding Plan** - A reserve contribution rate that is constant, increasing with inflation, to provide funds for all anticipated reserve expenses so that no special assessments are required for 30 years, but with no excess funds some years.

**Board** - the body, regardless of name, designated in the declaration, map, or organizational documents, with primary authority to manage the affairs of the association. RCW §64.90.010 §6.

**Building Codes** - Nationally recognized standards used to gauge the acceptability of a particular material or building procedure. Typically, if something is built to "code," it is acceptable to all concerned. Some often used codes are International Building Code (IBC) (applicable to most multifamily housing), International Residential Code (IRC) (applicable to one and two family structures),

Washington Energy Code, National Electric Code (NEC), Uniform Plumbing Code (UPC), and the National Fire Protection Association Standards (NFPA). These are usually amended slightly by each city or county.

**Building Component** - see "Reserve Component".

**Component Number** - A number assigned to each building component that allows grouping of like components. The numbers are based roughly on the Construction Specification Institute system.

**Common Elements** - (a) In a condominium or cooperative, all portions of the common interest community other than the units; (b) In a plat community or miscellaneous community, any real estate other than a unit within a plat community or miscellaneous community that is owned or leased either by the association or in common by the unit owners rather than an association; and (c) In all common interest communities, any other interests in real estate for the benefit of any unit owners that are subject to the declaration. RCW §64.90.010 §7.

**Common Expense** - any expense of the association, including allocations to reserves, allocated to all of the unit owners in accordance with common expense liability. RCW §64.90.010 §8.

**Common Expense Liability** - the liability for common expenses allocated to each unit pursuant to RCW 64.90.040 of RCW. RCW §64.90.010 §9.

**Common Interest Community** - real estate described in a declaration with respect to which a person, by virtue of the person's ownership of a unit, is obligated to pay for a share of real estate taxes, insurance premiums, maintenance, or improvement of, or services or other expenses related to, common elements, other units, or other real estate described in the declaration. "Common interest community" does not include an arrangement described in RCW 64.90.110 or RCW 64.90.115. A common interest community may be a part of another common interest community. RCW §64.90.010 §10.

**Contribution Rate** - in a Reserve Study as described in RCW 64.38, the amount contributed to the reserve account so that the association will have cash reserves to pay major maintenance, repair, or replacement





costs without the need of a special assessment. RCW 64.38.010 (6)

**Constant Dollars** - costs and contributions are provided in today's dollars, no matter how far in the future they occur. Inflation and interest are not factored in.

**Effective Age** - the difference between the useful life and the remaining useful life. RCW 64.38.010 §7 & RCW §64.90.010 §21.

**Full Funding Plan** - a reserve funding goal of achieving one hundred percent fully funded reserves by the end of the thirty-year study period described under RCW64.90.550 of WUCIOA, in which the reserve account balance equals the sum of the estimated costs required to maintain, repair, or replace the deteriorated portions of all reserve components. RCW §64.90.010 §25.

**Fully Funded Balance** - the current value of the deteriorated portion, not the total replacement value, of all the reserve components. The fully funded balance for each reserve component is calculated by multiplying the current replacement cost of that reserve component by its effective age, then dividing the result by that reserve component's useful life. The sum total of all reserve components' fully funded balances is the association's fully funded balance. RCW 64.38.010 §9 & RCW §64.90.010 §26.

**Inflated Dollars** - as opposed to constant dollars, inflated dollars recognize that costs in the future will probably be higher than today because each dollar will buy fewer goods and services. A rate of inflation must be assumed and applied to all future costs. Also referred to as future cost.

**Inflation Multiplier** - 100% plus the assumed rate of inflation. Thus, for an assumed yearly inflation rate of 5%, the "multiplier" would be 105% or 1.05 if expressed as a decimal number rather than as a percentage. Each successive year the previous year's "multiplier" is multiplied by this number to arrive at the next year's "multiplier."

**Interest Rate Multiplier** - The assumed rate of interest earned on the average annual reserve bank account balance. Thus, 4% interest would be 0.04 expressed as a decimal number. A rate of interest earned must be assumed for all future years. Typically this is lower than the rate of inflation.

**Limited Common Element** - a portion of the common elements allocated by the declaration or by operation of RCW 64.90.210 §1(b) or §2

for the exclusive use of one or more, but fewer than all, of the unit owners. RCW §64.90.010 §30.

Unit owners may be responsible for the cost to repair and maintain limited common elements, so those costs may not appear in a Reserve Study.

**Maintenance Cycle** - the frequency of maintenance on a component to reach or extend its Useful Life. Often shorter than the full "Useful Life" for repairs that occur in lieu of complete replacement.

**Next Repair** - the next time the "Repair Cycle" starts with work on a component.

**Nominal Reserve Costs** - the current estimated total replacement costs of the reserve components are less than fifty percent of the annual budgeted expense of the association, excluding contributions to the reserve funds, for a condominium or cooperative containing horizontal unit boundaries and less than seventy five percent of the annual budgeted expenses of the association, excluding contributions to the reserve fund for all other common interest communities. RCW §64.90.010 §34.

**Percent Fully Funded** - The percentage of the "Fully Funded Balance" which the current condominium Reserve Account actually has in it.

**RCW** - the Revised Code of Washington. RCW 64.38 is the **Washington Homeowners' Act**, the statute that governs homeowners' associations formed prior to June 30, 2018.

RCW 64.90 is the Uniform Common Interest Ownership Act (**WUCIOA**) and governs common interest properties formed after July 1, 2018 and requires all common interest properties in Washington State to comply with RCW 64.90.525.

**Remaining useful life** - the estimated time, in years, that a reserve component can be expected to continue to serve its intended function. RCW 64.38.010 §14.

Or the estimated time before a reserve component will require major maintenance, repair or replacement to perform its intended function. RCW §64.90.010 §44.

**Replacement Cost** - the current cost of replacing, repairing, or restoring a reserve component to its original functional condition. RCW 64.38.010 §15.



Or the estimated total cost to maintain, repair, or replace a reserve component to its original functional condition. RCW §64.90.010 §45.

**Reserve Account** - Money set aside for future repair and replacement projects. For condominiums, the RCW requires a separate Reserve Account be maintained to hold reserves to fund repair or replacement of Reserve Components.

**Reserve Component** - common elements whose cost of maintenance, repair, or replacement is infrequent, significant, and impractical to include in an annual budget. RCW 64.38.010 §16.

Or a physical component of the common interest community which the association is obligated to maintain, repair, or replace, which has an estimated useful life of less than thirty years, and for which the cost of such maintenance, repair or replacement is infrequent, significant, and impractical to include in an annual budget. RCW §64.90.010 §46.

**Reserve Contribution Rate** - The amount of money saved to fund replacement costs for maintenance and repairs of common elements. See "Contribution Rate". Current contributions and Recommended contributions may be different.

**Reserve Specialist** - A designation for those professionals who have met the standards established by Community Associations Institute ([www.caionline.org](http://www.caionline.org)) for Reserve Study providers.

**Reserve Study** - A physical assessment of a building and a subsequent report which estimates the anticipated major maintenance, repair, and replacement costs, whose infrequent and significant nature make them impractical to be included in an annual budget, which will need to be repaired or replaced over the next 30 years. It provides estimates of these replacement costs and details expected annual expenditures. It is used to calculate the Reserve Contribution Rate required to maintain a facility in good condition both functionally and cosmetically. The Washington Condominium Act sets out requirements for annual reserve studies.

**Reserve Study Professional** means an independent person suitably qualified by knowledge, skill, experience, training, or education to prepare a reserve study in accordance with RCW 64.38, RCW 64.38.010 §17, RCW 64.90.545 and RCW 64.90.550. For

the purposes of WUCIOA, "independent" means a person who is not an employee, officer, or director, and has no pecuniary interest in the declarant, association, or any other party for whom the reserve study is prepared. RCW §64.90.010 §47.

**Special Assessment** - A levy against all unit owners that is necessary when a needed repair/replacement/upgrade has not been planned for, and for which insufficient money has been saved.

**Threshold Funding (contribution rate)** - A Reserve Contribution Rate that is constant, increasing with inflation, to provide funds for all anticipated Reserve Expenses for the life of the study, but leaving a minimum level of Reserves (the "threshold") at all times. Our default minimum threshold is one year's contribution.

**Typ.** - Abbreviation for 'typical'; used on photographs and in text to refer to a problem that is shown or described once, but applies to many locations.

**Typical Life** - An average expected life for an average building component. As in any statistical average, there is a range of years over which each individual item might fall. This is the same as "Useful life".

**Useful life** means the estimated time, in years, that a reserve component can be expected to serve its intended function. RCW 64.38.010 §20 or the estimated time during which a reserve component is expected to perform its intended function without major maintenance, repair or replacement. RCW §64.90.010 §59.

**Year End Reserve Balance or Reserve Fund Balance** - What is projected to be left in the reserve account after the expected yearly expenses and contributions are added to the prior year's carryover balance. Assumes that the reserve contributions and expenses occur as predicted.

**Yearly Expenses** - The total labor and material costs associated with all of the repairs/maintenance that are scheduled in that particular year.

**30 Year Spreadsheet** - A summary listing each building component and its yearly cost to maintain/repair over the next 30 years. It also lists the annual reserve fund balance, reserve contributions, reserve expenses and bank interest earned on any reserve fund balance.



## APPENDIX - EVALUATORS' CREDENTIALS

### Denise Dana

#### **Principal**

Reserve Consultants LLC

B.S. Education,  
M. Architecture

Washington Registered  
Architect, #8702

LEED Accredited Professional

Reserve Specialist, #291

Denise Dana first obtained licensure as an Architect and became a LEED accredited professional in 2003. She is currently a licensed Architect in the State of Washington and is certified by the National Council of Architectural Registration Boards. With over fifteen years of experience in architecture, her resume includes a variety of project types ranging from residential to corporate. She has worked through all phases of construction including design development, construction documentation and construction administration with project budgets varying from a few thousand dollars to over sixty million dollars. Denise has been conducting reserve studies since joining Reserve Consultants in 2008; in 2011 she was recognized as a "Reserve Specialist" by the Community Associations Institute.

### Mahria Sooter

#### **Associate**

Reserve Consultants LLC

B.A. Springfield College, MA

Mahria joined Reserve Consultants in 2016. Mahria holds a Bachelor of Science degree from Springfield College, MA. She has over 20 years of experience with marketing and various aspects of integrated communication in the construction industry. Mahria excels at listening to clients' goals and providing attainable solutions to their needs. Her attention to detail lends well to providing clear and concise recommendations that clients can utilize to make informed decisions.