



# CAPE GEORGE COLONY CLUB WATER FACILITIES RESERVES

Port Townsend, Washington



## **STANDARD**

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

*With funding recommendations for the fiscal year ending 2018*

Issued August, 2017

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## EXECUTIVE SUMMARY

Cape George Colony Club, the Association, includes a 520-member small municipality water system located at Cape George Drive in Port Townsend, Washington. The Association was established in the mid-1960's. This Reserve Study meets the requirements of the Washington Homeowners' Association Act for a Level 2 Reserve Study update with a site visit, and was prepared by a Reserve Study Professional.

### Background

Cape George Colony Club owns and maintains its private water system as well as its roads, marina, numerous buildings, swimming pool and other improvements on common property. The roads, marina and other common assets/facilities are addressed in separate reserve funds distinct from the water facilities. The water system includes wells, pumps and an emergency generator, filter and treatment system, storage tanks and 9 miles of distribution system.

### Financial Information

Reserve Account Balance on <b>April 30, 2017</b>	\$474,345
Annual Operating Budget	\$188,120
Association Defined Component Inclusion Threshold	\$ 3,000
Annual Budgeted Contribution Rate (2017)	\$46,687
Remaining Contribution for the Year	\$86,500
Planned or Implemented Special Assessment	None
Fully Funded Balance	\$1,764,154
Percent Funded at Time of Study	27%
Funding Status at Time of Study	Adequately Funded

### Recommendations

<b>Recommended 2018 Contribution</b>	<b>\$115,000</b>
Recommended Contribution per Month	\$9,583
Average Contribution per Unit per Year	\$ 221
Average Contribution per Unit Per Month	\$ 18
Recommended Special Assessment	None
2018 Baseline Funding Plan Contribution Rate	\$108,200
2018 Full Funding Plan Contribution Rate	\$131,300

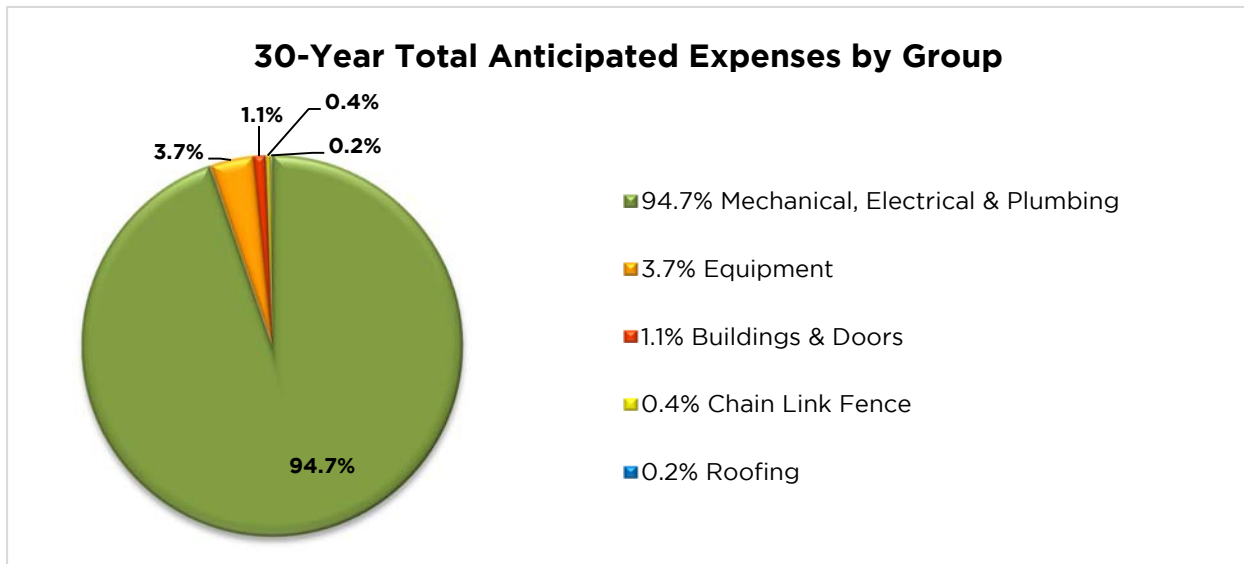
The recommended reserve contribution represents a Threshold Funding Plan to prevent special assessments over the course of the 30-year study **while maintaining a minimum reserve account balance of one year's contribution to reserves** and the percent funded between 29% and 71%. The fiscal year for the Reserve Study is a calendar year. 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 to know the 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.

## Estimated Major Repair or Replacement Summary

### Projected Major Repair or Replacement Expenses Over the Next 30 Years

The following illustrates anticipated major repair or replacement expenses over the next 30 years. Changing the timing or costs of these items may result in changes to the recommended contribution. Independent design specifications and oversight are suggested for repairs to the building envelope. We further recommend that the planning stages for these repairs start at least one year before the estimated repair to obtain a scope of repair, select and schedule a contractor, and secure financing for the project.



The following chart illustrates which groups the component numbers are assigned to:

Number	Component Description	Group Name
2.0.0	Chain Link Fence	Chain Link Fence
3.0.0	Walkways	Walkways
5.0.0	Railing	Railing
6.0.0	Buildings	Decks & Siding
7.0.0	Roofing	Roofing
8.0.0	Doors	Buildings & Doors
9.0.0	Exterior & Interior Finishes	Exterior & Interior Finishes
10.0.0	Miscellaneous	Roof Vents, Signage & Mailboxes
11.0.0	Equipment	Equipment
12.0.0	Furnishings	Exterior & Interior Finishes
13.0.0	Pool Systems	Pool/Spa Systems
14.0.0	Elevator Equipment	Elevator Maintenance
15.0.0	Plumbing & Mechanical Systems	Mechanical, Electrical & Plumbing
16.0.0	Electrical Systems	Mechanical, Electrical & Plumbing
18.0.0	Security Systems	Mechanical, Electrical & Plumbing
20.0.0	Reserve Studies	Reserve Studies



**Five Year Major Repair or Replacement Summary from 2018 Through 2022**

The following reserve funded expenses are expected to occur in the next five years at Cape George Colony Club.

Year	Component Major Repair or Replacement	Estimated Cost
2 (2019)	6.2.1 Building Major Repair - Contingency	\$6,000
3 (2020)	11.1.1 John Deere 990 Tractor - Replace	\$7,900
3 (2020)	11.1.2 John Deere 990 Bucket - Replace	\$1,050
3 (2020)	11.1.3 John Deere 990, 8B Backhoe - Replace	\$1,310
3 (2020)	15.1.5 Booster Pumps - Replace	\$8,510
4 (2021)	15.1.1 Water Filter System Media - Replace	\$13,690
5 (2022)	7.4.1 Maint. Comp. Shingle Roof - Replace	\$3,250



**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 to be necessary within the next thirty years. A Reserve Study is intended to project 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 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.

A Reserve Study also calculates a “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:

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

When assessed with the current reserve fund balance, the Fully Funded Balance yields a Percent Fully Funded. This acts as a measuring tool to assess an association’s ability to absorb unplanned expenses. 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 reserve contribution funding plans.



### **Three levels of Reserve Studies:**

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.

At least every three years, an updated Reserve Study must be prepared and 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.

Every year, the Association must update the Reserve Study. Except as noted above, the annual updates do not require a site visit. This is also known as a **Level 3** update without a site visit.

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

### **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). The required content is:

- (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;



- (a) 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
- (b) 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.





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

This Reserve Study is not a report on the condition of the assets maintained by the Association, or a detailed report of repairs necessary 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.

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 repair and repair by the Association. 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 the Association 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 major 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 homeowners.



## 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 problems.

Many 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.

The costs estimated for this Reserve Study are based on several sources

- Costs experienced by Cape George Colony Club;
- Costs experienced by other associations in the area;
- RS Means Building Construction Cost Data 2017.

Several 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. Condominium associations typically experience higher costs than other comparable multifamily projects, in part due to the difficulty contractors have obtaining insurance to work on condominium buildings.



**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 4.20%. 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 1986 is 3.63%. 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.

Below is a chart of values applied for inflation and interest over the next 30 years for Cape George Colony Club.

**Inflation and Interest Rate Projections**

Years Applied	Contribution Inflation	Inflation	Interest
Year 0 (2017) through Year 1 (2018)	0%	2%	1%
Year 2 (2019) through Year 10 (2027)	3%	3%	2%
Year 11 (2028) through Year 30 (2047)	4%	4%	3%



**Starting Reserve Fund Balance for Year 1 (2018)**

The starting reserve fund balance for 2018 has been estimated by combining the following figures that were provided by an association representative:

<b>\$474,345</b>	reserve fund balance as of April 30, 2017
<b>-\$7,000</b>	anticipated remaining major repair expenses in 2017
<b>+\$ 0</b>	planned special assessment in 2017
<b>+\$86,500*</b>	minimum anticipated reserve contribution for 2017
<b>+\$5,141</b>	<u>projected interest on the 2017 reserve fund balance</u>
<b>\$558,986</b>	estimated balance for the fiscal year beginning in 2018

\*Note: The minimum anticipated reserve contribution includes:

- \$900 from the sales proceeds of the old 1-Ton Truck
- \$39,000 from the anticipated year-end excess cash transfer
- \$46,600 from the year-end reserve assessment allocation

Below is a summary of the anticipated remaining maintenance expenses for 2017.

<b>Component Major Repair or Replacement</b>	<b>Estimated Cost</b>
11.1.5 Ford Ranger XLT 1/2 Ton - Replace	\$7,000
<b>Total Estimated Costs for 2017:</b>	<b>\$7,000</b>

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



## **ASSOCIATION OVERVIEW**

Cape George Colony Club, the Association, includes a 520-member user small municipality water system located in Port Townsend, Washington. The Association was established in the mid-1960s. The Association owns and maintains its private water system as well as its roads, marina, numerous buildings, swimming pool and other improvements on common property. The roads, marina and other common assets/facilities are addressed in separate reserve funds distinct from the water facilities. The water system includes wells, pumps and an emergency generator, filter and treatment system, storage tanks and 9 miles of distribution system.

The Water Facilities Reserves shares several major repair or replacement expenses 50%/50% with the General Reserves. These include the Maintenance Building, the John Deer 990 Tractor and accessories, the stakebed truck and the ½ Ton truck.

The Association currently has over 9 miles of underground pipes that deliver water. These pipes include 4", 6" and 8" asbestos cement (AC) pipes that were installed in the early 1960's. There are also another 2 miles of 6", 8" and 12" PVC pipes that were installed between 1984 and 2005. Recent segment samples have indicated the at the Association's AC pipes are in good condition for 50 year old pipes. Estimations were provided by the Association's Water Committee based on actual installation plans, drawings and the 2013 Water System Plan submitted to the State of Washington as required by a small municipal water provider. The most recent update of the water system plan was approved by the State Dept. of Health in early 2014 for a maximum of 665 equivalent users. The plan will not need to be reviewed or updated again until 2020.

## **REVIEW OF GENERAL CONDITIONS**

Much of the water system is not available for visual inspection. Reserve Consultants worked with the Association to gather information on current and future anticipated funding needs in compiling the report. We understand that the water system meets all regulatory standards and is regularly monitored and maintained.



## COMPONENTS INCLUDED IN THE RESERVE STUDY

### A note from the Cape George Colony Club Association:

RCW 64.383.70 requires “inclusion of a 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.” One percent of the Cape George Colony Club’s, or the Association’s, budget would be \$5,660. The Association has elected to include any reserve component that would cost more than \$3,000. If the law required inclusion of one percent of the water system’s department budget, the inclusion threshold would be \$1,881.

### Component Funding Excluded from the Reserve Study

The following components may qualify for inclusion within the Reserve Study, but have been excluded from the budget because they are maintained with funds from the operating budget:

- 5 HP Booster Pump Motors - Replace
- Maint. Interior Surfaces - Paint
- Maint. Doors & Hardware - Contingency
- Maintenance Shop Gutters - Replace
- Well House Siding & Trim - Repair & Paint
- Water Chemical System - Contingency
- 7.5 HP Booster Pump Motor - Replace
- Maint. Siding & Trim - Repair & Paint
- Maintenance Refrigerator - Replace
- Well House Roof - Replace
- Well House Plywood Doors - Replace

The following components fall outside the 30 year span of the study are not included in the budget, but should be included in future years:

- Water System Delivery Pipes - Replace Phase 4
- Well #8 - Replace

### Adjustments to Component Reserve Recommendations

This reserve study provides updated information on the components from prior reserve studies and is intended to be used with the component sheets from those studies. All cost estimates were adjusted to reflect the actual inflation rate for construction work in the Pacific Northwest, and costs actually experienced by Cape George Colony Club 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 2016 to 2017 inflation figure of 1.25% for construction work.



**RESERVE COMPONENT SUMMARY SHEETS**

**2.6.1 Chain Link Fence - Replace**

<b>Repair Cycle:</b>	25 years	<b>Next Major Repair:</b>	Year	17 (2034)
<b>Quantity:</b>	546 Linear Feet	<b>Unit Cost:</b>	\$22.00	/ LF
<b>Estimate:</b>	546 LF X 100% X \$22.00/LF = \$12,012 + tax = \$13,090			
<b>Notes:</b>	This component budgets funds to replace six foot high chain link fencing and four gates. The fencing was installed in approximately 2009. The fencing and gates were in working order at the time of our site visit.			

**6.2.1 Building Major Repair - Contingency**

<b>Repair Cycle:</b>	7 years	<b>Next Major Repair:</b>	Year	2 (2019)
<b>Quantity:</b>	1 Lump Sum	<b>Unit Cost:</b>	\$6,000.00	/ LS
<b>Estimate:</b>	\$6,000			
<b>Notes:</b>	The Association requested that we include a contingency to perform major repairs to the commonly maintained water buildings on a 7 year cycle.			

**7.4.1 Maint. Comp. Shingle Roof - Replace**

<b>Repair Cycle:</b>	20 years	<b>Next Major Repair:</b>	Year	5 (2022)
<b>Quantity:</b>	21 Roofing Squares	<b>Unit Cost:</b>	\$284.00	/ SQ
<b>Estimate:</b>	21 SQ X 50% X \$284.00/SQ = \$2,982 + tax = \$3,250			
<b>Notes:</b>	The roofing at the Maintenance building was installed in 2002. This asset is shared between the water and general ops fund at 50% each. The roof was reported to be in good condition. The cost used on this component includes the removal and disposal of the existing material, and replacement with a similar asphalt composition shingle material. We have updated the replacement cycle to 20 years and reset the next replacement accordingly.			

**8.3.1 Maintenance Roll Up Door - Replace**

<b>Repair Cycle:</b>	24 years	<b>Next Major Repair:</b>	Year	8 (2025)
<b>Quantity:</b>	2 Lump Sum	<b>Unit Cost:</b>	\$3,010.00	/ LS
<b>Estimate:</b>	\$3,010			
<b>Notes:</b>	We have allocated 50% of this asset to general ops and water. There is one 12' x 10' door and one 10' x 10' door budgeted for replacement. They were installed in 2001. We have updated the repair cycle to reflect the next anticipated replacement date of 2024.			

**8.3.2 Well House Metal Doors - Replace**

<b>Repair Cycle:</b>	25 years	<b>Next Major Repair:</b>	Year	8 (2025)
<b>Quantity:</b>	5 Each	<b>Unit Cost:</b>	\$607.34	/ EA
<b>Estimate:</b>	5 EA X 100% X \$607.34/EA = \$3,037 + tax = \$3,310			
<b>Notes:</b>	This component budgets for the metal door replacement on the well house buildings. The doors were installed in 1995. The replacement cycle has been updated to reflect the next anticipated replacement in 2025. The doors observed on site appeared to be weathering well overall, with some corrosion noted along the bottom edge on some of the doors from constant moisture exposure. We recommend applying rust converting paint to help slow down the damage.			



**11.1.1 John Deere 990 Tractor - Replace**

<b>Repair Cycle:</b>	12 years	<b>Next Major Repair:</b>	Year	3 (2020)
<b>Quantity:</b>	1 Lump Sum	<b>Unit Cost:</b>	\$7,900.00	/ LS

**Estimate:** \$7,900

**Notes:** This tractor is shared between the general ops and water reserve funding. We have allocated 50% of this asset to general ops and water. The John Deere tractor was purchased in 2004. The Association plans to replace it and the associated accessories in 2020.

**11.1.2 John Deere 990 Bucket - Replace**

<b>Repair Cycle:</b>	12 years	<b>Next Major Repair:</b>	Year	3 (2020)
<b>Quantity:</b>	1 Lump Sum	<b>Unit Cost:</b>	\$1,050.00	/ LS

**Estimate:** \$1,050

**Notes:** This accessory is shared between the general ops and water reserve funding. We have allocated 50% of this asset to general ops and water. Although this item falls below the \$3,000 threshold it is a part of the John Deere Tractor and will be replaced at the same time as a part of that purchase, currently anticipated in 2020. The bucket was purchased in 2004 with the tractor.

**11.1.3 John Deere 990, 8B Backhoe - Replace**

<b>Repair Cycle:</b>	12 years	<b>Next Major Repair:</b>	Year	3 (2020)
<b>Quantity:</b>	1 Lump Sum	<b>Unit Cost:</b>	\$1,310.00	/ LS

**Estimate:** \$1,310

**Notes:** This tractor is shared between the general ops and water reserve funding. We have allocated 50% of this asset to general ops and water. Although this items falls below the \$3,000 threshold it is a part of the John Deere Tractor purchased in 2004 and will be replaced at the same time as a part of that purchase, which is anticipated in 2020.

**11.1.4 Ford Diesel Stakebed - Replace**

<b>Repair Cycle:</b>	10 years	<b>Next Major Repair:</b>	Year	9 (2026)
<b>Quantity:</b>	1 Lump Sum	<b>Unit Cost:</b>	\$15,000.00	/ LS

**Estimate:** \$15,000

**Notes:** This component budgets funds to replace the Ford Diesel F-Super Duty white stakebed truck with a similar vehicle. This truck is shared between the general ops and water reserve funding. We have allocated 50% of this asset to general ops and water. No major issues were reported with the truck and replacement is budgeted in 2026.

**11.1.5 Ford Ranger XLT 1/2 Ton - Replace**

<b>Repair Cycle:</b>	7 years	<b>Next Major Repair:</b>	Year	0 (2017)
<b>Quantity:</b>	1 Lump Sum	<b>Unit Cost:</b>	\$7,000.00	/ LS

**Estimate:** \$7,000

**Notes:** The budget is for replacing a 1999 Ford Ranger XLT truck with a similar vehicle in 2017. This truck is shared between the general ops and water reserve funding. We have allocated 50% of this asset to general ops and water.

**11.2.1 Diesel Fuel Storage Tank - Replace**

<b>Repair Cycle:</b>	30 years	<b>Next Major Repair:</b>	Year	14 (2031)
<b>Quantity:</b>	1 Each	<b>Unit Cost:</b>	\$3,862.39	/ EA

**Estimate:** 1 EA X 100% X \$3,862.39/EA = \$3,862 + tax = \$4,210

**Notes:** This component budgets for replacing the 180 gallon diesel fuel storage tank that was installed in 2001. We observed the tank while on site, and understand that it is in good working order.

**11.2.2 Diesel Generator - Replace**

<b>Repair Cycle:</b>	25 years	<b>Next Major Repair:</b>	Year	15 (2032)
<b>Quantity:</b>	1 Each	<b>Unit Cost:</b>	\$12,246.35	/ EA

**Estimate:** 1 EA X 100% X \$12,246.35/EA = \$12,246 + tax = \$13,350

**Notes:** This component budgets for replacement of a Perkins, 1800 RPM diesel engine with a Stamford 125 KVA, 100KW, 60 hertz, 220 volt generator. The costs are complete with control panel and installation. Records indicate that the generator was replaced in 2007 at a cost of \$11,500. We have applied a construction inflation index of 6.49% for the current estimated budget. At the Association's request we have adjusted the replacement cycle to 25 years.

**15.1.1 Water Filter System Media - Replace**

<b>Repair Cycle:</b>	7 years	<b>Next Major Repair:</b>	Year	4 (2021)
<b>Quantity:</b>	1 Lump Sum	<b>Unit Cost:</b>	\$13,690.00	/ LS

**Estimate:** \$13,690

**Notes:** An evaluation of the media performance was conducted in 2016 and it was the recommendation of the Water Manager to adjust replacement to 2021.

**15.1.2 Water Filter System - Replace**

<b>Repair Cycle:</b>	25 years	<b>Next Major Repair:</b>	Year	11 (2028)
<b>Quantity:</b>	1 Lump Sum	<b>Unit Cost:</b>	\$42,120.00	/ LS

**Estimate:** \$42,120

**Notes:** This component budgets for the replacement of four approximately 3' diameter x 4.5' high Atec Systems media filters and equipment that were installed in 2003. No issues were reported with the filtration system.

**15.1.3 Water Meter Register & Battery - Replace**

<b>Repair Cycle:</b>	20 years	<b>Next Major Repair:</b>	Year	11 (2028)
<b>Quantity:</b>	516 Each	<b>Unit Cost:</b>	\$130.06	/ EA

**Estimate:** 516 EA X 100% X \$130.06/EA = \$67,110 + tax = \$73,150

**Notes:** Each water meter has a battery with a 20 year life expectancy. The electronic register component that holds the battery can be replaced at a cost of \$140 each; the entire register must be replaced with the battery replacement. The batteries were put into service in 2008. We continue to budget for the future replacement of the registers & batteries.

**15.1.4 Water Meter - Replace**

<b>Repair Cycle:</b>	40 years	<b>Next Major Repair:</b>	Year	30 (2047)
<b>Quantity:</b>	516 Each	<b>Unit Cost:</b>	\$200.00	/ EA

**Estimate:** 516 EA X 100% X \$200.00/EA = \$103,200 + tax = \$112,490

**Notes:** It is anticipated that the water meters will have a life expectancy of 40 years at which time meter and electronic component will need to be replaced. Current costs, estimated by the Association based on vender information is \$200 per unit. 500 meters were placed into service in 2008 and now there are a total of 516 meters. The Association requested that we include the water meter replacement in Year 30 to help the Association financially prepare for the upcoming expense.

**15.1.5 Booster Pumps - Replace**

<b>Repair Cycle:</b>	27 years	<b>Next Major Repair:</b>	Year	3 (2020)
<b>Quantity:</b>	3 Each	<b>Unit Cost:</b>	\$2,602.45	/ EA

**Estimate:** 3 EA X 100% X \$2,602.45/EA = \$7,807 + tax = \$8,510

**Notes:** The booster pumps were placed in service in 1993. Have updated the next replacement cycle to coincide with the next anticipated replacement in 2020.

**15.1.6 Well Control Panel - Replace**

<b>Repair Cycle:</b>	15 years	<b>Next Major Repair:</b>	Year	14 (2031)
<b>Quantity:</b>	1 Each	<b>Unit Cost:</b>	\$3,394.50	/ EA

**Estimate:** 1 EA X 100% X \$3,394.50/EA = \$3,394 + tax = \$3,700

**Notes:** The well control panel was replaced in 2016. The Association requested that we update the repair cycle to 15 years.

**15.2.1 Well #4 - Replace**

<b>Repair Cycle:</b>	55 years	<b>Next Major Repair:</b>	Year	7 (2024)
<b>Quantity:</b>	1 Each	<b>Unit Cost:</b>	\$64,220.00	/ EA

**Estimate:** 1 EA X 100% X \$64,220.00/EA = \$64,220 + tax = \$70,000

**Notes:** Well #4 underwent major renovation in 2016. The next anticipated maintenance is in 2025 at a budget of \$70,000, per the Association. The budget includes costs for the necessary permits, drilling, engineering assistance for testing, well casing, etc.

**15.2.2 Water Storage Tank #4 - Replace**

<b>Repair Cycle:</b>	55 years	<b>Next Major Repair:</b>	Year	7 (2024)
<b>Quantity:</b>	1 Each	<b>Unit Cost:</b>	\$48,257.00	/ EA

**Estimate:** 1 EA X 100% X \$48,257.00/EA = \$48,257 + tax = \$52,600

**Notes:** Tank #4 is approximately 30,500 gallons and is a surface concrete water storage tank. It was installed in 1969. The next replacement is not anticipated until 2024. No outstanding issues were reported. The Association provided the budget for future tank replacement.

**15.2.3 Pump #4 - Replace**

<b>Repair Cycle:</b>	20 years	<b>Next Major Repair:</b>	Year	19 (2036)
<b>Quantity:</b>	1 Lump Sum	<b>Unit Cost:</b>	\$18,230.00	/ LS
<b>Estimate:</b>	\$18,230			
<b>Notes:</b>	Pump #4 was placed into service in 2016. The Association requested that we update the repair cycle to 20 years. We have updated the next replacement accordingly.			

**15.2.4 Water Storage Tank #5 - Replace**

<b>Repair Cycle:</b>	50 years	<b>Next Major Repair:</b>	Year	11 (2028)
<b>Quantity:</b>	1 Each	<b>Unit Cost:</b>	\$48,257.00	/ EA
<b>Estimate:</b>	1 EA X 100% X \$48,257.00/EA = \$48,257 + tax = \$52,600			
<b>Notes:</b>	Tank #5 is approximately 55,000 gallons and is a surface concrete water storage tank. It was installed in 1978. No problems were noted. The Association provided the budget for future tank replacement.			

**15.2.5 Well #6 - Replace**

<b>Repair Cycle:</b>	50 years	<b>Next Major Repair:</b>	Year	30 (2047)
<b>Quantity:</b>	1 Each	<b>Unit Cost:</b>	\$64,220.00	/ EA
<b>Estimate:</b>	1 EA X 100% X \$64,220.00/EA = \$64,220 + tax = \$70,000			
<b>Notes:</b>	It was reported that all of the wells are performing as expected. The well was drilled in 1998. We have listed its replacement in Year 30 to help the Association financially prepare for the expense. The budget includes costs for the necessary permits, drilling, engineering assistance for testing, well casing, etc.			

**15.2.6 Water Storage Tank #6 - Replace**

<b>Repair Cycle:</b>	50 years	<b>Next Major Repair:</b>	Year	11 (2028)
<b>Quantity:</b>	1 Each	<b>Unit Cost:</b>	\$48,257.00	/ EA
<b>Estimate:</b>	1 EA X 100% X \$48,257.00/EA = \$48,257 + tax = \$52,600			
<b>Notes:</b>	Tank #6 is approximately 55,000 gallons and is a surface concrete water storage tank. It was installed in 1978. We understand that the tank is in good working order. The Association provided the budget for future tank replacement.			

**15.2.7 Pump #6 - Replace**

<b>Repair Cycle:</b>	20 years	<b>Next Major Repair:</b>	Year	6 (2023)
<b>Quantity:</b>	1 Lump Sum	<b>Unit Cost:</b>	\$18,230.00	/ LS
<b>Estimate:</b>	\$18,230			
<b>Notes:</b>	This component budgets funds to replace Pump #6, which was placed into service in 2003. The Association requested that we update the repair cycle to 20 years. We have updated the next replacement accordingly.			

**15.2.8 Water Storage Tank #7 - Replace**

<b>Repair Cycle:</b>	50 years	<b>Next Major Repair:</b>	Year	30 (2047)
<b>Quantity:</b>	1 Each	<b>Unit Cost:</b>	\$48,257.00	/ EA
<b>Estimate:</b>	1 EA X 100% X \$48,257.00/EA = \$48,257 + tax = \$52,600			
<b>Notes:</b>	Tank #7 is approximately 80,000 gallons and is a surface concrete water storage tank. It was installed in 2006. The Association requested that we include the future replacement cost in Year 30 as a place holder for future expenses. The Association provided the budget for future tank replacement.			

**15.2.9 Pump #8 - Replace**

<b>Repair Cycle:</b>	20 years	<b>Next Major Repair:</b>	Year	17 (2034)
<b>Quantity:</b>	1 Lump Sum	<b>Unit Cost:</b>	\$18,230.00	/ LS
<b>Estimate:</b>	\$18,230			
<b>Notes:</b>	Well #5 was replaced by Well #8 in 2014. The Association requested that we update the repair cycle to 20 years. We have updated the next replacement accordingly.			

**15.2.10 Water System Delivery Pipes - Replace Phase 1**

<b>Repair Cycle:</b>	50 years	<b>Next Major Repair:</b>	Year	18 (2035)
<b>Quantity:</b>	58,613 Linear Feet	<b>Unit Cost:</b>	\$13.26	/ LF
<b>Estimate:</b>	58,613 LF X 100% X \$13.26/LF = \$777,208 + tax = \$847,160			
<b>Notes:</b>	This component budgets to replace approximately 25% of the water system delivery pipes. The Association's Water Committee submitted a 2013 Water System Plan to the State of Washington as required by a small municipal water provider, which was approved by the State in early 2014.			

**15.2.11 Water System Delivery Pipes - Replace Phase 2**

<b>Repair Cycle:</b>	50 years	<b>Next Major Repair:</b>	Year	23 (2040)
<b>Quantity:</b>	58,613 Linear Feet	<b>Unit Cost:</b>	\$13.26	/ LF
<b>Estimate:</b>	58,613 LF X 100% X \$13.26/LF = \$777,208 + tax = \$847,160			
<b>Notes:</b>	This component budgets to replace approximately 25% of the water system delivery pipes. The Association's Water Committee submitted a 2013 Water System Plan to the State of Washington as required by a small municipal water provider, which was approved by the State in early 2014.			

**15.2.12 Water System Delivery Pipes - Replace Phase 3**

<b>Repair Cycle:</b>	50 years	<b>Next Major Repair:</b>	Year	28 (2045)
<b>Quantity:</b>	58,613 Linear Feet	<b>Unit Cost:</b>	\$13.26	/ LF
<b>Estimate:</b>	58,613 LF X 100% X \$13.26/LF = \$777,208 + tax = \$847,160			
<b>Notes:</b>	This component budgets to replace approximately 25% of the water system delivery pipes. The Association's Water Committee submitted a 2013 Water System Plan to the State of Washington as required by a small municipal water provider, which was approved by the State in early 2014.			



**FINANCIAL ANALYSIS & RESERVE CONTRIBUTION RECOMMENDATIONS**

For budgeting purposes, we recommend that Cape George Colony Club set the contribution rate at \$115,000 for reserves beginning in 2018. This amount 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 one year’s contribution to reserves at all times during the study period while also maintaining the percent funded between 29% and 71%, so that no special assessments will be required. Cape George Colony Club should determine the best reserve funding level for their association based on their major repair or replacement needs and risk aversion.

<b>Recommended 2018 Contribution</b>	<b>\$115,000</b>
Recommended Contribution per Month	\$9,583
Average Contribution per Unit per Year	\$ 221
Average Contribution per Unit Per Month	\$ 18

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.

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.

### FUNDING PLANS

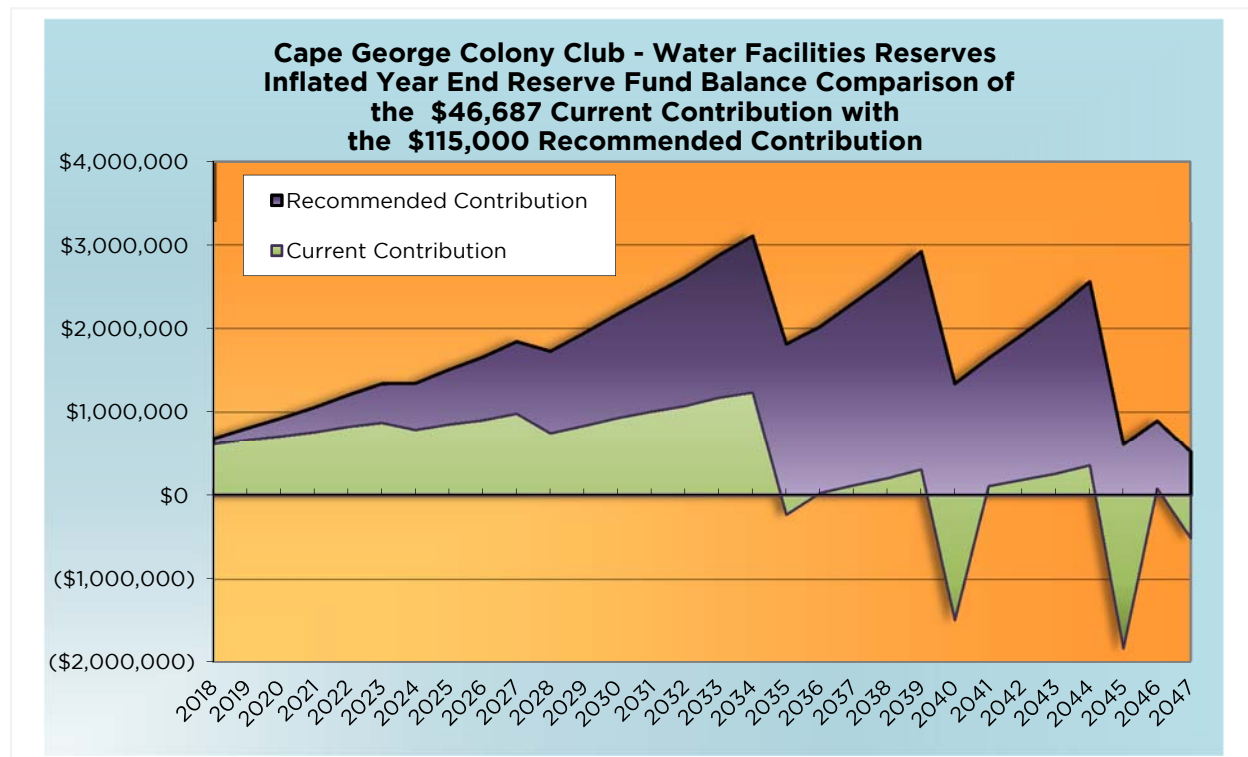
A starting annual contribution of \$115,000 is a Threshold Funding plan to provide funding as expenses are incurred over time, while maintaining a minimum reserve fund balance of one year's contribution to reserves and the percent funded between 29% and 71%. Absent specific instructions from clients, or unusual circumstances, this is our recommended funding plan.

An alternative strategy Cape George Colony Club 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 \$108,200.

Cape George Colony Club 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 \$131,300.

We recommend that Cape George Colony Club 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 expenses.

Below is a graph illustrating the projected year end reserve fund balance using both the current budgeted annual contribution and the recommended funding.



**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 2017 and the three funding plans presented in the report. The calculations include inflated values, interest and special assessments through Year 5 (2022).

**Cape George Colony Club - Water Facilities Reserves**  
**Five Year Funding Plan Comparison**  
 Including Inflated Values, Interest and Special Assessments

**\$46,687 Current Funding Plan**

Year	Annual Reserve Contribution	Special Assessment	Year End Reserve Balance	% Funded	Funding Status
1 (2018)	\$46,687	\$0	\$611,496	33%	Adequately Funded
2 (2019)	\$48,088	\$0	\$665,928	34%	Adequately Funded
3 (2020)	\$49,530	\$0	\$708,758	34%	Adequately Funded
4 (2021)	\$51,016	\$0	\$759,048	34%	Adequately Funded
5 (2022)	\$52,547	\$0	\$823,533	35%	Adequately Funded

**\$108,200 Baseline Funding Plan**

Year	Annual Reserve Contribution	Special Assessment	Year End Reserve Balance	% Funded	Funding Status
1 (2018)	\$108,200	\$0	\$673,317	37%	Adequately Funded
2 (2019)	\$111,446	\$0	\$792,977	40%	Adequately Funded
3 (2020)	\$114,789	\$0	\$904,259	43%	Adequately Funded
4 (2021)	\$118,233	\$0	\$1,026,349	46%	Adequately Funded
5 (2022)	\$121,780	\$0	\$1,166,105	49%	Adequately Funded

**\$115,000 Recommended (Threshold) Funding Plan**

Year	Annual Reserve Contribution	Special Assessment	Year End Reserve Balance	% Funded	Funding Status
1 (2018)	\$115,000	\$0	\$680,151	37%	Adequately Funded
2 (2019)	\$118,450	\$0	\$807,022	41%	Adequately Funded
3 (2020)	\$122,004	\$0	\$925,871	44%	Adequately Funded
4 (2021)	\$125,664	\$0	\$1,055,898	48%	Adequately Funded
5 (2022)	\$129,434	\$0	\$1,203,975	51%	Adequately Funded

**\$131,300 Full Funding Plan**

Year	Annual Reserve Contribution	Special Assessment	Year End Reserve Balance	% Funded	Funding Status
1 (2018)	\$131,300	\$0	\$696,532	38%	Adequately Funded
2 (2019)	\$135,239	\$0	\$840,688	43%	Adequately Funded
3 (2020)	\$139,296	\$0	\$977,676	47%	Adequately Funded
4 (2021)	\$143,475	\$0	\$1,126,728	51%	Adequately Funded
5 (2022)	\$147,779	\$0	\$1,294,752	55%	Adequately Funded





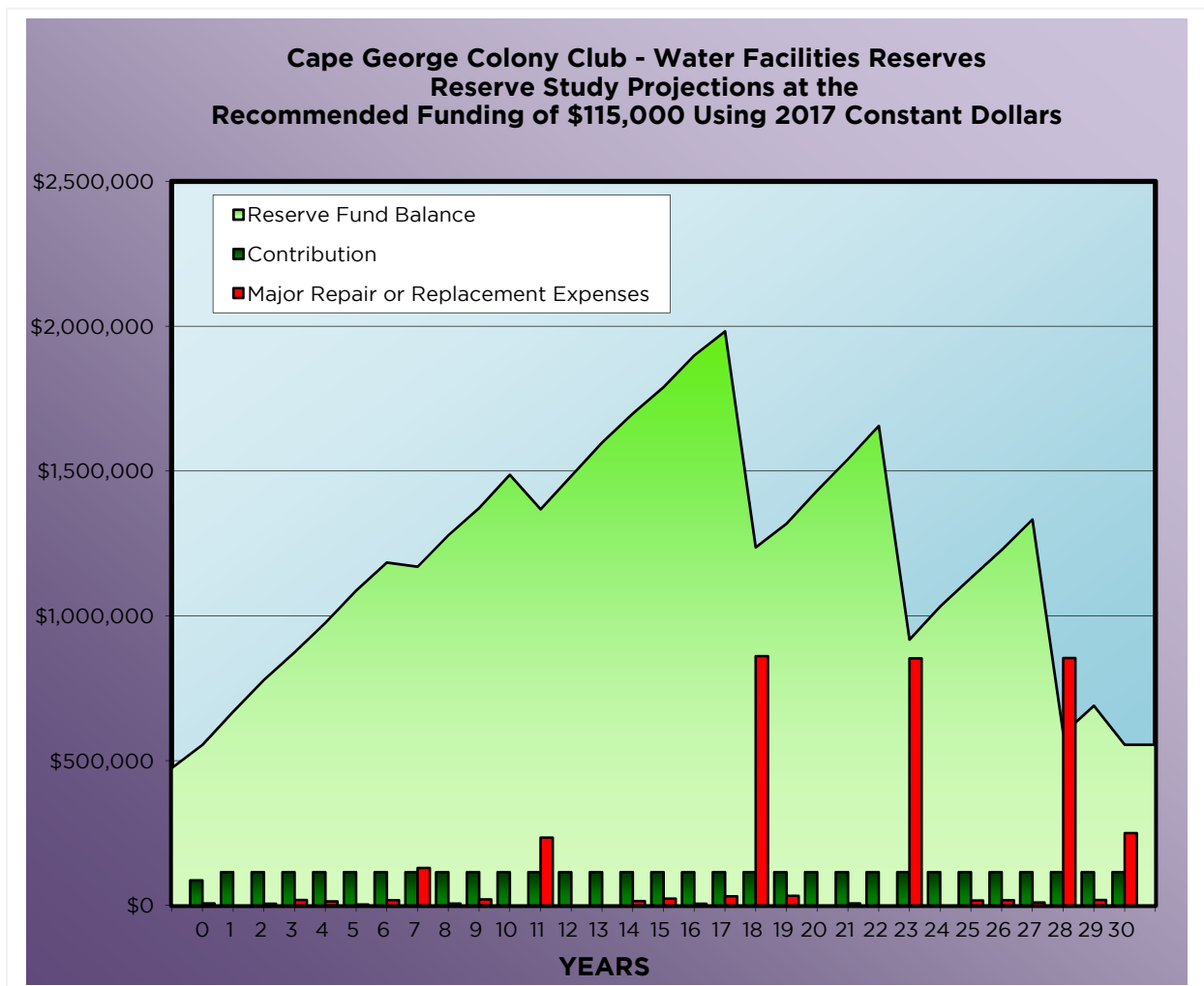
### Reserve Study Projections using Constant Dollar Values

Below is a graph depicting the projected fiscal year end reserve fund balance over 30 years, the annual contribution and the anticipated yearly major repair or replacement expenses.

The year-end reserve fund balance is shown as a line graph in bright green. 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 one year’s contribution to reserves while maintaining the percent funded between 29% and 71%.

The annual reserve fund contributions are shown as green bars. This chart depicts the annual contribution in constant dollars, so the contributions are constantly \$115,000 over the 30 year timeline of the study.

The anticipated yearly major repair or replacement expenses are shown as red bars, clearly illustrating the anticipated expenses over the next 30 years.





**Reserve Study Projections at the Starting Recommended Funding of \$115,000  
Using Constant Dollar Values**



# Cape George Colony Club - Water Facilities Reserves

## Reserve Study Projections at Recommended Funding of \$115,000

Reserve Consultants LLC

30-YEAR SPREADSHEET WITH CONSTANT DOLLARS

PER YEAR EXPENSES IN 2017 DOLLARS

DATE: 10-Aug-17

#	COMPONENT NAME	REPAIR CYCLE	NEXT REPAIR	1 2018	2 2019	3 2020	4 2021	5 2022
2.6.1	Chain Link Fence - Replace	25	17					
6.2.1	Building Major Repair - Contingency	7	2		\$6,000			
7.4.1	Maint. Comp. Shingle Roof - Replace	20	5					\$3,250
8.3.1	Maintenance Roll Up Door - Replace	24	8					
8.3.2	Well House Metal Doors - Replace	25	8					
11.1.1	John Deere 990 Tractor - Replace	12	3			\$7,900		
11.1.2	John Deere 990 Bucket - Replace	12	3			\$1,050		
11.1.3	John Deere 990, 8B Backhoe - Replace	12	3			\$1,310		
11.1.4	Ford Diesel Stakebed - Replace	10	9					
11.1.5	Ford Ranger XLT 1/2 Ton - Replace	7	0					
11.2.1	Diesel Fuel Storage Tank - Replace	30	14					
11.2.2	Diesel Generator - Replace	25	15					
15.1.1	Water Filter System Media - Replace	7	4				\$13,690	
15.1.2	Water Filter System - Replace	25	11					
15.1.3	Water Meter Register & Battery - Replace	20	11					
15.1.4	Water Meter - Replace	40	30					
15.1.5	Booster Pumps - Replace	27	3			\$8,510		
15.1.6	Well Control Panel - Replace	15	14					
15.2.1	Well #4 - Replace	55	7					
15.2.2	Water Storage Tank #4 - Replace	55	7					
15.2.3	Pump #4 - Replace	20	19					
15.2.4	Water Storage Tank #5 - Replace	50	11					
15.2.5	Well #6 - Replace	50	30					
15.2.6	Water Storage Tank #6 - Replace	50	11					
15.2.7	Pump #6 - Replace	20	6					
15.2.8	Water Storage Tank #7 - Replace	50	30					
15.2.9	Pump #8 - Replace	20	17					
15.2.10	Water System Delivery Pipes - Replace Phase 1	50	18					
15.2.11	Water System Delivery Pipes - Replace Phase 2	50	23					
15.2.12	Water System Delivery Pipes - Replace Phase 3	50	28					
<b>TOTAL EXPENDED BY YEAR</b>				<b>\$0</b>	<b>\$6,000</b>	<b>\$18,770</b>	<b>\$13,690</b>	<b>\$3,250</b>
CARRY OVER RESERVES				\$554,095	\$669,095	\$778,095	\$874,325	\$975,635
ANNUAL RESERVE CONTRIB				\$115,000	\$115,000	\$115,000	\$115,000	\$115,000
RESERVE EXPENDITURES				\$0	\$6,000	\$18,770	\$13,690	\$3,250
ACCUMULATED RESERVES				\$669,095	\$778,095	\$874,325	\$975,635	\$1,087,385
INTEREST EARNED				\$0	\$0	\$0	\$0	\$0
<b>SPECIAL ASSESSMENT</b>								
YEAR-END BALANCE				<b>\$669,095</b>	<b>\$778,095</b>	<b>\$874,325</b>	<b>\$975,635</b>	<b>\$1,087,385</b>
STUDY YEAR				1 (2018)	2 (2019)	3 (2020)	4 (2021)	5 (2022)

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# Cape George Colony Club - Water Facilities Reserves

## Reserve Study Projections at Recommended Funding of \$115,000

Reserve Consultants LLC

30-YEAR SPREADSHEET WITH CONSTANT DOLLARS

PER YEAR EXPENSES IN 2017 DOLLARS

DATE: 10-Aug-17

#	COMPONENT NAME	REPAIR CYCLE	NEXT REPAIR	6 2023	7 2024	8 2025	9 2026	10 2027
2.6.1	Chain Link Fence - Replace	25	17					
6.2.1	Building Major Repair - Contingency	7	2				\$6,000	
7.4.1	Maint. Comp. Shingle Roof - Replace	20	5					
8.3.1	Maintenance Roll Up Door - Replace	24	8			\$3,010		
8.3.2	Well House Metal Doors - Replace	25	8			\$3,310		
11.1.1	John Deere 990 Tractor - Replace	12	3					
11.1.2	John Deere 990 Bucket - Replace	12	3					
11.1.3	John Deere 990, 8B Backhoe - Replace	12	3					
11.1.4	Ford Diesel Stakebed - Replace	10	9				\$15,000	
11.1.5	Ford Ranger XLT 1/2 Ton - Replace	7	0		\$7,000			
11.2.1	Diesel Fuel Storage Tank - Replace	30	14					
11.2.2	Diesel Generator - Replace	25	15					
15.1.1	Water Filter System Media - Replace	7	4					
15.1.2	Water Filter System - Replace	25	11					
15.1.3	Water Meter Register & Battery - Replace	20	11					
15.1.4	Water Meter - Replace	40	30					
15.1.5	Booster Pumps - Replace	27	3					
15.1.6	Well Control Panel - Replace	15	14					
15.2.1	Well #4 - Replace	55	7		\$70,000			
15.2.2	Water Storage Tank #4 - Replace	55	7		\$52,600			
15.2.3	Pump #4 - Replace	20	19					
15.2.4	Water Storage Tank #5 - Replace	50	11					
15.2.5	Well #6 - Replace	50	30					
15.2.6	Water Storage Tank #6 - Replace	50	11					
15.2.7	Pump #6 - Replace	20	6	\$18,230				
15.2.8	Water Storage Tank #7 - Replace	50	30					
15.2.9	Pump #8 - Replace	20	17					
15.2.10	Water System Delivery Pipes - Replace Phase 1	50	18					
15.2.11	Water System Delivery Pipes - Replace Phase 2	50	23					
15.2.12	Water System Delivery Pipes - Replace Phase 3	50	28					
<b>TOTAL EXPENDED BY YEAR</b>				<b>\$18,230</b>	<b>\$129,600</b>	<b>\$6,320</b>	<b>\$21,000</b>	<b>\$0</b>
CARRY OVER RESERVES				\$1,087,385	\$1,184,155	\$1,169,555	\$1,278,235	\$1,372,235
ANNUAL RESERVE CONTRIB				\$115,000	\$115,000	\$115,000	\$115,000	\$115,000
RESERVE EXPENDITURES				\$18,230	\$129,600	\$6,320	\$21,000	\$0
ACCUMULATED RESERVES				\$1,184,155	\$1,169,555	\$1,278,235	\$1,372,235	\$1,487,235
INTEREST EARNED				\$0	\$0	\$0	\$0	\$0
SPECIAL ASSESSMENT								
YEAR-END BALANCE				<b>\$1,184,155</b>	<b>\$1,169,555</b>	<b>\$1,278,235</b>	<b>\$1,372,235</b>	<b>\$1,487,235</b>
STUDY YEAR				6 (2023)	7 (2024)	8 (2025)	9 (2026)	10 (2027)

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# Cape George Colony Club - Water Facilities Reserves

## Reserve Study Projections at Recommended Funding of \$115,000

Reserve Consultants LLC

30-YEAR SPREADSHEET WITH CONSTANT DOLLARS

PER YEAR EXPENSES IN 2017 DOLLARS

DATE: 10-Aug-17

#	COMPONENT NAME	REPAIR CYCLE	NEXT REPAIR	11 2028	12 2029	13 2030	14 2031	15 2032
2.6.1	Chain Link Fence - Replace	25	17					
6.2.1	Building Major Repair - Contingency	7	2					
7.4.1	Maint. Comp. Shingle Roof - Replace	20	5					
8.3.1	Maintenance Roll Up Door - Replace	24	8					
8.3.2	Well House Metal Doors - Replace	25	8					
11.1.1	John Deere 990 Tractor - Replace	12	3					\$7,900
11.1.2	John Deere 990 Bucket - Replace	12	3					\$1,050
11.1.3	John Deere 990, 8B Backhoe - Replace	12	3					\$1,310
11.1.4	Ford Diesel Stakebed - Replace	10	9					
11.1.5	Ford Ranger XLT 1/2 Ton - Replace	7	0				\$7,000	
11.2.1	Diesel Fuel Storage Tank - Replace	30	14				\$4,210	
11.2.2	Diesel Generator - Replace	25	15					\$13,350
15.1.1	Water Filter System Media - Replace	7	4	\$13,690				
15.1.2	Water Filter System - Replace	25	11	\$42,120				
15.1.3	Water Meter Register & Battery - Replace	20	11	\$73,150				
15.1.4	Water Meter - Replace	40	30					
15.1.5	Booster Pumps - Replace	27	3					
15.1.6	Well Control Panel - Replace	15	14				\$3,700	
15.2.1	Well #4 - Replace	55	7					
15.2.2	Water Storage Tank #4 - Replace	55	7					
15.2.3	Pump #4 - Replace	20	19					
15.2.4	Water Storage Tank #5 - Replace	50	11	\$52,600				
15.2.5	Well #6 - Replace	50	30					
15.2.6	Water Storage Tank #6 - Replace	50	11	\$52,600				
15.2.7	Pump #6 - Replace	20	6					
15.2.8	Water Storage Tank #7 - Replace	50	30					
15.2.9	Pump #8 - Replace	20	17					
15.2.10	Water System Delivery Pipes - Replace Phase 1	50	18					
15.2.11	Water System Delivery Pipes - Replace Phase 2	50	23					
15.2.12	Water System Delivery Pipes - Replace Phase 3	50	28					
<b>TOTAL EXPENDED BY YEAR</b>				<b>\$234,160</b>	<b>\$0</b>	<b>\$0</b>	<b>\$14,910</b>	<b>\$23,610</b>
CARRY OVER RESERVES				\$1,487,235	\$1,368,075	\$1,483,075	\$1,598,075	\$1,698,165
ANNUAL RESERVE CONTRIB				\$115,000	\$115,000	\$115,000	\$115,000	\$115,000
RESERVE EXPENDITURES				\$234,160	\$0	\$0	\$14,910	\$23,610
ACCUMULATED RESERVES				\$1,368,075	\$1,483,075	\$1,598,075	\$1,698,165	\$1,789,555
INTEREST EARNED				\$0	\$0	\$0	\$0	\$0
SPECIAL ASSESSMENT								
YEAR-END BALANCE				<b>\$1,368,075</b>	<b>\$1,483,075</b>	<b>\$1,598,075</b>	<b>\$1,698,165</b>	<b>\$1,789,555</b>
STUDY YEAR				11 (2028)	12 (2029)	13 (2030)	14 (2031)	15 (2032)

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# Cape George Colony Club - Water Facilities Reserves

## Reserve Study Projections at Recommended Funding of \$115,000

Reserve Consultants LLC

30-YEAR SPREADSHEET WITH CONSTANT DOLLARS

PER YEAR EXPENSES IN 2017 DOLLARS

DATE: 10-Aug-17

#	COMPONENT NAME	REPAIR CYCLE	NEXT REPAIR	16 2033	17 2034	18 2035	19 2036	20 2037
2.6.1	Chain Link Fence - Replace	25	17		\$13,090			
6.2.1	Building Major Repair - Contingency	7	2	\$6,000				
7.4.1	Maint. Comp. Shingle Roof - Replace	20	5					
8.3.1	Maintenance Roll Up Door - Replace	24	8					
8.3.2	Well House Metal Doors - Replace	25	8					
11.1.1	John Deere 990 Tractor - Replace	12	3					
11.1.2	John Deere 990 Bucket - Replace	12	3					
11.1.3	John Deere 990, 8B Backhoe - Replace	12	3					
11.1.4	Ford Diesel Stakebed - Replace	10	9				\$15,000	
11.1.5	Ford Ranger XLT 1/2 Ton - Replace	7	0					
11.2.1	Diesel Fuel Storage Tank - Replace	30	14					
11.2.2	Diesel Generator - Replace	25	15					
15.1.1	Water Filter System Media - Replace	7	4			\$13,690		
15.1.2	Water Filter System - Replace	25	11					
15.1.3	Water Meter Register & Battery - Replace	20	11					
15.1.4	Water Meter - Replace	40	30					
15.1.5	Booster Pumps - Replace	27	3					
15.1.6	Well Control Panel - Replace	15	14					
15.2.1	Well #4 - Replace	55	7					
15.2.2	Water Storage Tank #4 - Replace	55	7					
15.2.3	Pump #4 - Replace	20	19				\$18,230	
15.2.4	Water Storage Tank #5 - Replace	50	11					
15.2.5	Well #6 - Replace	50	30					
15.2.6	Water Storage Tank #6 - Replace	50	11					
15.2.7	Pump #6 - Replace	20	6					
15.2.8	Water Storage Tank #7 - Replace	50	30					
15.2.9	Pump #8 - Replace	20	17		\$18,230			
15.2.10	Water System Delivery Pipes - Replace Phase 1	50	18			\$847,160		
15.2.11	Water System Delivery Pipes - Replace Phase 2	50	23					
15.2.12	Water System Delivery Pipes - Replace Phase 3	50	28					
<b>TOTAL EXPENDED BY YEAR</b>				<b>\$6,000</b>	<b>\$31,320</b>	<b>\$860,850</b>	<b>\$33,230</b>	<b>\$0</b>
CARRY OVER RESERVES				\$1,789,555	\$1,898,555	\$1,982,235	\$1,236,385	\$1,318,155
ANNUAL RESERVE CONTRIB				\$115,000	\$115,000	\$115,000	\$115,000	\$115,000
RESERVE EXPENDITURES				\$6,000	\$31,320	\$860,850	\$33,230	\$0
ACCUMULATED RESERVES				\$1,898,555	\$1,982,235	\$1,236,385	\$1,318,155	\$1,433,155
INTEREST EARNED				\$0	\$0	\$0	\$0	\$0
SPECIAL ASSESSMENT								
YEAR-END BALANCE				<b>\$1,898,555</b>	<b>\$1,982,235</b>	<b>\$1,236,385</b>	<b>\$1,318,155</b>	<b>\$1,433,155</b>
STUDY YEAR				16 (2033)	17 (2034)	18 (2035)	19 (2036)	20 (2037)

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# Cape George Colony Club - Water Facilities Reserves

## Reserve Study Projections at Recommended Funding of \$115,000

### Reserve Consultants LLC

30-YEAR SPREADSHEET WITH CONSTANT DOLLARS

PER YEAR EXPENSES IN 2017 DOLLARS

DATE: 10-Aug-17

#	COMPONENT NAME	REPAIR CYCLE	NEXT REPAIR	21 2038	22 2039	23 2040	24 2041	25 2042
2.6.1	Chain Link Fence - Replace	25	17					
6.2.1	Building Major Repair - Contingency	7	2			\$6,000		
7.4.1	Maint. Comp. Shingle Roof - Replace	20	5					\$3,250
8.3.1	Maintenance Roll Up Door - Replace	24	8					
8.3.2	Well House Metal Doors - Replace	25	8					
11.1.1	John Deere 990 Tractor - Replace	12	3					
11.1.2	John Deere 990 Bucket - Replace	12	3					
11.1.3	John Deere 990, 8B Backhoe - Replace	12	3					
11.1.4	Ford Diesel Stakebed - Replace	10	9					
11.1.5	Ford Ranger XLT 1/2 Ton - Replace	7	0	\$7,000				
11.2.1	Diesel Fuel Storage Tank - Replace	30	14					
11.2.2	Diesel Generator - Replace	25	15					
15.1.1	Water Filter System Media - Replace	7	4					\$13,690
15.1.2	Water Filter System - Replace	25	11					
15.1.3	Water Meter Register & Battery - Replace	20	11					
15.1.4	Water Meter - Replace	40	30					
15.1.5	Booster Pumps - Replace	27	3					
15.1.6	Well Control Panel - Replace	15	14					
15.2.1	Well #4 - Replace	55	7					
15.2.2	Water Storage Tank #4 - Replace	55	7					
15.2.3	Pump #4 - Replace	20	19					
15.2.4	Water Storage Tank #5 - Replace	50	11					
15.2.5	Well #6 - Replace	50	30					
15.2.6	Water Storage Tank #6 - Replace	50	11					
15.2.7	Pump #6 - Replace	20	6					
15.2.8	Water Storage Tank #7 - Replace	50	30					
15.2.9	Pump #8 - Replace	20	17					
15.2.10	Water System Delivery Pipes - Replace Phase 1	50	18					
15.2.11	Water System Delivery Pipes - Replace Phase 2	50	23			\$847,160		
15.2.12	Water System Delivery Pipes - Replace Phase 3	50	28					
<b>TOTAL EXPENDED BY YEAR</b>				<b>\$7,000</b>	<b>\$0</b>	<b>\$853,160</b>	<b>\$0</b>	<b>\$16,940</b>
CARRY OVER RESERVES				\$1,433,155	\$1,541,155	\$1,656,155	\$917,995	\$1,032,995
ANNUAL RESERVE CONTRIB				\$115,000	\$115,000	\$115,000	\$115,000	\$115,000
RESERVE EXPENDITURES				\$7,000	\$0	\$853,160	\$0	\$16,940
ACCUMULATED RESERVES				\$1,541,155	\$1,656,155	\$917,995	\$1,032,995	\$1,131,055
INTEREST EARNED				\$0	\$0	\$0	\$0	\$0
<b>SPECIAL ASSESSMENT</b>								
YEAR-END BALANCE				<b>\$1,541,155</b>	<b>\$1,656,155</b>	<b>\$917,995</b>	<b>\$1,032,995</b>	<b>\$1,131,055</b>
STUDY YEAR				21 (2038)	22 (2039)	23 (2040)	24 (2041)	25 (2042)

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# Cape George Colony Club - Water Facilities Reserves

## Reserve Study Projections at Recommended Funding of \$115,000

Reserve Consultants LLC

30-YEAR SPREADSHEET WITH CONSTANT DOLLARS

PER YEAR EXPENSES IN 2017 DOLLARS

DATE: 10-Aug-17

#	COMPONENT NAME	REPAIR CYCLE	NEXT REPAIR	26 2043	27 2044	28 2045	29 2046	30 2047
2.6.1	Chain Link Fence - Replace	25	17					
6.2.1	Building Major Repair - Contingency	7	2					\$6,000
7.4.1	Maint. Comp. Shingle Roof - Replace	20	5					
8.3.1	Maintenance Roll Up Door - Replace	24	8					
8.3.2	Well House Metal Doors - Replace	25	8					
11.1.1	John Deere 990 Tractor - Replace	12	3		\$7,900			
11.1.2	John Deere 990 Bucket - Replace	12	3		\$1,050			
11.1.3	John Deere 990, 8B Backhoe - Replace	12	3		\$1,310			
11.1.4	Ford Diesel Stakebed - Replace	10	9				\$15,000	
11.1.5	Ford Ranger XLT 1/2 Ton - Replace	7	0			\$7,000		
11.2.1	Diesel Fuel Storage Tank - Replace	30	14					
11.2.2	Diesel Generator - Replace	25	15					
15.1.1	Water Filter System Media - Replace	7	4					
15.1.2	Water Filter System - Replace	25	11					
15.1.3	Water Meter Register & Battery - Replace	20	11					
15.1.4	Water Meter - Replace	40	30					\$112,490
15.1.5	Booster Pumps - Replace	27	3					\$8,510
15.1.6	Well Control Panel - Replace	15	14				\$3,700	
15.2.1	Well #4 - Replace	55	7					
15.2.2	Water Storage Tank #4 - Replace	55	7					
15.2.3	Pump #4 - Replace	20	19					
15.2.4	Water Storage Tank #5 - Replace	50	11					
15.2.5	Well #6 - Replace	50	30					\$70,000
15.2.6	Water Storage Tank #6 - Replace	50	11					
15.2.7	Pump #6 - Replace	20	6	\$18,230				
15.2.8	Water Storage Tank #7 - Replace	50	30					\$52,600
15.2.9	Pump #8 - Replace	20	17					
15.2.10	Water System Delivery Pipes - Replace Phase 1	50	18					
15.2.11	Water System Delivery Pipes - Replace Phase 2	50	23					
15.2.12	Water System Delivery Pipes - Replace Phase 3	50	28			\$847,160		
<b>TOTAL EXPENDED BY YEAR</b>				<b>\$18,230</b>	<b>\$10,260</b>	<b>\$854,160</b>	<b>\$18,700</b>	<b>\$249,600</b>
CARRY OVER RESERVES				\$1,131,055	\$1,227,825	\$1,332,565	\$593,405	\$689,705
ANNUAL RESERVE CONTRIB				\$115,000	\$115,000	\$115,000	\$115,000	\$115,000
RESERVE EXPENDITURES				\$18,230	\$10,260	\$854,160	\$18,700	\$249,600
ACCUMULATED RESERVES				\$1,227,825	\$1,332,565	\$593,405	\$689,705	\$555,105
INTEREST EARNED				\$0	\$0	\$0	\$0	\$0
SPECIAL ASSESSMENT								
YEAR-END BALANCE				<b>\$1,227,825</b>	<b>\$1,332,565</b>	<b>\$593,405</b>	<b>\$689,705</b>	<b>\$555,105</b>
STUDY YEAR				26 (2043)	27 (2044)	28 (2045)	29 (2046)	30 (2047)

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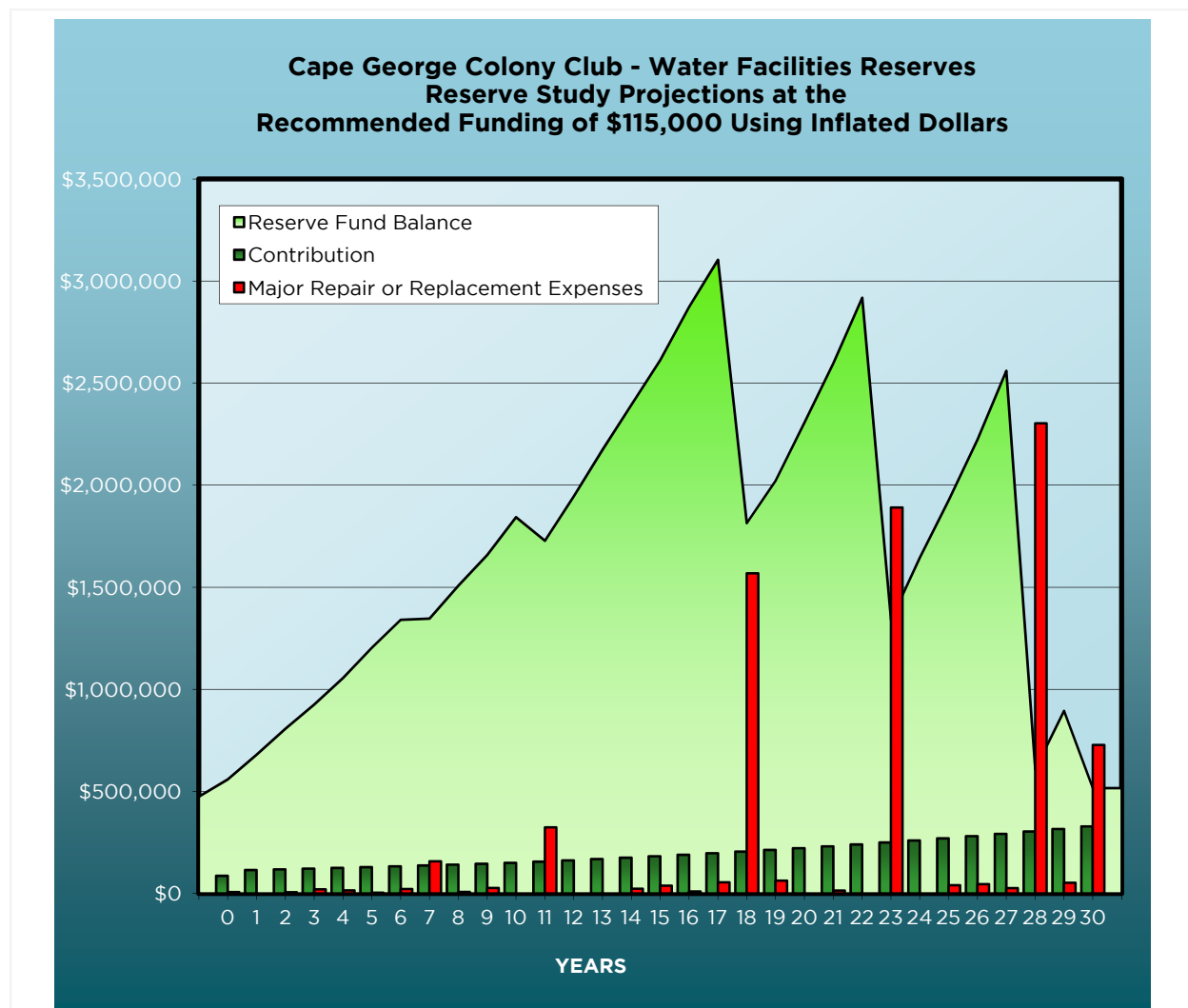
### Reserve Study Projections using Inflated Dollar Values

Below is a graph depicting the projected fiscal year end reserve fund balance over 30 years, the annual contribution and the anticipated yearly major repair or replacement expenses.

The year-end reserve fund balance is shown as a line graph in bright green. 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 one year’s contribution to reserves while also maintaining the percent funded between 29% and 71%.

The annual reserve fund contributions are shown as green bars. This chart depicts the annual contribution inflated each year, so the contributions gradually increase over the 30 year timeline of the study from the initial contribution of \$115,000.

The anticipated yearly major repair or replacement expenses are shown as red bars, clearly illustrating the anticipated expenses over the next 30 years.





**Reserve Study Projections at the Starting Recommended Funding of \$115,000  
Using Inflated Dollar Values**



# Cape George Colony Club - Water Facilities Reserves

## Reserve Study Projections at Recommended Funding of \$115,000

### Reserve Consultants LLC

30-YEAR SPREADSHEET WITH INFLATED DOLLARS  
PER YEAR EXPENSES IN 2017 DOLLARS

DATE: 10-Aug-17

#	COMPONENT NAME	REPAIR CYCLE	NEXT REPAIR	1 2018	2 2019	3 2020	4 2021	5 2022
2.6.1	Chain Link Fence - Replace	25	17					
6.2.1	Building Major Repair - Contingency	7	2		\$6,304			
7.4.1	Maint. Comp. Shingle Roof - Replace	20	5					\$3,731
8.3.1	Maintenance Roll Up Door - Replace	24	8					
8.3.2	Well House Metal Doors - Replace	25	8					
11.1.1	John Deere 990 Tractor - Replace	12	3			\$8,549		
11.1.2	John Deere 990 Bucket - Replace	12	3			\$1,136		
11.1.3	John Deere 990, 8B Backhoe - Replace	12	3			\$1,418		
11.1.4	Ford Diesel Stakebed - Replace	10	9					
11.1.5	Ford Ranger XLT 1/2 Ton - Replace	7	0					
11.2.1	Diesel Fuel Storage Tank - Replace	30	14					
11.2.2	Diesel Generator - Replace	25	15					
15.1.1	Water Filter System Media - Replace	7	4				\$15,259	
15.1.2	Water Filter System - Replace	25	11					
15.1.3	Water Meter Register & Battery - Replace	20	11					
15.1.4	Water Meter - Replace	40	30					
15.1.5	Booster Pumps - Replace	27	3			\$9,209		
15.1.6	Well Control Panel - Replace	15	14					
15.2.1	Well #4 - Replace	55	7					
15.2.2	Water Storage Tank #4 - Replace	55	7					
15.2.3	Pump #4 - Replace	20	19					
15.2.4	Water Storage Tank #5 - Replace	50	11					
15.2.5	Well #6 - Replace	50	30					
15.2.6	Water Storage Tank #6 - Replace	50	11					
15.2.7	Pump #6 - Replace	20	6					
15.2.8	Water Storage Tank #7 - Replace	50	30					
15.2.9	Pump #8 - Replace	20	17					
15.2.10	Water System Delivery Pipes - Replace Phase 1	50	18					
15.2.11	Water System Delivery Pipes - Replace Phase 2	50	23					
15.2.12	Water System Delivery Pipes - Replace Phase 3	50	28					
TOTAL EXPENDED BY YEAR				\$0	\$6,304	\$20,311	\$15,259	\$3,731
CARRY OVER RESERVES				\$558,986	\$680,151	\$807,022	\$925,871	\$1,055,898
ANNUAL RESERVE CONTRIB				\$115,000	\$118,450	\$122,004	\$125,664	\$129,434
RESERVE EXPENDITURES				\$0	\$6,304	\$20,311	\$15,259	\$3,731
ACCUMULATED RESERVES				\$673,986	\$792,297	\$908,714	\$1,036,276	\$1,181,600
INTEREST EARNED				\$6,165	\$14,724	\$17,157	\$19,621	\$22,375
SPECIAL ASSESSMENT								
YEAR-END BALANCE				\$680,151	\$807,022	\$925,871	\$1,055,898	\$1,203,975
YEARS	0-1	2-10	11-30	1 (2018 )	2 (2019 )	3 (2020 )	4 (2021 )	5 (2022 )
CONTRIBUTION INFLATION	0%	3%	4%	0%	3%	3%	3%	3%
COMPONENT COMPOUND INFLATION	2%	3%	4%	102%	105%	108%	111%	115%
INTEREST RATE MULTIPLIER	1%	2%	3%	1%	2%	2%	2%	2%

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# Cape George Colony Club - Water Facilities Reserves

## Reserve Study Projections at Recommended Funding of \$115,000

### Reserve Consultants LLC

30-YEAR SPREADSHEET WITH INFLATED DOLLARS  
PER YEAR EXPENSES IN 2017 DOLLARS

DATE: 10-Aug-17

#	COMPONENT NAME	REPAIR CYCLE	NEXT REPAIR	6 2023	7 2024	8 2025	9 2026	10 2027	
2.6.1	Chain Link Fence - Replace	25	17						
6.2.1	Building Major Repair - Contingency	7	2				\$7,753		
7.4.1	Maint. Comp. Shingle Roof - Replace	20	5						
8.3.1	Maintenance Roll Up Door - Replace	24	8			\$3,776			
8.3.2	Well House Metal Doors - Replace	25	8			\$4,152			
11.1.1	John Deere 990 Tractor - Replace	12	3						
11.1.2	John Deere 990 Bucket - Replace	12	3						
11.1.3	John Deere 990, 8B Backhoe - Replace	12	3						
11.1.4	Ford Diesel Stakebed - Replace	10	9				\$19,382		
11.1.5	Ford Ranger XLT 1/2 Ton - Replace	7	0		\$8,526				
11.2.1	Diesel Fuel Storage Tank - Replace	30	14						
11.2.2	Diesel Generator - Replace	25	15						
15.1.1	Water Filter System Media - Replace	7	4						
15.1.2	Water Filter System - Replace	25	11						
15.1.3	Water Meter Register & Battery - Replace	20	11						
15.1.4	Water Meter - Replace	40	30						
15.1.5	Booster Pumps - Replace	27	3						
15.1.6	Well Control Panel - Replace	15	14						
15.2.1	Well #4 - Replace	55	7		\$85,255				
15.2.2	Water Storage Tank #4 - Replace	55	7		\$64,063				
15.2.3	Pump #4 - Replace	20	19						
15.2.4	Water Storage Tank #5 - Replace	50	11						
15.2.5	Well #6 - Replace	50	30						
15.2.6	Water Storage Tank #6 - Replace	50	11						
15.2.7	Pump #6 - Replace	20	6	\$21,556					
15.2.8	Water Storage Tank #7 - Replace	50	30						
15.2.9	Pump #8 - Replace	20	17						
15.2.10	Water System Delivery Pipes - Replace Phase 1	50	18						
15.2.11	Water System Delivery Pipes - Replace Phase 2	50	23						
15.2.12	Water System Delivery Pipes - Replace Phase 3	50	28						
TOTAL EXPENDED BY YEAR				\$21,556	\$157,844	\$7,928	\$27,134	\$0	
CARRY OVER RESERVES				\$1,203,975	\$1,340,932	\$1,347,018	\$1,508,800	\$1,658,706	
ANNUAL RESERVE CONTRIB				\$133,317	\$137,316	\$141,435	\$145,679	\$150,049	
RESERVE EXPENDITURES				\$21,556	\$157,844	\$7,928	\$27,134	\$0	
ACCUMULATED RESERVES				\$1,315,735	\$1,320,404	\$1,480,525	\$1,627,345	\$1,808,755	
INTEREST EARNED				\$25,197	\$26,613	\$28,275	\$31,361	\$34,675	
SPECIAL ASSESSMENT									
YEAR-END BALANCE				\$1,340,932	\$1,347,018	\$1,508,800	\$1,658,706	\$1,843,430	
YEARS		0-1	2-10	11-30	6 (2023 )	7 (2024 )	8 (2025 )	9 (2026 )	10 (2027 )
CONTRIBUTION INFLATION		0%	3%	4%	3%	3%	3%	3%	3%
COMPONENT COMPOUND INFLATION		2%	3%	4%	118%	122%	125%	129%	133%
INTEREST RATE MULTIPLIER		1%	2%	3%	2%	2%	2%	2%	2%

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# Cape George Colony Club - Water Facilities Reserves

## Reserve Study Projections at Recommended Funding of \$115,000

### Reserve Consultants LLC

30-YEAR SPREADSHEET WITH INFLATED DOLLARS  
PER YEAR EXPENSES IN 2017 DOLLARS

DATE: 10-Aug-17

#	COMPONENT NAME	REPAIR CYCLE	NEXT REPAIR	11 2028	12 2029	13 2030	14 2031	15 2032			
2.6.1	Chain Link Fence - Replace	25	17								
6.2.1	Building Major Repair - Contingency	7	2								
7.4.1	Maint. Comp. Shingle Roof - Replace	20	5								
8.3.1	Maintenance Roll Up Door - Replace	24	8								
8.3.2	Well House Metal Doors - Replace	25	8								
11.1.1	John Deere 990 Tractor - Replace	12	3					\$12,792			
11.1.2	John Deere 990 Bucket - Replace	12	3					\$1,700			
11.1.3	John Deere 990, 8B Backhoe - Replace	12	3					\$2,121			
11.1.4	Ford Diesel Stakebed - Replace	10	9								
11.1.5	Ford Ranger XLT 1/2 Ton - Replace	7	0				\$10,898				
11.2.1	Diesel Fuel Storage Tank - Replace	30	14				\$6,555				
11.2.2	Diesel Generator - Replace	25	15					\$21,616			
15.1.1	Water Filter System Media - Replace	7	4	\$18,948							
15.1.2	Water Filter System - Replace	25	11	\$58,298							
15.1.3	Water Meter Register & Battery - Replace	20	11	\$101,247							
15.1.4	Water Meter - Replace	40	30								
15.1.5	Booster Pumps - Replace	27	3								
15.1.6	Well Control Panel - Replace	15	14				\$5,761				
15.2.1	Well #4 - Replace	55	7								
15.2.2	Water Storage Tank #4 - Replace	55	7								
15.2.3	Pump #4 - Replace	20	19								
15.2.4	Water Storage Tank #5 - Replace	50	11	\$72,804							
15.2.5	Well #6 - Replace	50	30								
15.2.6	Water Storage Tank #6 - Replace	50	11	\$72,804							
15.2.7	Pump #6 - Replace	20	6								
15.2.8	Water Storage Tank #7 - Replace	50	30								
15.2.9	Pump #8 - Replace	20	17								
15.2.10	Water System Delivery Pipes - Replace Phase 1	50	18								
15.2.11	Water System Delivery Pipes - Replace Phase 2	50	23								
15.2.12	Water System Delivery Pipes - Replace Phase 3	50	28								
TOTAL EXPENDED BY YEAR				\$324,102	\$0	\$0	\$23,214	\$38,229			
CARRY OVER RESERVES				\$1,843,430	\$1,728,161	\$1,944,733	\$2,174,392	\$2,394,230			
ANNUAL RESERVE CONTRIB				\$156,051	\$162,293	\$168,785	\$175,536	\$182,557			
RESERVE EXPENDITURES				\$324,102	\$0	\$0	\$23,214	\$38,229			
ACCUMULATED RESERVES				\$1,675,379	\$1,890,454	\$2,113,518	\$2,326,714	\$2,538,558			
INTEREST EARNED				\$52,782	\$54,279	\$60,874	\$67,517	\$73,992			
SPECIAL ASSESSMENT											
YEAR-END BALANCE				\$1,728,161	\$1,944,733	\$2,174,392	\$2,394,230	\$2,612,550			
YEARS				0-1	2-10	11-30	11 (2028 )	12 (2029 )	13 (2030 )	14 (2031 )	15 (2032 )
CONTRIBUTION INFLATION				0%	3%	4%	4%	4%	4%	4%	4%
COMPONENT COMPOUND INFLATION				2%	3%	4%	138%	144%	150%	156%	162%
INTEREST RATE MULTIPLIER				1%	2%	3%	3%	3%	3%	3%	3%

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# Cape George Colony Club - Water Facilities Reserves

## Reserve Study Projections at Recommended Funding of \$115,000

### Reserve Consultants LLC

30-YEAR SPREADSHEET WITH INFLATED DOLLARS

PER YEAR EXPENSES IN 2017 DOLLARS

DATE: 10-Aug-17

#	COMPONENT NAME	REPAIR CYCLE	NEXT REPAIR	16 2033	17 2034	18 2035	19 2036	20 2037	
2.6.1	Chain Link Fence - Replace	25	17		\$22,925				
6.2.1	Building Major Repair - Contingency	7	2	\$10,104					
7.4.1	Maint. Comp. Shingle Roof - Replace	20	5						
8.3.1	Maintenance Roll Up Door - Replace	24	8						
8.3.2	Well House Metal Doors - Replace	25	8						
11.1.1	John Deere 990 Tractor - Replace	12	3						
11.1.2	John Deere 990 Bucket - Replace	12	3						
11.1.3	John Deere 990, 8B Backhoe - Replace	12	3						
11.1.4	Ford Diesel Stakebed - Replace	10	9				\$28,414		
11.1.5	Ford Ranger XLT 1/2 Ton - Replace	7	0						
11.2.1	Diesel Fuel Storage Tank - Replace	30	14						
11.2.2	Diesel Generator - Replace	25	15						
15.1.1	Water Filter System Media - Replace	7	4			\$24,935			
15.1.2	Water Filter System - Replace	25	11						
15.1.3	Water Meter Register & Battery - Replace	20	11						
15.1.4	Water Meter - Replace	40	30						
15.1.5	Booster Pumps - Replace	27	3						
15.1.6	Well Control Panel - Replace	15	14						
15.2.1	Well #4 - Replace	55	7						
15.2.2	Water Storage Tank #4 - Replace	55	7						
15.2.3	Pump #4 - Replace	20	19				\$34,532		
15.2.4	Water Storage Tank #5 - Replace	50	11						
15.2.5	Well #6 - Replace	50	30						
15.2.6	Water Storage Tank #6 - Replace	50	11						
15.2.7	Pump #6 - Replace	20	6						
15.2.8	Water Storage Tank #7 - Replace	50	30						
15.2.9	Pump #8 - Replace	20	17		\$31,927				
15.2.10	Water System Delivery Pipes - Replace Phase 1	50	18			\$1,543,005			
15.2.11	Water System Delivery Pipes - Replace Phase 2	50	23						
15.2.12	Water System Delivery Pipes - Replace Phase 3	50	28						
TOTAL EXPENDED BY YEAR				\$10,104	\$54,852	\$1,567,940	\$62,946	\$0	
CARRY OVER RESERVES				\$2,612,550	\$2,873,379	\$3,104,322	\$1,814,425	\$2,021,738	
ANNUAL RESERVE CONTRIB				\$189,860	\$197,454	\$205,352	\$213,566	\$222,109	
RESERVE EXPENDITURES				\$10,104	\$54,852	\$1,567,940	\$62,946	\$0	
ACCUMULATED RESERVES				\$2,792,306	\$3,015,981	\$1,741,734	\$1,965,046	\$2,243,847	
INTEREST EARNED				\$81,073	\$88,340	\$72,691	\$56,692	\$63,984	
SPECIAL ASSESSMENT									
YEAR-END BALANCE				\$2,873,379	\$3,104,322	\$1,814,425	\$2,021,738	\$2,307,831	
YEARS		0-1	2-10	11-30	16 (2033)	17 (2034)	18 (2035)	19 (2036)	20 (2037)
CONTRIBUTION INFLATION		0%	3%	4%	4%	4%	4%	4%	4%
COMPONENT COMPOUND INFLATION		2%	3%	4%	168%	175%	182%	189%	197%
INTEREST RATE MULTIPLIER		1%	2%	3%	3%	3%	3%	3%	3%

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# Cape George Colony Club - Water Facilities Reserves

## Reserve Study Projections at Recommended Funding of \$115,000

### Reserve Consultants LLC

30-YEAR SPREADSHEET WITH INFLATED DOLLARS  
PER YEAR EXPENSES IN 2017 DOLLARS

DATE: 10-Aug-17

#	COMPONENT NAME	REPAIR CYCLE	NEXT REPAIR	21 2038	22 2039	23 2040	24 2041	25 2042	
2.6.1	Chain Link Fence - Replace	25	17						
6.2.1	Building Major Repair - Contingency	7	2			\$13,296			
7.4.1	Maint. Comp. Shingle Roof - Replace	20	5					\$7,790	
8.3.1	Maintenance Roll Up Door - Replace	24	8						
8.3.2	Well House Metal Doors - Replace	25	8						
11.1.1	John Deere 990 Tractor - Replace	12	3						
11.1.2	John Deere 990 Bucket - Replace	12	3						
11.1.3	John Deere 990, 8B Backhoe - Replace	12	3						
11.1.4	Ford Diesel Stakebed - Replace	10	9						
11.1.5	Ford Ranger XLT 1/2 Ton - Replace	7	0	\$14,342					
11.2.1	Diesel Fuel Storage Tank - Replace	30	14						
11.2.2	Diesel Generator - Replace	25	15						
15.1.1	Water Filter System Media - Replace	7	4					\$32,812	
15.1.2	Water Filter System - Replace	25	11						
15.1.3	Water Meter Register & Battery - Replace	20	11						
15.1.4	Water Meter - Replace	40	30						
15.1.5	Booster Pumps - Replace	27	3						
15.1.6	Well Control Panel - Replace	15	14						
15.2.1	Well #4 - Replace	55	7						
15.2.2	Water Storage Tank #4 - Replace	55	7						
15.2.3	Pump #4 - Replace	20	19						
15.2.4	Water Storage Tank #5 - Replace	50	11						
15.2.5	Well #6 - Replace	50	30						
15.2.6	Water Storage Tank #6 - Replace	50	11						
15.2.7	Pump #6 - Replace	20	6						
15.2.8	Water Storage Tank #7 - Replace	50	30						
15.2.9	Pump #8 - Replace	20	17						
15.2.10	Water System Delivery Pipes - Replace Phase 1	50	18						
15.2.11	Water System Delivery Pipes - Replace Phase 2	50	23			\$1,877,302			
15.2.12	Water System Delivery Pipes - Replace Phase 3	50	28						
TOTAL EXPENDED BY YEAR				\$14,342	\$0	\$1,890,598	\$0	\$40,602	
CARRY OVER RESERVES				\$2,307,831	\$2,596,967	\$2,918,713	\$1,340,908	\$1,644,869	
ANNUAL RESERVE CONTRIB				\$230,993	\$240,233	\$249,842	\$259,836	\$270,230	
RESERVE EXPENDITURES				\$14,342	\$0	\$1,890,598	\$0	\$40,602	
ACCUMULATED RESERVES				\$2,524,482	\$2,837,200	\$1,277,958	\$1,600,744	\$1,874,496	
INTEREST EARNED				\$72,485	\$81,513	\$62,950	\$44,125	\$52,790	
SPECIAL ASSESSMENT									
YEAR-END BALANCE				\$2,596,967	\$2,918,713	\$1,340,908	\$1,644,869	\$1,927,287	
YEARS		0-1	2-10	11-30	21 (2038 )	22 (2039 )	23 (2040 )	24 (2041 )	25 (2042 )
CONTRIBUTION INFLATION		0%	3%	4%	4%	4%	4%	4%	4%
COMPONENT COMPOUND INFLATION		2%	3%	4%	205%	213%	222%	230%	240%
INTEREST RATE MULTIPLIER		1%	2%	3%	3%	3%	3%	3%	3%

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# Cape George Colony Club - Water Facilities Reserves

## Reserve Study Projections at Recommended Funding of \$115,000

### Reserve Consultants LLC

30-YEAR SPREADSHEET WITH INFLATED DOLLARS

PER YEAR EXPENSES IN 2017 DOLLARS

DATE: 10-Aug-17

#	COMPONENT NAME	REPAIR CYCLE	NEXT REPAIR	26 2043	27 2044	28 2045	29 2046	30 2047			
2.6.1	Chain Link Fence - Replace	25	17								
6.2.1	Building Major Repair - Contingency	7	2					\$17,497			
7.4.1	Maint. Comp. Shingle Roof - Replace	20	5								
8.3.1	Maintenance Roll Up Door - Replace	24	8								
8.3.2	Well House Metal Doors - Replace	25	8								
11.1.1	John Deere 990 Tractor - Replace	12	3		\$20,480						
11.1.2	John Deere 990 Bucket - Replace	12	3		\$2,722						
11.1.3	John Deere 990, 8B Backhoe - Replace	12	3		\$3,396						
11.1.4	Ford Diesel Stakebed - Replace	10	9				\$42,059				
11.1.5	Ford Ranger XLT 1/2 Ton - Replace	7	0			\$18,873					
11.2.1	Diesel Fuel Storage Tank - Replace	30	14								
11.2.2	Diesel Generator - Replace	25	15								
15.1.1	Water Filter System Media - Replace	7	4								
15.1.2	Water Filter System - Replace	25	11								
15.1.3	Water Meter Register & Battery - Replace	20	11								
15.1.4	Water Meter - Replace	40	30					\$328,032			
15.1.5	Booster Pumps - Replace	27	3					\$24,816			
15.1.6	Well Control Panel - Replace	15	14				\$10,375				
15.2.1	Well #4 - Replace	55	7								
15.2.2	Water Storage Tank #4 - Replace	55	7								
15.2.3	Pump #4 - Replace	20	19								
15.2.4	Water Storage Tank #5 - Replace	50	11								
15.2.5	Well #6 - Replace	50	30					\$204,127			
15.2.6	Water Storage Tank #6 - Replace	50	11								
15.2.7	Pump #6 - Replace	20	6	\$45,442							
15.2.8	Water Storage Tank #7 - Replace	50	30					\$153,387			
15.2.9	Pump #8 - Replace	20	17								
15.2.10	Water System Delivery Pipes - Replace Phase 1	50	18								
15.2.11	Water System Delivery Pipes - Replace Phase 2	50	23								
15.2.12	Water System Delivery Pipes - Replace Phase 3	50	28			\$2,284,024					
TOTAL EXPENDED BY YEAR				\$45,442	\$26,598	\$2,302,897	\$52,434	\$727,858			
CARRY OVER RESERVES				\$1,927,287	\$2,224,236	\$2,560,631	\$608,540	\$894,449			
ANNUAL RESERVE CONTRIB				\$281,039	\$292,280	\$303,972	\$316,130	\$328,776			
RESERVE EXPENDITURES				\$45,442	\$26,598	\$2,302,897	\$52,434	\$727,858			
ACCUMULATED RESERVES				\$2,162,884	\$2,489,919	\$561,705	\$872,237	\$495,367			
INTEREST EARNED				\$61,353	\$70,712	\$46,835	\$22,212	\$20,847			
SPECIAL ASSESSMENT											
YEAR-END BALANCE				\$2,224,236	\$2,560,631	\$608,540	\$894,449	\$516,214			
YEARS				0-1	2-10	11-30	26 (2043)	27 (2044)	28 (2045)	29 (2046)	30 (2047)
CONTRIBUTION INFLATION				0%	3%	4%	4%	4%	4%	4%	4%
COMPONENT COMPOUND INFLATION				2%	3%	4%	249%	259%	270%	280%	292%
INTEREST RATE MULTIPLIER				1%	2%	3%	3%	3%	3%	3%	3%

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### 30 Year Summary at the Starting Recommended Funding of \$115,000 Using Inflated Dollar Values

Inflation & Interest Assumptions						Percent Funded			
		Inflation	Interest						
		Years 0-1	0%	1%			Fully Funded		100% and above
		Years 2-10	3%	2%			Well Funded		60% 99%
		Years 11-30	4%	3%			Adequately Funded		25% to 59%
							At Risk for Special Assessment		0% to 24%
Fiscal Year End	Fiscal Year Beginning Reserve Balance	Recommended Annual Reserve Contribution	Projected Reserve Expenditures	Special Assessment	Projected Interest Earned	Fiscal Year End Reserve Balance	Projected Fully Funded Balance		% Funded
1 (2018)	\$558,986	\$115,000	(\$0)	\$0	\$6,165	\$680,151	\$1,834,006		37%
2 (2019)	\$680,151	\$118,450	(\$6,304)	\$0	\$14,724	\$807,022	\$1,962,003		41%
3 (2020)	\$807,022	\$122,004	(\$20,311)	\$0	\$17,157	\$925,871	\$2,082,482		44%
4 (2021)	\$925,871	\$125,664	(\$15,259)	\$0	\$19,621	\$1,055,898	\$2,213,975		48%
5 (2022)	\$1,055,898	\$129,434	(\$3,731)	\$0	\$22,375	\$1,203,975	\$2,363,233		51%
6 (2023)	\$1,203,975	\$133,317	(\$21,556)	\$0	\$25,197	\$1,340,932	\$2,502,089		54%
7 (2024)	\$1,340,932	\$137,316	(\$157,844)	\$0	\$26,613	\$1,347,018	\$2,514,168		54%
8 (2025)	\$1,347,018	\$141,435	(\$7,928)	\$0	\$28,275	\$1,508,800	\$2,676,338		56%
9 (2026)	\$1,508,800	\$145,679	(\$27,134)	\$0	\$31,361	\$1,658,706	\$2,827,379		59%
10 (2027)	\$1,658,706	\$150,049	(\$0)	\$0	\$34,675	\$1,843,430	\$3,012,474		61%
11 (2028)	\$1,843,430	\$156,051	(\$324,102)	\$0	\$52,782	\$1,728,161	\$2,919,512		59%
12 (2029)	\$1,728,161	\$162,293	(\$0)	\$0	\$54,279	\$1,944,733	\$3,144,749		62%
13 (2030)	\$1,944,733	\$168,785	(\$0)	\$0	\$60,874	\$2,174,392	\$3,383,333		64%
14 (2031)	\$2,174,392	\$175,536	(\$23,214)	\$0	\$67,517	\$2,394,230	\$3,613,214		66%
15 (2032)	\$2,394,230	\$182,557	(\$38,229)	\$0	\$73,992	\$2,612,550	\$3,842,262		68%
16 (2033)	\$2,612,550	\$189,860	(\$10,104)	\$0	\$81,073	\$2,873,379	\$4,112,925		70%
17 (2034)	\$2,873,379	\$197,454	(\$54,852)	\$0	\$88,340	\$3,104,322	\$4,355,620		71%
18 (2035)	\$3,104,322	\$205,352	(\$1,567,940)	\$0	\$72,691	\$1,814,425	\$3,129,881		58%
19 (2036)	\$1,814,425	\$213,566	(\$62,946)	\$0	\$56,692	\$2,021,738	\$3,336,086		61%
20 (2037)	\$2,021,738	\$222,109	(\$0)	\$0	\$63,984	\$2,307,831	\$3,617,959		64%
21 (2038)	\$2,307,831	\$230,993	(\$14,342)	\$0	\$72,485	\$2,596,967	\$3,902,984		67%
22 (2039)	\$2,596,967	\$240,233	(\$0)	\$0	\$81,513	\$2,918,713	\$4,219,646		69%
23 (2040)	\$2,918,713	\$249,842	(\$1,890,598)	\$0	\$62,950	\$1,340,908	\$2,701,868		50%
24 (2041)	\$1,340,908	\$259,836	(\$0)	\$0	\$44,125	\$1,644,869	\$2,983,585		55%
25 (2042)	\$1,644,869	\$270,230	(\$40,602)	\$0	\$52,790	\$1,927,287	\$3,243,710		59%
26 (2043)	\$1,927,287	\$281,039	(\$45,442)	\$0	\$61,353	\$2,224,236	\$3,516,719		63%
27 (2044)	\$2,224,236	\$292,280	(\$26,598)	\$0	\$70,712	\$2,560,631	\$3,826,635		67%
28 (2045)	\$2,560,631	\$303,972	(\$2,302,897)	\$0	\$46,835	\$608,540	\$1,925,095		32%
29 (2046)	\$608,540	\$316,130	(\$52,434)	\$0	\$22,212	\$894,449	\$2,161,956		41%
30 (2047)	\$894,449	\$328,776	(\$727,858)	\$0	\$20,847	\$516,214	\$1,754,561		29%

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. 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.

For example, if you have a roof that will last 10 years and cost \$100,000 to replace:

- 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.
- 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.
- 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.

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 more expensive than predicted, and expenses that are required earlier than anticipated.

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.



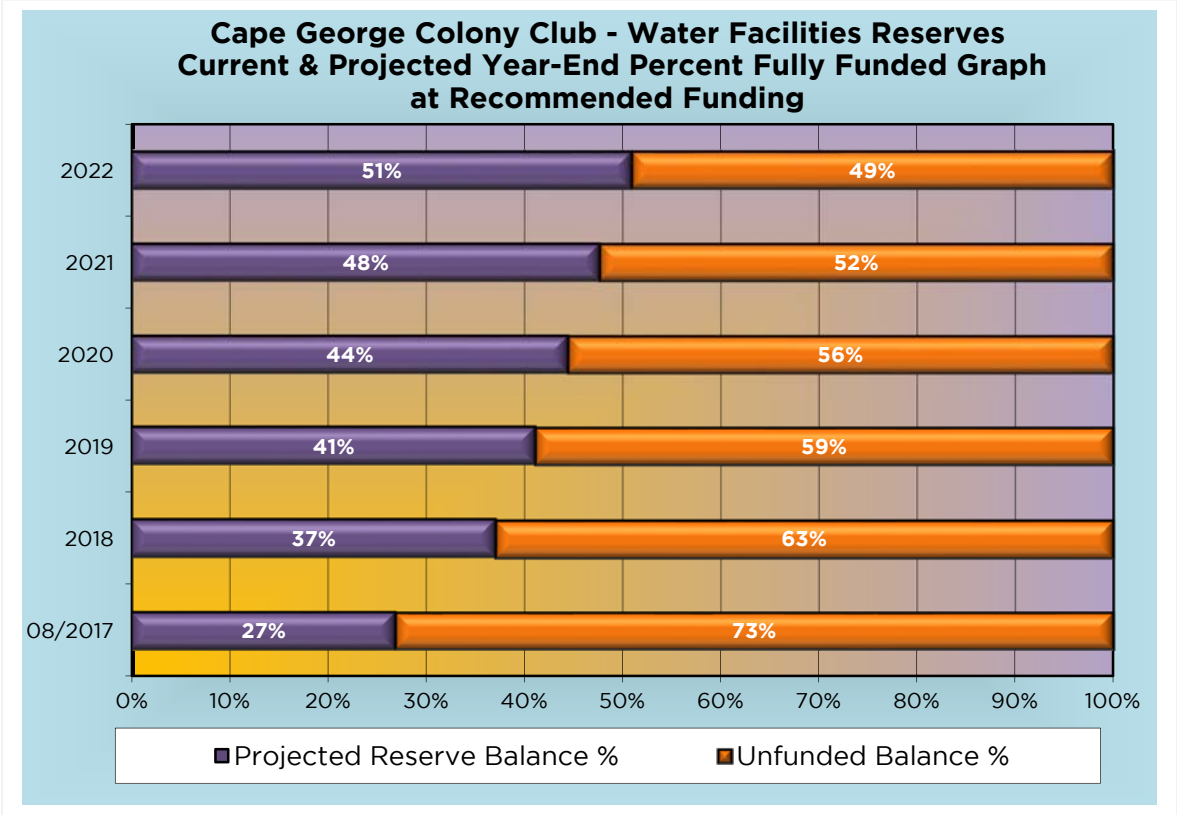
We typically recommend that an association select a minimum reserve account balance (or Threshold) it wants to maintain, and select a contribution rate to maintain that minimum rather than try to build their account to 100% fully funded. We typically recommend that an association consider a threshold equal to the recommended annual reserve contribution because this is the average major repair or replacement expense over the thirty years. However, each association must judge their unique risk tolerance.

The Fully Funded Balance for Cape George Colony Club is \$1,764,154. The actual current funding is \$474,345. The Association is approximately 27% funded. This means that based on a straight line savings for each reserve component, the Association saved 27% of the accumulated depreciation of the reserve components.

Percent Funded	Considered
100% or more	Fully Funded
60% to 99%	Reasonably Well Funded
25% to 59%	Adequately Funded
24% or less	At High Risk for a Special Assessment

At 27%, Cape George Colony Club is considered adequately funded.

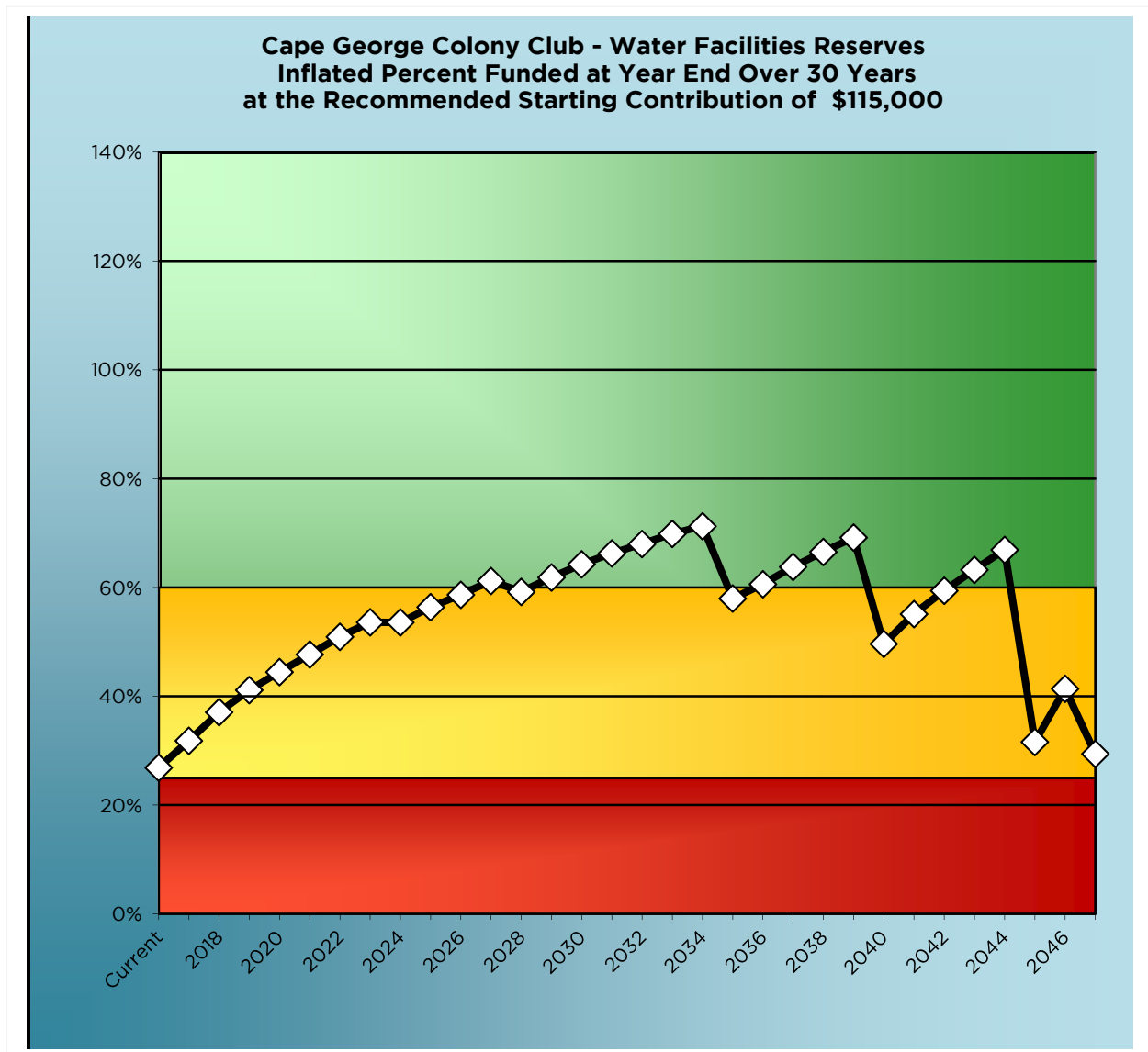
Below is a graph with the current and projected year-end percent fully funded calculated at the recommended starting annual reserve contribution of \$115,000.





The following chart illustrates the projected percent funded at year end over the next 30 years at the recommended starting contribution rate of \$115,000. The values include interest and inflation rate assumptions.

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 CALCULATION TABLE**



Fully Funded Balance Calculations

Cape George Colony Club - Water Facilities Reserves

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

Component Description	Quantity	Unit	Repair Cycle (Useful Life)	Remaining Useful Life	Effective Age	Current Replacement Cost	Fully Funded Balance
2.6.1 Chain Link Fence - Replace	546	LF	25	17	8	\$ 13,090	\$ 4,189
6.2.1 Building Major Repair - Contingency	1	LS	7	2	5	\$ 6,000	\$ 4,286
7.4.1 Maint. Comp. Shingle Roof - Replace	21	SQ	20	5	15	\$ 3,250	\$ 2,438
8.3.1 Maintenance Roll Up Door - Replace	2	EA	24	8	16	\$ 3,010	\$ 2,007
8.3.2 Well House Metal Doors - Replace	5	EA	25	8	17	\$ 3,310	\$ 2,251
11.1.1 John Deere 990 Tractor - Replace	1	EA	12	3	9	\$ 7,900	\$ 5,925
11.1.2 John Deere 990 Bucket - Replace	1	EA	12	3	9	\$ 1,050	\$ 788
11.1.3 John Deere 990, 8B Backhoe - Replace	1	EA	12	3	9	\$ 1,310	\$ 983
11.1.4 Ford Diesel Stakebed - Replace	1	EA	10	9	1	\$ 15,000	\$ 1,500
11.1.5 Ford Ranger XLT 1/2 Ton - Replace	1	EA	7	0	7	\$ 7,000	\$ 7,000
11.2.1 Diesel Fuel Storage Tank - Replace	1	EA	30	14	16	\$ 4,210	\$ 2,245
11.2.2 Diesel Generator - Replace	1	EA	25	15	10	\$ 13,350	\$ 5,340
15.1.1 Water Filter System Media - Replace	1	LS	7	4	3	\$ 13,690	\$ 5,867
15.1.2 Water Filter System - Replace	1	LS	25	11	14	\$ 42,120	\$ 23,587
15.1.3 Water Meter Register & Battery - Replace	516	EA	20	11	9	\$ 73,150	\$ 32,918
15.1.4 Water Meter - Replace	516	EA	40	30	10	\$ 112,490	\$ 28,123
15.1.5 Booster Pumps - Replace	3	EA	27	3	24	\$ 8,510	\$ 7,564
15.1.6 Well Control Panel - Replace	1	EA	15	14	1	\$ 3,700	\$ 247
15.2.1 Well #4 - Replace	1	EA	55	7	48	\$ 70,000	\$ 61,091
15.2.2 Water Storage Tank #4 - Replace	1	EA	55	7	48	\$ 52,600	\$ 45,905
15.2.3 Pump #4 - Replace	1	EA	20	19	1	\$ 18,230	\$ 912
15.2.4 Water Storage Tank #5 - Replace	1	EA	50	11	39	\$ 52,600	\$ 41,028
15.2.5 Well #6 - Replace	1	EA	50	30	20	\$ 70,000	\$ 28,000
15.2.6 Water Storage Tank #6 - Replace	1	EA	50	11	39	\$ 52,600	\$ 41,028
15.2.7 Pump #6 - Replace	1	EA	20	6	14	\$ 18,230	\$ 12,761
15.2.8 Water Storage Tank #7 - Replace	1	EA	50	30	20	\$ 52,600	\$ 21,040
15.2.9 Pump #8 - Replace	1	EA	20	17	3	\$ 18,230	\$ 2,735
15.2.10 Water System Delivery Pipes - Replace Phase 1	58613	LF	50	18	32	\$ 847,160	\$ 542,182
15.2.11 Water System Delivery Pipes - Replace Phase 2	58613	LF	50	23	27	\$ 847,160	\$ 457,466
15.2.12 Water System Delivery Pipes - Replace Phase 3	58613	LF	50	28	22	\$ 847,160	\$ 372,750
<b>FULLY FUNDED BALANCE</b>						<b>Total</b>	<b>\$ 1,764,154</b>

CURRENT RESERVE BALANCE = \$474,345

PERCENT FULLY FUNDED = 27%

August 10, 2017

ABBREVIATION KEY

EA each  
BLDG building(s)  
FIXT fixture(s)

LF linear foot  
LS lump sum  
SF square feet

SQ roofing square  
SY square yard  
ZN zone





## 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 Community Association 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 records.





## APPENDIX - GLOSSARY OF TERMS

**Baseline Funding (contribution rate)** – 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 contingency some years.

**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. Based roughly on Construction Industry Standards.

**Common Elements** – Those portions of the building which are owned collectively by all Unit owners in a condominium, and for which the association is responsible.

**"Contribution Rate"** means, in a Reserve Study as described in RCW64.38, 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** - Pretends that inflation does not exist. Shows all costs and contributions in today's dollars, no matter how far in the future they occur.

**"Effective Age"** means the difference between the useful life and the remaining useful life. RCW 64.38.010 (7)

**"Fully Funded Balance"** means the value of the deteriorated portion 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)

**Fully Funded (contribution rate)** - A Reserve Contribution Rate that is constant, increasing with inflation, that will bring the Reserve Account balance up to the "Fully Funded Balance" level and keep it there.

**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** - those common elements which are assigned exclusively to one or some Units. 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.

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

**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.

**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.

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

**"Replacement cost"** means the current cost of replacing, repairing, or restoring a reserve component to its original functional condition. RCW 64.38.010 (15)

**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 components"** means 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)

**Reserve Contribution** - 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)

**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)

**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 - EVALUATOR'S CREDENTIALS**

### **Denise Dana**

Principal, Reserve Consultants LLC  
 B.S. Education, M. Architecture  
 Washington Registered Architect, #8702  
 LEED Accredited Professional

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.

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