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## "Full" Reserve Study



## Rainbow Lake Estates Berthoud, CO

**Report #: 32564-0**  
**For Period Beginning: January 1, 2018**  
**Expires: December 31, 2018**

**Date Prepared: June 26, 2017**



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**Hello, and welcome to your Reserve Study!**

**T**his Report is a valuable budget planning tool, for with it you control the future of your association. It contains all the fundamental information needed to understand your current and future Reserve obligations, the most significant expenditures your association will face.

**W**ith respect to Reserves, this Report will tell you "where you are," and "where to go from here."

In this Report, you will find...

- 1) A List of What you're Reserving For**
- 2) An Evaluation of your Reserve Fund Size and Strength**
- 3) A Recommended Multi-Year Reserve Funding Plan**

**More Questions?**

Visit our website at [www.ReserveStudy.com](http://www.ReserveStudy.com) or call us at:

303-394-9181

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RESERVES**  
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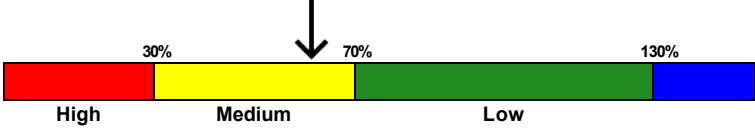
## 3- Minute Executive Summary

**Association:** Rainbow Lake Estates **Assoc. #: 32564-0**  
**Location:** Berthoud, CO **# of Units:71**  
**Report Period:** January 1, 2018 through December 31, 2018

**Findings/Recommendations as-of: January 1, 2018**

Project Starting Reserve Balance .....	\$85,000
Current Fully Funded Reserve Balance .....	\$135,631
Average Reserve Deficit or (Surplus) Per Unit .....	\$713
Percent Funded .....	62.7 %
Recommended 2018 Annual "Fully Funding" Contributions .....	\$11,218
Alternate Annual Minimum Contributions to Keep Reserves Above \$0 .....	\$11,058
Recommended 2018 Special Assessments for Reserves .....	\$0
Most Recent Annual Reserve Contribution Rate .....	\$3,500

**Reserves % Funded: 62.7%**



**Special Assessment Risk:**

**Economic Assumptions:**

**Net Annual "After Tax" Interest Earnings Accruing to Reserves .....** 1.00 %  
**Annual Inflation Rate .....** 3.00 %

- This is a "Full" Reserve Study, (original, created "from scratch"), based on our site inspection on 5/24/2017.
- The Reserve Study was prepared by a credentialed Reserve Specialist (RS #260).
- Your Reserve Fund is currently 62.7 % Funded. This means the association's special assessment & deferred maintenance risk is currently Medium. The objective of your multi-year Funding Plan is to fund your Reserves to a level where you will enjoy a low risk of such Reserve cash flow problems.
- Based on this starting point and your anticipated future expenses, our recommendation is to budget the Annual Reserve contributions at \$11,218 with 6% annual increases for thirteen years in order to be within the 70% to 130% level as noted above. 100% "Full" contribution rates are designed to achieve these funding objectives by the end of our 30-year report scope.
- No assets appropriate for Reserve designation were excluded. See photo appendix for component details; the basis of our assumptions.
- We recommend that this Reserve Study be updated annually, with an on-site inspection update every three years.

# Component	Useful Life (yrs)	Rem. Useful Life (yrs)	Current Average Cost
<b>Sites &amp; Grounds</b>			
2159 Site Fencing: Vinyl - Replace	30	14	\$242,000
2181 Monuments - Refurbish	35	19	\$12,500
2189 Landscape Lights - Replace	20	18	\$5,500
2189 Landscape Lights - Replace (2017)	20	19	\$2,000
<b>Mechanical</b>			
2543 Security System - Modernize	5	4	\$1,000
<b>5 Total Funded Components</b>			

Note 1: Yellow highlighted line items are expected to require attention in this initial year.

## Introduction



A Reserve Study is the art and science of anticipating, and preparing for, an association's major common area repair and replacement expenses. Partially art, because in this field we are making projections about the future. Partially science, because our work is a combination of research and well-defined computations, following consistent National Reserve Study Standard principles.

The foundation of this and every Reserve Study is your Reserve Component List (what you are reserving for). This is because the Reserve Component List defines the *scope and schedule* of all your anticipated upcoming Reserve projects. Based on that List and your starting balance, we calculate the association's Reserve Fund Strength (reported in terms of "Percent Funded"). Then we compute a Reserve Funding Plan to provide for the Reserve needs of the association. These form the three results of your Reserve Study.



Reserve contributions are not “for the future”. Reserve contributions are designed to offset the ongoing, daily deterioration of your Reserve assets. Done well, a stable, budgeted Reserve Funding Plan will collect sufficient funds from the owners who enjoyed the use of those assets, so the association is financially prepared for the irregular expenditures scattered through future years when those projects eventually require replacement.

## Methodology



For this [Full Reserve Study](#), we started with a review of your Governing Documents, recent Reserve expenditures, an evaluation of how expenditures are handled (ongoing maintenance vs Reserves), and research into any well-established association precedents. We

performed an on-site inspection to quantify and evaluate your common areas, creating your Reserve Component List *from scratch*.

## *Which Physical Assets are Funded by Reserves?*

There is a national-standard four-part test to determine which expenses should appear in your Reserve Component List. First, it must be a common area maintenance responsibility. Second, the component must have a limited life. Third, the remaining life must be predictable (or it by definition is a *surprise* which cannot be accurately anticipated). Fourth, the component must be above a minimum threshold cost (often between .5% and 1% of an association's total budget). This limits Reserve



RESERVE COMPONENT "FOUR-PART TEST"

Components to major, predictable expenses. Within this framework, it is inappropriate to include *lifetime* components, unpredictable expenses (such as damage due to fire, flood, or earthquake), and expenses more appropriately handled from the Operational Budget or as an insured loss.

## *How do we establish Useful Life and Remaining Useful Life estimates?*

- 1) Visual Inspection (observed wear and age)
- 2) Association Reserves database of experience
- 3) Client History (install dates & previous life cycle information)
- 4) Vendor Evaluation and Recommendation

## *How do we establish Current Repair/Replacement Cost Estimates?*

In this order...

- 1) Actual client cost history, or current proposals
- 2) Comparison to Association Reserves database of work done at similar associations
- 3) Vendor Recommendations
- 4) Reliable National Industry cost estimating guidebooks

## How much Reserves are enough?

Reserve adequacy is not measured in cash terms. Reserve adequacy is found when the *amount* of current Reserve cash is compared to Reserve component deterioration (the *needs of the association*). Having *enough* means the association can execute its projects in a timely manner with existing Reserve funds. Not having *enough* typically creates deferred maintenance or special assessments.

Adequacy is measured in a two-step process:

- 1) Calculate the *value of deterioration* at the association (called Fully Funded Balance, or FFB).
- 2) Compare that to the Reserve Fund Balance, and express as a percentage.



Each year, the *value of deterioration* at the association changes. When there is more deterioration (as components approach the time they need to be replaced), there should be more cash to offset that deterioration and prepare for the expenditure. Conversely, the *value of deterioration* shrinks after projects are accomplished. The *value of deterioration* (the FFB) changes each year, and is a moving but predictable target.

There is a high risk of special assessments and deferred maintenance when the Percent Funded is *weak*, below 30%. Approximately 30% of all associations are in this high risk range. While the 100% point is Ideal (indicating Reserve cash is equal to the *value of deterioration*), a Reserve Fund in the 70% - 130% range is considered strong (low risk of special assessment).

Measuring your Reserves by Percent Funded tells how well prepared your association is for upcoming Reserve expenses. New buyers should be very aware of this important disclosure!



## How much should we contribute?



RESERVE FUNDING PRINCIPLES

According to National Reserve Study Standards, there are four Funding Principles to balance in developing your Reserve Funding Plan. Our first objective is to design a plan that provides you with sufficient cash to perform your Reserve projects on time. Second, a stable contribution is desirable because it keeps these naturally irregular expenses from unsettling the budget.

Reserve contributions that are evenly distributed over current and future owners enable each owner to pay their fair share of the association's Reserve expenses over the years. And finally, we develop a plan that is fiscally responsible and safe for Boardmembers to recommend to their association. Remember, it is the Board's job to provide for the ongoing care of the common areas. Boardmembers invite liability exposure when Reserve contributions are inadequate to offset ongoing common area deterioration.

## What is our Recommended Funding Goal?

Maintaining the Reserve Fund at a level equal to the *value* of deterioration is called "Full Funding" (100% Funded). As each asset ages and becomes "used up," the Reserve Fund grows proportionally. **This is simple, responsible, and our recommendation.** Evidence shows that associations in the 70 - 130% range *enjoy a low risk of special assessments or deferred maintenance.*



FUNDING OBJECTIVES

Allowing the Reserves to fall close to zero, but not below zero, is called Baseline Funding. Doing so allows the Reserve Fund to drop into the 0 - 30% range, where there is a high risk of special assessments & deferred maintenance. Since Baseline Funding still provides for the timely execution of all Reserve projects, and only the "margin of safety" is different, Baseline Funding contributions average only 10% - 15% less than Full Funding contributions. Threshold Funding is the title of all other Cash or Percent Funded objectives *between* Baseline Funding and Full Funding.

**Site Inspection Notes**

During our site visit on 5/24/2017 we visually inspected the common area assets and were able to see a majority of the common areas.

Please see photo appendix for component details; the basis of our assumptions.



## Projected Expenses

While this Reserve Study looks forward 30 years, we have no expectation that all these expenses will all take place as anticipated. This Reserve Study needs to be updated annually because we expect the timing of these expenses to shift and the size of these expenses to change. We do feel more certain of the timing and cost of near-term expenses than expenses many years away. Please be aware of your near-term expenses, which we are able to project more accurately than the more distant projections.

The figure below summarizes the projected future expenses at your association as defined by your Reserve Component List. A summary of these expenses are shown in the 30-yr Summary Table, while details of the projects that make up these expenses are shown in the Cash Flow Detail Table.

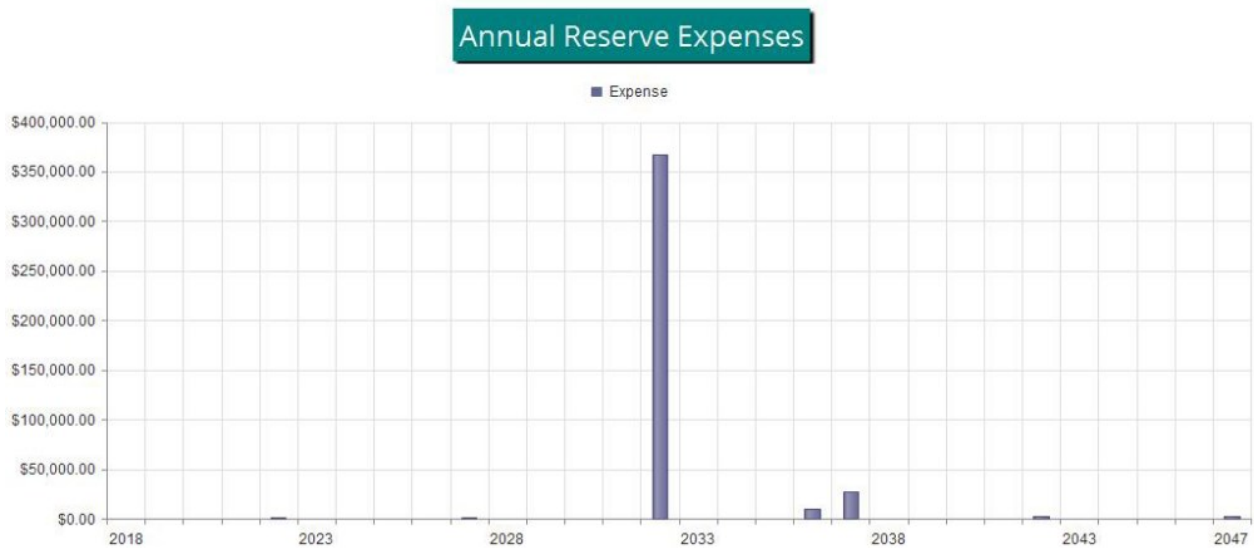


Figure 1

## Reserve Fund Status

As of 1/1/2018 your Reserve Fund balance is projected to be \$85,000 and your Fully Funded Balance is computed to be \$135,631 (see the Fully Funded Balance Table). This figure represents the deteriorated value of your common area components. Comparing your Reserve Balance to your Fully Funded Balance indicates your Reserves are 62.7 % Funded.

## Recommended Funding Plan

Based on your current Percent Funded and your near-term and long-term Reserve needs, we are recommending budgeted contributions of \$11,218 Annual. The overall 30-yr plan, in perspective, is shown below. This same information is shown numerically in both the 30-yr Summary Table and the Cash Flow Detail Table.

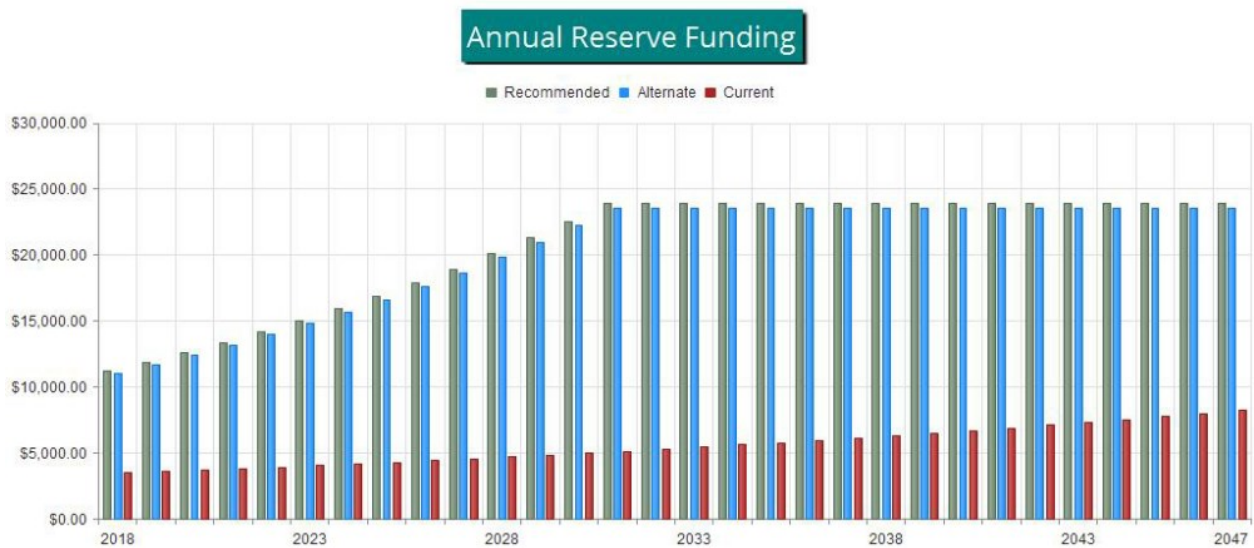


Figure 2

The following chart shows your Reserve balance under our recommended Full Funding Plan, an alternate Baseline Funding Plan, and at your current budgeted contribution rate, compared to your always-changing Fully Funded Balance target.

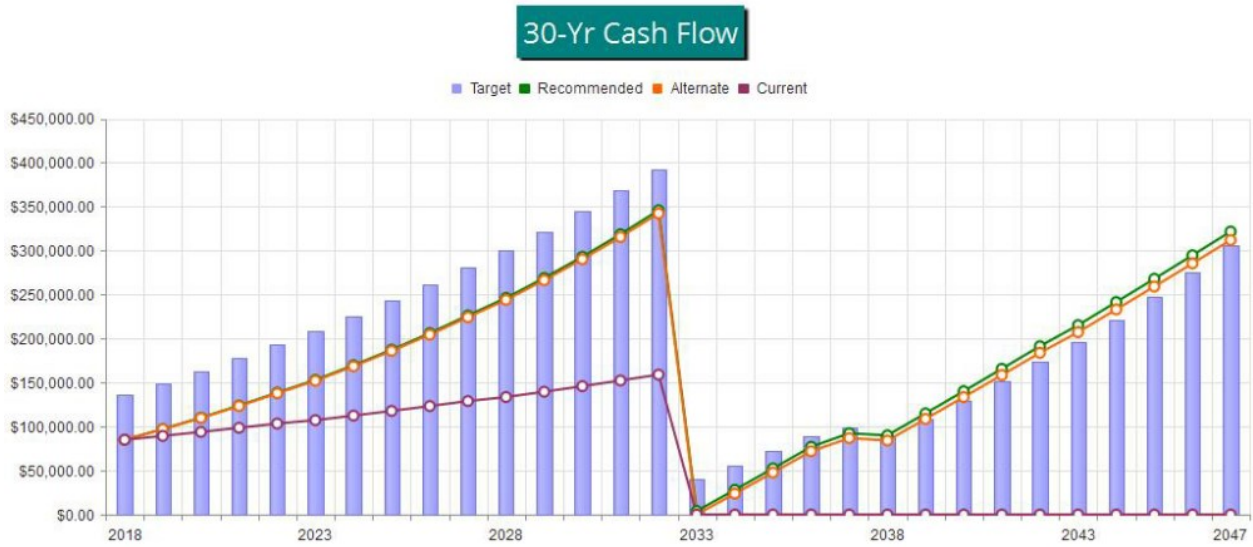


Figure 3

This figure shows the same information plotted on a Percent Funded scale. It is clear here to see how your Reserve Fund strength approaches the 100% Funded level under our recommended multi-yr Funding Plan.

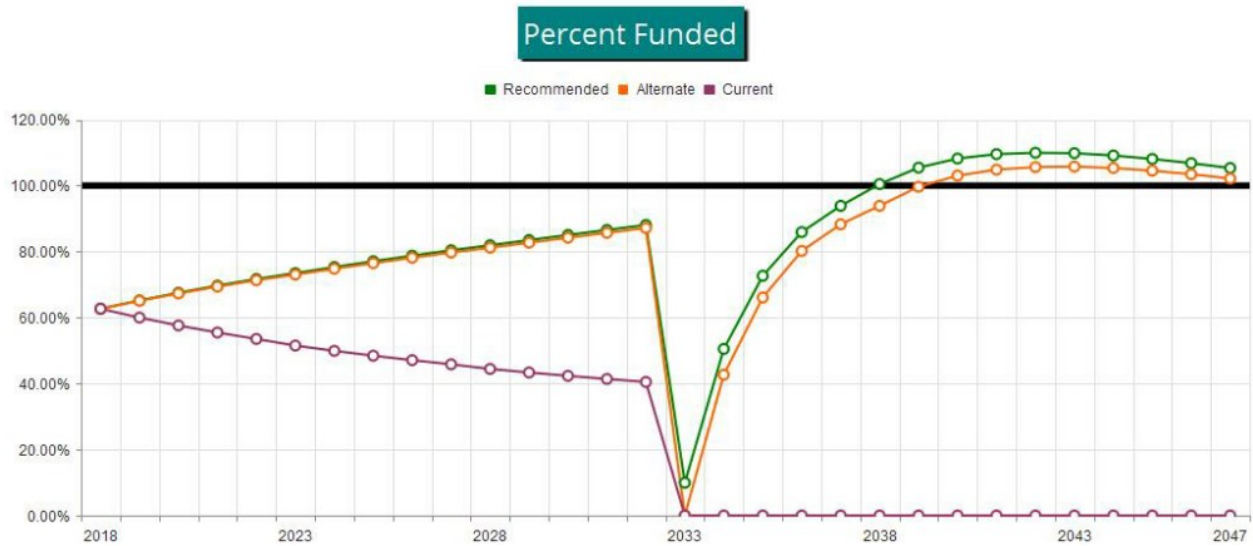


Figure 4

## **Table Descriptions**

The tabular information in this Report is broken down into nine tables, not all which may have been chosen by your Project Manager to appear in your report. Tables are listed in the order in which they appear in your Report.

Executive Summary is a summary of your Reserve Components

Budget Summary is a management and accounting tool, summarizing groupings of your Reserve Components.

Analysis Summary provides a summary of the starting financial information and your Project Manager's Financial Analysis decision points.

Component List Detail discloses key Component information, providing the foundation upon which the financial analysis is performed.

Fully Funded Balance shows the calculation of the Fully Funded Balance for each of your components, and their contributions to the association total. For each component, the Fully Funded Balance is the fraction of life used up multiplied by its estimated Current Replacement Cost.

Component Significance shows the relative significance of each component to Reserve funding needs of the association, helping you see which components have more (or less) influence than others on your total Reserve contribution rate. The deterioration cost/yr of each component is calculated by dividing the estimated Current Replacement Cost by its Useful Life, then that component's percentage of the total is displayed.

Acct/Tax Summary provides information on each Component's proportionate portion of key totals, valuable to accounting professionals primarily during tax preparation time of year.

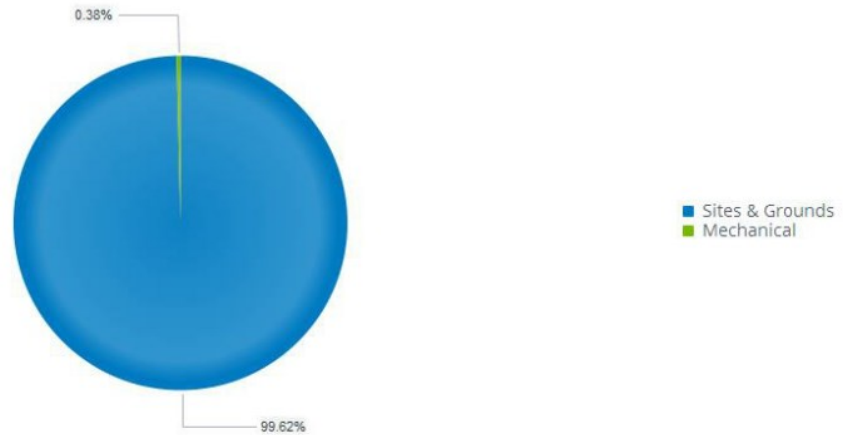
30-Yr Summary provides a one-page 30-year summary of the cash flowing into and out of the Reserve Fund, with a display of the Fully Funded Balance, Percent Funded, and special assessment risk at the beginning of each year.

Cash Flow Detail shows the detailed income and expenses for each of the next 30 years. This table makes it possible to see which components are projected to require repair or replacement in a particular year, and the size of those individual expenses.

	Useful Life		2018 Rem. Useful Life		Estimated Replacement Cost in 2018	2018 Expenditures	01/01/2018	01/01/2018	Remaining Bal. to be Funded	2018 Contributions
	Min	Max	Min	Max			Current Fund Balance	Fully Funded Balance		
Sites & Grounds	20	35	14	19	\$262,000	\$0	\$84,800	\$135,431	\$177,200	\$10,969
Mechanical	5	5	4	4	\$1,000	\$0	\$200	\$200	\$800	\$249
					<b>\$263,000</b>	<b>\$0</b>	<b>\$85,000</b>	<b>\$135,631</b>	<b>\$178,000</b>	<b>\$11,218</b>

Percent Funded: 62.7%

**Budget Summary**



#	Component	Quantity	Useful Life	Rem. Useful Life	Current Cost Estimate	
					Best Case	Worst Case
<b>Sites &amp; Grounds</b>						
2159	Site Fencing: Vinyl - Replace	~ 12000 LF	30	14	\$220,000	\$264,000
2181	Monuments - Refurbish	~ (5) Brick Monuments	35	19	\$10,000	\$15,000
2189	Landscape Lights - Replace	~ (32) Lights	20	18	\$5,000	\$6,000
2189	Landscape Lights - Replace (2017)	~ (8) Lights	20	19	\$1,000	\$3,000
<b>Mechanical</b>						
2543	Security System - Modernize	~ (2) Cameras	5	4	\$800	\$1,200

5 Total Funded Components



#	Component	Current Cost Estimate	X	Effective Age	/	Useful Life	=	Fully Funded Balance
<b>Sites &amp; Grounds</b>								
2159	Site Fencing: Vinyl - Replace	\$242,000	X	16	/	30	=	\$129,067
2181	Monuments - Refurbish	\$12,500	X	16	/	35	=	\$5,714
2189	Landscape Lights - Replace	\$5,500	X	2	/	20	=	\$550
2189	Landscape Lights - Replace (2017)	\$2,000	X	1	/	20	=	\$100
<b>Mechanical</b>								
2543	Security System - Modernize	\$1,000	X	1	/	5	=	\$200
								\$135,631

# Component Significance

32564-0  
Full

#	Component	Useful Life (yrs)	Current Cost Estimate	Deterioration Cost/Yr	Deterioration Significance
Sites & Grounds					
2159	Site Fencing: Vinyl - Replace	30	\$242,000	\$8,067	89.64 %
2181	Monuments - Refurbish	35	\$12,500	\$357	3.97 %
2189	Landscape Lights - Replace	20	\$5,500	\$275	3.06 %
2189	Landscape Lights - Replace (2017)	20	\$2,000	\$100	1.11 %
Mechanical					
2543	Security System - Modernize	5	\$1,000	\$200	2.22 %
5 Total Funded Components				\$8,999	100.00 %

# 30-Year Reserve Plan Summary

32564-0  
Full

Fiscal Year Start: 2018	Interest: 1.00 %	Inflation: 3.00 %
Reserve Fund Strength Calculations: (All values of Fiscal Year Start Date)	Projected Reserve Balance Changes	

Year	Starting Reserve Balance	Fully Funded Balance	Percent Funded	Special Assmt Risk	% Increase		Loan or Special Assmts	Interest Income	Reserve Expenses
					In Annual Reserve Contribs.	Reserve Contribs.			
2018	\$85,000	\$135,631	62.7 %	Medium	220.51 %	\$11,218	\$0	\$910	\$0
2019	\$97,128	\$148,969	65.2 %	Medium	6.00 %	\$11,891	\$0	\$1,035	\$0
2020	\$110,055	\$162,985	67.5 %	Medium	6.00 %	\$12,605	\$0	\$1,169	\$0
2021	\$123,828	\$177,707	69.7 %	Medium	6.00 %	\$13,361	\$0	\$1,311	\$0
2022	\$138,500	\$193,167	71.7 %	Low	6.00 %	\$14,162	\$0	\$1,457	\$1,126
2023	\$152,994	\$208,235	73.5 %	Low	6.00 %	\$15,012	\$0	\$1,612	\$0
2024	\$169,619	\$225,227	75.3 %	Low	6.00 %	\$15,913	\$0	\$1,784	\$0
2025	\$187,315	\$243,051	77.1 %	Low	6.00 %	\$16,868	\$0	\$1,966	\$0
2026	\$206,150	\$261,742	78.8 %	Low	6.00 %	\$17,880	\$0	\$2,161	\$0
2027	\$226,190	\$281,336	80.4 %	Low	6.00 %	\$18,953	\$0	\$2,361	\$1,305
2028	\$246,199	\$300,525	81.9 %	Low	6.00 %	\$20,090	\$0	\$2,574	\$0
2029	\$268,863	\$321,998	83.5 %	Low	6.00 %	\$21,295	\$0	\$2,808	\$0
2030	\$292,966	\$344,488	85.0 %	Low	6.00 %	\$22,573	\$0	\$3,057	\$0
2031	\$318,595	\$368,037	86.6 %	Low	6.00 %	\$23,927	\$0	\$3,321	\$0
2032	\$345,843	\$392,690	88.1 %	Low	0.00 %	\$23,927	\$0	\$1,748	\$367,559
2033	\$3,959	\$39,904	9.9 %	High	0.00 %	\$23,927	\$0	\$160	\$0
2034	\$28,047	\$55,542	50.5 %	Medium	0.00 %	\$23,927	\$0	\$402	\$0
2035	\$52,376	\$72,082	72.7 %	Low	0.00 %	\$23,927	\$0	\$646	\$0
2036	\$76,949	\$89,564	85.9 %	Low	0.00 %	\$23,927	\$0	\$846	\$9,363
2037	\$92,359	\$98,386	93.9 %	Low	0.00 %	\$23,927	\$0	\$912	\$27,179
2038	\$90,019	\$89,596	100.5 %	Low	0.00 %	\$23,927	\$0	\$1,025	\$0
2039	\$114,970	\$109,024	105.5 %	Low	0.00 %	\$23,927	\$0	\$1,275	\$0
2040	\$140,173	\$129,538	108.2 %	Low	0.00 %	\$23,927	\$0	\$1,528	\$0
2041	\$165,628	\$151,184	109.6 %	Low	0.00 %	\$23,927	\$0	\$1,784	\$0
2042	\$191,339	\$174,012	110.0 %	Low	0.00 %	\$23,927	\$0	\$2,032	\$2,033
2043	\$215,266	\$195,980	109.8 %	Low	0.00 %	\$23,927	\$0	\$2,283	\$0
2044	\$241,476	\$221,266	109.1 %	Low	0.00 %	\$23,927	\$0	\$2,546	\$0
2045	\$267,949	\$247,893	108.1 %	Low	0.00 %	\$23,927	\$0	\$2,812	\$0
2046	\$294,688	\$275,919	106.8 %	Low	0.00 %	\$23,927	\$0	\$3,081	\$0
2047	\$321,696	\$305,402	105.3 %	Low	0.00 %	\$23,927	\$0	\$3,340	\$2,357

**30-Year Income/Expense Detail (yrs 0 through 4)**

**32564-0  
Full**

<b>Fiscal Year</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
Starting Reserve Balance	\$85,000	\$97,128	\$110,055	\$123,828	\$138,500
Annual Reserve Contribution	\$11,218	\$11,891	\$12,605	\$13,361	\$14,162
Recommended Special Assessments	\$0	\$0	\$0	\$0	\$0
Interest Earnings	\$910	\$1,035	\$1,169	\$1,311	\$1,457
<b>Total Income</b>	<b>\$97,128</b>	<b>\$110,055</b>	<b>\$123,828</b>	<b>\$138,500</b>	<b>\$154,119</b>
# Component					
<b>Sites &amp; Grounds</b>					
2159 Site Fencing: Vinyl - Replace	\$0	\$0	\$0	\$0	\$0
2181 Monuments - Refurbish	\$0	\$0	\$0	\$0	\$0
2189 Landscape Lights - Replace	\$0	\$0	\$0	\$0	\$0
2189 Landscape Lights - Replace (2017)	\$0	\$0	\$0	\$0	\$0
<b>Mechanical</b>					
2543 Security System - Modernize	\$0	\$0	\$0	\$0	\$1,126
<b>Total Expenses</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$1,126</b>
<b>Ending Reserve Balance</b>	<b>\$97,128</b>	<b>\$110,055</b>	<b>\$123,828</b>	<b>\$138,500</b>	<b>\$152,994</b>

<b>Fiscal Year</b>	<b>2023</b>	<b>2024</b>	<b>2025</b>	<b>2026</b>	<b>2027</b>
Starting Reserve Balance	\$152,994	\$169,619	\$187,315	\$206,150	\$226,190
Annual Reserve Contribution	\$15,012	\$15,913	\$16,868	\$17,880	\$18,953
Recommended Special Assessments	\$0	\$0	\$0	\$0	\$0
Interest Earnings	\$1,612	\$1,784	\$1,966	\$2,161	\$2,361
<b>Total Income</b>	<b>\$169,619</b>	<b>\$187,315</b>	<b>\$206,150</b>	<b>\$226,190</b>	<b>\$247,504</b>
# Component					
<b>Sites &amp; Grounds</b>					
2159 Site Fencing: Vinyl - Replace	\$0	\$0	\$0	\$0	\$0
2181 Monuments - Refurbish	\$0	\$0	\$0	\$0	\$0
2189 Landscape Lights - Replace	\$0	\$0	\$0	\$0	\$0
2189 Landscape Lights - Replace (2017)	\$0	\$0	\$0	\$0	\$0
<b>Mechanical</b>					
2543 Security System - Modernize	\$0	\$0	\$0	\$0	\$1,305
<b>Total Expenses</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$1,305</b>
<b>Ending Reserve Balance</b>	<b>\$169,619</b>	<b>\$187,315</b>	<b>\$206,150</b>	<b>\$226,190</b>	<b>\$246,199</b>

<b>Fiscal Year</b>	<b>2028</b>	<b>2029</b>	<b>2030</b>	<b>2031</b>	<b>2032</b>
Starting Reserve Balance	\$246,199	\$268,863	\$292,966	\$318,595	\$345,843
Annual Reserve Contribution	\$20,090	\$21,295	\$22,573	\$23,927	\$23,927
Recommended Special Assessments	\$0	\$0	\$0	\$0	\$0
Interest Earnings	\$2,574	\$2,808	\$3,057	\$3,321	\$1,748
<b>Total Income</b>	<b>\$268,863</b>	<b>\$292,966</b>	<b>\$318,595</b>	<b>\$345,843</b>	<b>\$371,519</b>
# Component					
<b>Sites &amp; Grounds</b>					
2159 Site Fencing: Vinyl - Replace	\$0	\$0	\$0	\$0	\$366,047
2181 Monuments - Refurbish	\$0	\$0	\$0	\$0	\$0
2189 Landscape Lights - Replace	\$0	\$0	\$0	\$0	\$0
2189 Landscape Lights - Replace (2017)	\$0	\$0	\$0	\$0	\$0
<b>Mechanical</b>					
2543 Security System - Modernize	\$0	\$0	\$0	\$0	\$1,513
<b>Total Expenses</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$367,559</b>
<b>Ending Reserve Balance</b>	<b>\$268,863</b>	<b>\$292,966</b>	<b>\$318,595</b>	<b>\$345,843</b>	<b>\$3,959</b>

<b>Fiscal Year</b>	<b>2033</b>	<b>2034</b>	<b>2035</b>	<b>2036</b>	<b>2037</b>
Starting Reserve Balance	\$3,959	\$28,047	\$52,376	\$76,949	\$92,359
Annual Reserve Contribution	\$23,927	\$23,927	\$23,927	\$23,927	\$23,927
Recommended Special Assessments	\$0	\$0	\$0	\$0	\$0
Interest Earnings	\$160	\$402	\$646	\$846	\$912
<b>Total Income</b>	<b>\$28,047</b>	<b>\$52,376</b>	<b>\$76,949</b>	<b>\$101,723</b>	<b>\$117,198</b>
# Component					
<b>Sites &amp; Grounds</b>					
2159 Site Fencing: Vinyl - Replace	\$0	\$0	\$0	\$0	\$0
2181 Monuments - Refurbish	\$0	\$0	\$0	\$0	\$21,919
2189 Landscape Lights - Replace	\$0	\$0	\$0	\$9,363	\$0
2189 Landscape Lights - Replace (2017)	\$0	\$0	\$0	\$0	\$3,507
<b>Mechanical</b>					
2543 Security System - Modernize	\$0	\$0	\$0	\$0	\$1,754
<b>Total Expenses</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$9,363</b>	<b>\$27,179</b>
<b>Ending Reserve Balance</b>	<b>\$28,047</b>	<b>\$52,376</b>	<b>\$76,949</b>	<b>\$92,359</b>	<b>\$90,019</b>

<b>Fiscal Year</b>	<b>2038</b>	<b>2039</b>	<b>2040</b>	<b>2041</b>	<b>2042</b>
Starting Reserve Balance	\$90,019	\$114,970	\$140,173	\$165,628	\$191,339
Annual Reserve Contribution	\$23,927	\$23,927	\$23,927	\$23,927	\$23,927
Recommended Special Assessments	\$0	\$0	\$0	\$0	\$0
Interest Earnings	\$1,025	\$1,275	\$1,528	\$1,784	\$2,032
<b>Total Income</b>	<b>\$114,970</b>	<b>\$140,173</b>	<b>\$165,628</b>	<b>\$191,339</b>	<b>\$217,299</b>
# Component					
<b>Sites &amp; Grounds</b>					
2159 Site Fencing: Vinyl - Replace	\$0	\$0	\$0	\$0	\$0
2181 Monuments - Refurbish	\$0	\$0	\$0	\$0	\$0
2189 Landscape Lights - Replace	\$0	\$0	\$0	\$0	\$0
2189 Landscape Lights - Replace (2017)	\$0	\$0	\$0	\$0	\$0
<b>Mechanical</b>					
2543 Security System - Modernize	\$0	\$0	\$0	\$0	\$2,033
<b>Total Expenses</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$2,033</b>
<b>Ending Reserve Balance</b>	<b>\$114,970</b>	<b>\$140,173</b>	<b>\$165,628</b>	<b>\$191,339</b>	<b>\$215,266</b>



<b>Fiscal Year</b>	<b>2043</b>	<b>2044</b>	<b>2045</b>	<b>2046</b>	<b>2047</b>
Starting Reserve Balance	\$215,266	\$241,476	\$267,949	\$294,688	\$321,696
Annual Reserve Contribution	\$23,927	\$23,927	\$23,927	\$23,927	\$23,927
Recommended Special Assessments	\$0	\$0	\$0	\$0	\$0
Interest Earnings	\$2,283	\$2,546	\$2,812	\$3,081	\$3,340
<b>Total Income</b>	<b>\$241,476</b>	<b>\$267,949</b>	<b>\$294,688</b>	<b>\$321,696</b>	<b>\$348,963</b>
# Component					
<b>Sites &amp; Grounds</b>					
2159 Site Fencing: Vinyl - Replace	\$0	\$0	\$0	\$0	\$0
2181 Monuments - Refurbish	\$0	\$0	\$0	\$0	\$0
2189 Landscape Lights - Replace	\$0	\$0	\$0	\$0	\$0
2189 Landscape Lights - Replace (2017)	\$0	\$0	\$0	\$0	\$0
<b>Mechanical</b>					
2543 Security System - Modernize	\$0	\$0	\$0	\$0	\$2,357
<b>Total Expenses</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$2,357</b>
<b>Ending Reserve Balance</b>	<b>\$241,476</b>	<b>\$267,949</b>	<b>\$294,688</b>	<b>\$321,696</b>	<b>\$346,607</b>

## Accuracy, Limitations, and Disclosures

The 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.

Because we have no control over future events, we do not expect that all the events we anticipate will occur as planned. We expect that inflationary trends will continue, and we expect Reserve funds to continue to earn interest, so we believe that reasonable estimates for these figures are much more accurate than ignoring these economic realities. We can control measurements, which we attempt to establish within 5% accuracy through a combination of on-site measurements, drawings, and satellite imagery. The starting Reserve Balance and interest rate earned on deposited Reserve funds that you provided to us were considered reliable and were not confirmed independently. We have considered the association's representation of current and historical Reserve projects reliable, and we have considered the representations made by its vendors and suppliers to also be accurate and reliable. Component Useful Life, Remaining Useful Life, and Current Cost estimates assume a stable economic environment and lack of natural disasters.

Because the physical condition of your components, the association's Reserve balance, the economic environment, and legislative environment change each year, this Reserve Study is by nature a "one-year" document. Because a long-term perspective improves the accuracy of near-term planning, this Report projects expenses for the next 30 years. It is our recommendation and that of the Financial Accounting Standards Board (FASB) that your Reserve Study be updated each year as part of the annual budget process.

Association Reserves CO, LLC and its employees have no ownership, management, or other business relationships with the client other than this Reserve Study engagement. Bryan Farley R.S., company president, is a credentialed Reserve Specialist (#260). All work done by Association Reserves CO, LLC is performed under his Responsible Charge. There are no material issues to our knowledge that have not been disclosed to the client that would cause a distortion of the association's situation.

Component quantities indicated in this Report were developed by Association Reserves unless otherwise noted. No destructive or intrusive testing was performed. This Report and this site inspection were accomplished only for Reserve budget purposes (to help identify and address the normal deterioration of properly built and installed components with predictable life expectancies). The Funding Plan in this Report was developed using the cash-flow methodology to achieve the specified Funding Objective.

Association Reserves' liability in any matter involving this Reserve Study is limited to our Fee for services rendered.

## Terms and Definitions

<b>BTU</b>	British Thermal Unit (a standard unit of energy)
<b>DIA</b>	Diameter
<b>GSF</b>	Gross Square Feet (area). Equivalent to Square Feet
<b>GSY</b>	Gross Square Yards (area). Equivalent to Square Yards
<b>HP</b>	Horsepower
<b>LF</b>	Linear Feet (length)
<b>Effective Age</b>	The difference between Useful Life and Remaining Useful Life. Note that this is not necessarily equivalent to the chronological age of the component.
<b>Fully Funded Balance (FFB)</b>	The value of the deterioration of the Reserve Components. This is the fraction of life "used up" of each component multiplied by its estimated Current Replacement. While calculated for each component, it is summed together for an association total.
<b>Inflation</b>	Cost factors are adjusted for inflation at the rate defined in the Executive Summary and compounded annually. These increasing costs can be seen as you follow the recurring cycles of a component on the "30-yr Income/Expense Detail" table.
<b>Interest</b>	Interest earnings on Reserve Funds are calculated using the average balance for the year (taking into account income and expenses through the year) and compounded monthly using the rate defined in the Executive Summary. Annual interest earning assumption appears in the Executive Summary.
<b>Percent Funded</b>	The ratio, at a particular point in time (the first day of the Fiscal Year), of the actual (or projected) Reserve Balance to the Fully Funded Balance, expressed as a percentage.
<b>Remaining Useful Life (RUL)</b>	The estimated time, in years, that a common area component can be expected to continue to serve its intended function.
<b>Useful Life (UL)</b>	The estimated time, in years, that a common area component can be expected to serve its intended function.

## Component Details

The primary purpose of the photographic appendix is to provide the reader with the basis of our funding assumptions resulting from our physical analysis and subsequent research. The photographs herein represent a wide range of elements that were observed and measured against National Reserve Study Standards to determine if they meet the criteria for reserve funding:

- 1) Common are maintenance, repair & replacement reasonability
- 2) Components must have a limited life
- 3) Life limit must be predictable
- 4) Above a minimum threshold cost (board's discretion – typically ½ to 1% of annual operating expenses).

Some components are recommended for reserve funding, while others are not. The components that meet these criteria in our judgment are shown with corresponding maintenance, repair or replacement cycles to the left of the photo (UL = Useful Life or how often the project is expected to occur, RUL = Remaining Useful Life or how many years from our reporting period) and a representative market cost range termed “Best Cost” and “Worst Cost” below the photo. There are many factors that can result in a wide variety of potential cost; we are attempting to represent a market average for budget purposes. Where there is no UL, the component is expected to be a one-time expense. Where no pricing, the component deemed inappropriate for Reserve Funding.

## Sites & Grounds

**Comp #:** 2117 Site Drainage System - Clean/Repair

**Quantity:** System

**Location:**

**Funded?:** No.

**History:**

**Evaluation:** Site drainage systems determined to be in good condition typically do not cause any noteworthy flooding and/or standing water after normal rain storms. All system components are presumed to be functional and aging normally. No unusual conditions reported by the Association. No access to inspect in-ground drainage infrastructure. Annual preventive maintenance work is typically performed as part of an Association's general maintenance/operating fund. Under normal circumstances, site drainage components are constructed of very durable materials which should have a very long useful life (often assumed to be 50 years or more). Repairs may occasionally be required, but timing and scope of work is too unpredictable for Reserve funding in accordance with National Reserve Study Standards. If there are specific, known concerns with drainage system, we recommend further investigation using cameras or other means to document and identify conditions. Some Associations consult with civil and/or geotechnical engineers in order to develop scopes of work for repair/replacement. If more comprehensive analysis becomes available, findings should be incorporated into Reserve Study updates as appropriate.

**Useful Life:**

**Remaining Life:**



**Best Case:**

**Worst Case:**

**Cost Source:**

**Comp #: 2133 Asphalt - Resurface**

**Quantity: Numerous GSF**

Location:

Funded?: No. Not HOA responsibility

History:

Evaluation: At the time of the inspection, the contacted reported that the asphalt was either the responsibility of the PID, or in the case of the lake access road, privately maintained. No reserve funding required.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source:

**Comp #: 2159 Site Fencing: Vinyl - Replace**

**Quantity: ~ 12000 LF**

Location:

Funded?: Yes.

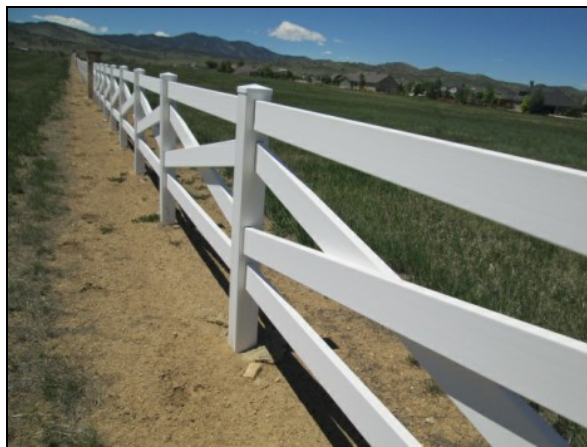
History:

Evaluation: Vinyl fencing determined to be in good condition typically exhibits little to no apparent surface wear or damage.

Physically, fencing is straight and upright with no warped, cracked or damaged sections. Appearance is good and appropriate for curb appeal within the development. 4' high split rail style vinyl fence was noted on site inspection. As routine maintenance, inspect regularly for any damage and repair as needed from Operating budget; pressure-clean as a general maintenance item or along with larger building projects, not as separate Reserve item. Even with proactive maintenance, plan to replace at roughly the time frame below due to damage/deterioration that will result from constant exposure.

Useful Life:  
30 years

Remaining Life:  
14 years



Best Case: \$ 220,000

Worst Case: \$ 264,000

Cost Source: ARI Cost Database: Similar Project Cost History

**Comp #: 2166 Perimeter Brick Pillars - Repair**

**Quantity: ~ (52) Pillars**

Location:

Funded?: No.

History:

Evaluation: The pillar surfaces appeared in generally good condition. No broken or missing sections observed. No cracking, fading, or weathering noted. At this time, costs related to this component are expected to be included in the Association's Operating budget. No recommendation for Reserve funding at this time. However, any repair and maintenance or other related expenditures should be tracked, and this component should be re-evaluated during future Reserve Study updates based on most recent information and data available at that time. If deemed appropriate for Reserve funding, component can be included in the funding plan at that time.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source:

**Comp #: 2181 Monuments - Refurbish**

**Quantity: ~ (5) Brick Monuments**

Location:

Funded?: Yes.

History:

Evaluation: Monument signage determined to be in good condition typically exhibits good appearance and aesthetics in keeping with local area. Generally uniform and attractive finishes. If present, lettering is clean, complete and legible and any surrounding landscaping, lighting, etc. is attractive and functioning. As routine maintenance, inspect regularly, clean/touch-up and repair as an Operating expense. Plan to refurbish or replace at the interval below. Timing and scope of refurbishing or replacement projects is subjective but should always be scheduled in order to maintain good curb appeal. In our experience, most Associations choose to refurbish or replace signage periodically in order to maintain good appearance and aesthetics in keeping with local area, often before signage is in poor physical condition. If present, concrete walls are expected to be painted and repaired as part of refurbishing, but not fully replaced unless otherwise noted. Costs can vary significantly depending on style/type desired, and may include additional costs for design work, landscaping, lighting, water features, etc. Reserve Study updates should incorporate any estimates or information collected regarding potential projects.

Useful Life:  
35 years

Remaining Life:  
19 years



Best Case: \$ 10,000

Worst Case: \$ 15,000

Cost Source: ARI Cost Database: Similar Project Cost History



**Comp #: 2183 Signs/Pet Stations - Replace**

**Quantity: ~ (11) Signs**

Location:

Funded?: No.

History:

Evaluation: Directional and street signs determined to be in fair condition typically exhibit somewhat faded surface finish and may have minor damage to their supports/posts/hardware. Panels are clean but reflectiveness and contrasting of lettering or symbols may be diminished. Street signs and posts are generally replaced at longer intervals due to weathering or style changes, or to coincide with other exterior projects such as replacement of entry signage, street lighting, etc. Signs should be inspected regularly to make sure visibility is adequate, including at night. Repair any damaged or leaning posts as needed. At this time, costs related to this component are expected to be included in the Association's Operating budget. No recommendation for Reserve funding at this time. However, any repair and maintenance or other related expenditures should be tracked, and this component should be re-evaluated during future Reserve Study updates based on most recent information and data available at that time. If deemed appropriate for Reserve funding, component can be included in the funding plan at that time.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source:

**Comp #: 2189 Landscape Lights - Replace**

**Quantity: ~ (32) Lights**

Location:

Funded?: Yes.

History: Replaced in 2016

Evaluation: Landscape lights should be inspected periodically to ensure proper function and adequate lighting in all areas. We recommend consideration of LED fixtures or other energy-saving options whenever possible. Landscape lights should be inspected periodically to ensure proper function and adequate lighting in all areas. We recommend consideration of LED fixtures or other energy-saving options whenever possible. Individual fixtures should be replaced as needed as an Operating expense.

Useful Life:  
20 years

Remaining Life:  
18 years



Best Case: \$ 5,000

Worst Case: \$ 6,000

Cost Source: Client Cost History

**Comp #: 2189 Landscape Lights - Replace (2017)**

**Quantity: ~ (8) Lights**

Location:

Funded?: Yes.

History:

Evaluation: Landscape lights should be inspected periodically to ensure proper function and adequate lighting in all areas. We recommend consideration of LED fixtures or other energy-saving options whenever possible. Individual fixtures should be replaced as needed as an Operating expense.

Useful Life:  
20 years

Remaining Life:  
19 years



Best Case: \$ 1,000

Worst Case: \$ 3,000

Cost Source: Estimate Provided by Client

**Comp #: 2193 Trees - Trim/Remove**

**Quantity: Numerous Trees**

Location:

Funded?: No. Reported to be an operating expense

History:

Evaluation: Routine tree trimming is expected to be included within the association's landscaping contract or otherwise reflected in the annual Operating budget. No need for Reserve funding at this time. If a pattern of larger expenses develops, or if substantial removal or replacement becomes necessary, the Reserve Study should be updated to incorporate new information. In this case, many Associations choose to work with a qualified arborist or other landscaping professional to develop appropriate guidelines and scope of work.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source:

**Comp #: 2195 Landscaping - Refurbish**

**Quantity: Common Areas0**

Location:

Funded?: No. Reported to be an operating expense

History:

Evaluation: Landscaping costs are expected to be included in the Association's annual Operating budget. No recommendation for Reserve funding at this time. Monitor and include funding in Reserve Study updates if needed.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source:

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## Mechanical

**Comp #: 2543 Security System - Modernize**

**Quantity: ~ (2) Cameras**

Location:

Funded?: Yes.

History: Repaired in 2017

Evaluation: Minimal or no subjective/aesthetic value for this component. Useful life is based primarily on normal expectations for service/performance life in this location. Unless otherwise noted, remaining useful life expectancy is based primarily on original installation or last replacement/purchase date, our experience with similar systems/components, and assuming normal amount of usage and good preventive maintenance. Security/surveillance systems should be monitored closely to ensure proper function. Whenever possible, camera locations should be protected and isolated to prevent tampering and/or theft. Typical modernization projects may include addition and/or replacement of cameras, recording equipment, monitors, software, etc. Unless otherwise noted, costs assume that existing wiring can be re-used and only the actual cameras and other equipment will be replaced. In many cases, replacement or modernization is warranted due to advancement in technology, not necessarily due to functional failure of the existing system. Keep track of any partial replacements and include cost history during future Reserve Study updates.

Useful Life:  
5 years

Remaining Life:  
4 years



Best Case: \$ 800

Worst Case: \$ 1,200

Cost Source: Client Cost History

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