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## “Full” Reserve Study



### **Kings Row HOA Carbondale, CO**

**Report #: 16151-1**  
**For Period Beginning: January 1, 2015**  
**Expires: December 31, 2015**

**Date Revised: December 8, 2014**



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

**W**e don't want you to be surprised. This Report is designed to help you anticipate, and prepare for, the major common area expenses your association will face. Inside you will find:

- 1) **The Reserve Component List** (the “Scope and Schedule” of your Reserve projects) – telling you what your association is Reserving for, what condition they are in now, and what they'll cost to replace.
- 2) **An Evaluation of your current Reserve Fund Size and Strength** (Percent Funded). This tells you your financial starting point, revealing your risk of deferred maintenance and special assessments.
- 3) **A Recommended Multi-Year Reserve Funding Plan**, answering the question... “What do we do now?”

**More Questions?**

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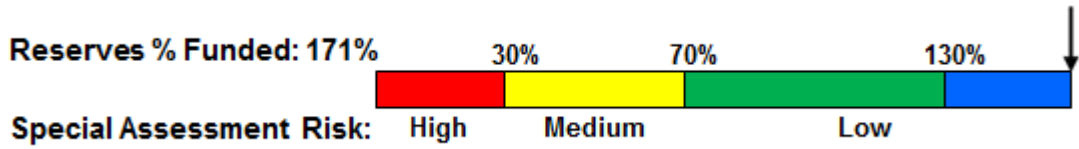
# 3- Minute Executive Summary

**Association:** Kings Row HOA **#:** 16151-1  
**Location:** Carbondale, CO **# of Units:** 45  
**Report Period:** January 1, 2015 through December 31, 2015

**Findings/Recommendations as-of 1/1/2015:**

<b>Projected Starting Reserve Balance:</b> .....	<b>\$175,103</b>
<b>Current Fully Funded Reserve Balance:</b> .....	<b>\$102,592</b>
<b>Average Reserve Surplus Per Unit:</b> .....	<b>\$1,611</b>
<b>Recommended 2015 Monthly “Full Funding” Contributions:</b> .....	<b>\$720</b>
<b>Alternate Minimum Contributions to keep Reserves above \$0:</b> .....	<b>\$495</b>
<b>Recommended 2015 Special Assessment for Reserves:</b> .....	<b>\$0</b>

**Most Recent Budgeted Reserve Contribution Rate:** .....\$170



**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”), and is based on our site inspection on September 28, 2014. It was prepared by a credentialed Reserve Specialist (RS #260).
- Your Reserve Fund is currently 171% Funded. This means the association’s special assessment & deferred maintenance risk is currently low. 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 increase your Reserve contributions to within the 70% to 100% level as noted above. 100% “Full” and 70% 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.
- If the association chooses to maintain the current level of Reserve contributions, the percent funded will drop to <20% in 15 years.

#	Component	Useful Life (yrs)	Rem. Useful Life (yrs)	Current Cost Estimate
2128	Well #2 - Replace	50	13	\$40,000
2128	Well #3 - Replace	30	19	\$40,000
2128	Well #4 - Replace	30	24	\$40,000
2157	Water Storage Tank - Repair/Paint	15	0	\$35,000
2189	Pump House - Maintain	20	7	\$1,500
2531	Sensaphone - Replace	8	0	\$2,000
2533	Submersible Transducer - Replace	10	4	\$1,250
2535	Well Motor/Pump - Replace (2014)	10	9	\$4,000
2535	Well Motors/Pumps - Replace (2005)	10	0	\$8,000
2537	Pumps/Valves - Allowance	5	4	\$3,500
2569	Water Storage Tank - Minor Repairs	5	0	\$2,500
11	Total Funded Components			

Note 1: a Useful Life of "N/A" means a one-time expense, not expected to repeat.

Note 2: Yellow highlighted line items are expected to require attention in the initial year, green highlighted items are expected to occur within the first five years.

### 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.

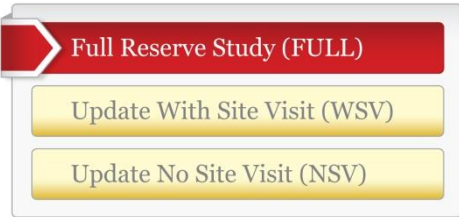
The foundation of this and every Reserve Study is your Reserve Component List (what you are reserving for). This is because the Reserve Component List defines the *scope and schedule* of all your anticipated upcoming Reserve projects. Based on that List and your starting balance, we calculate the association’s 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

LEVELS OF SERVICE



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 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.



RESERVE COMPONENT "FOUR-PART TEST"

### *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...

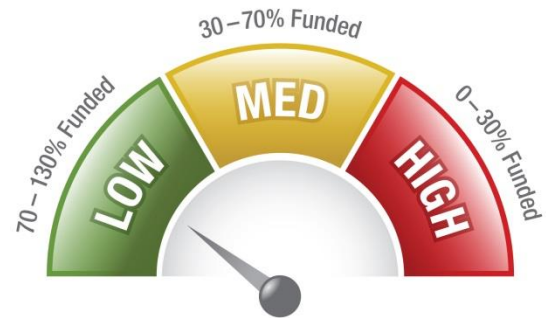
- 1) Actual client cost history, or current proposals
- 2) Comparison to Association Reserves database of work done at similar associations
- 3) Vendor Recommendations
- 4) Reliable National Industry cost estimating guidebooks

### *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 September 28, 2014, we started with a brief meeting with Peter May and Tom Hazard, and then started the site inspection beginning with the pump house. We visually inspected most of the buildings, and were able to see a majority of the common areas. We were not able to inspect the wells or the inside of the storage tank.



### 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. Your *first five years* of projected Reserve expenses total \$52,846. Adding the next five years, your *first ten years* of projected Reserve expenses are \$69,909. 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 Table 5, while details of the projects that make up these expenses are shown in Table 6.

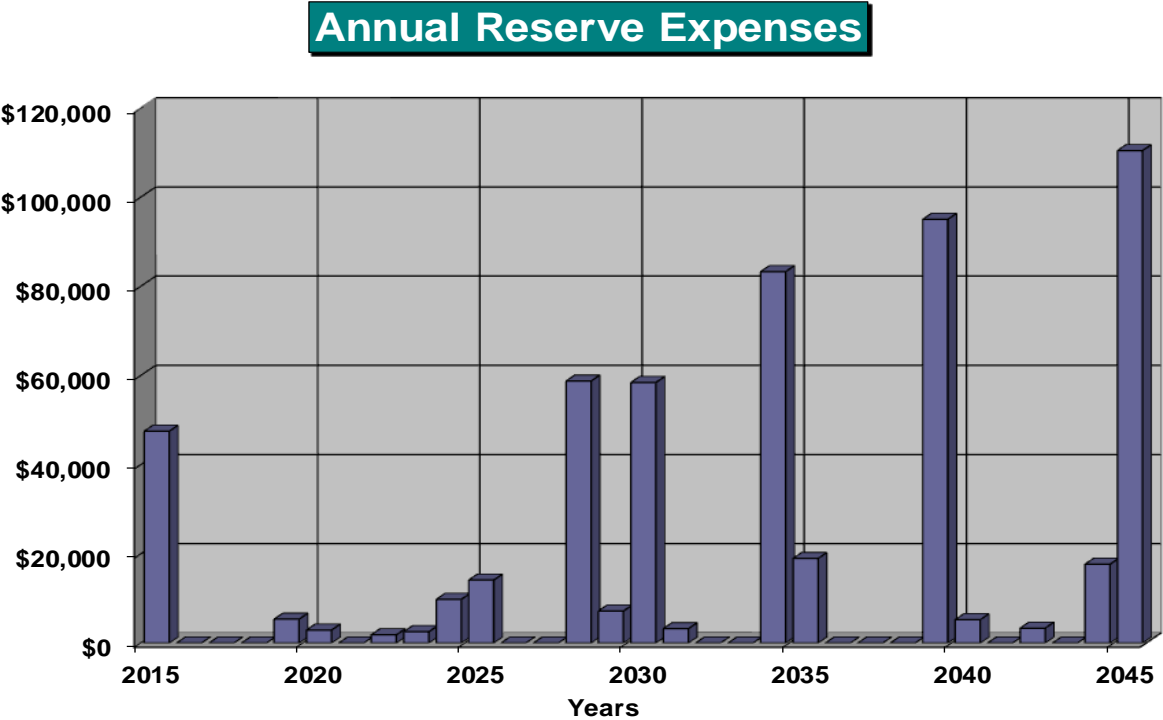


Figure 1

### Reserve Fund Status

The starting point for our financial analysis is your Reserve Fund balance, projected to be \$175,103 as-of the start of your Fiscal Year on January 1, 2015. As of January 1, 2015, your Fully Funded Balance is computed to be \$102,592 (see Table 3). This figure represents the deteriorated value of your common area components. Comparing your Reserve Balance to your Fully Funded Balance indicates your Reserves are 171% Funded. Across the country, under 1% of associations in this range experience special assessments or deferred maintenance.

### Recommended Funding Plan

Based on your current Percent Funded and your near-term and long-term Reserve needs, we are recommending budgeted contributions of \$720/month this Fiscal Year. The overall 30-yr plan, in perspective, is shown below. This same information is shown numerically in both Table 5 and Table 6.

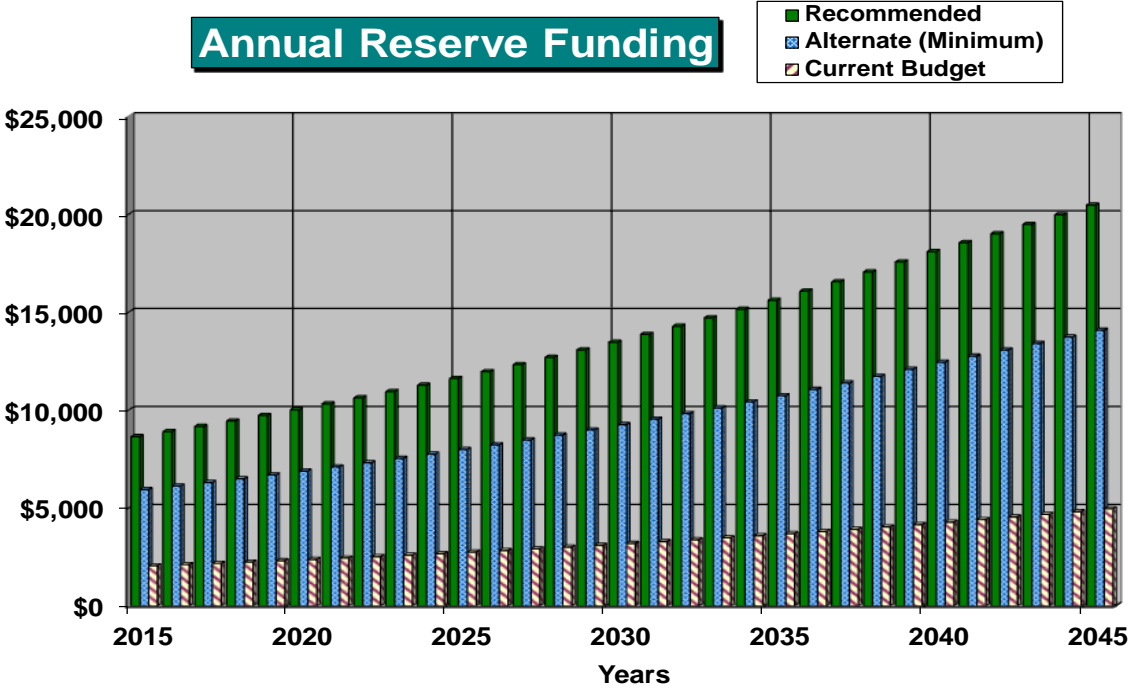


Figure 2

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.

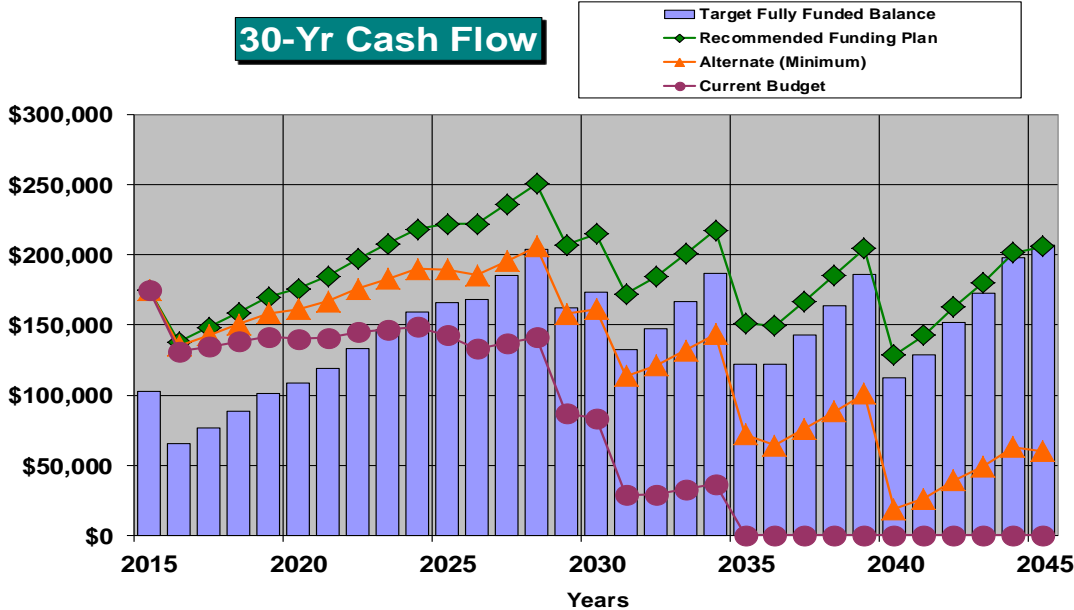


Figure 3

This figure shows this same information, plotted on a [Percent Funded](#) scale.

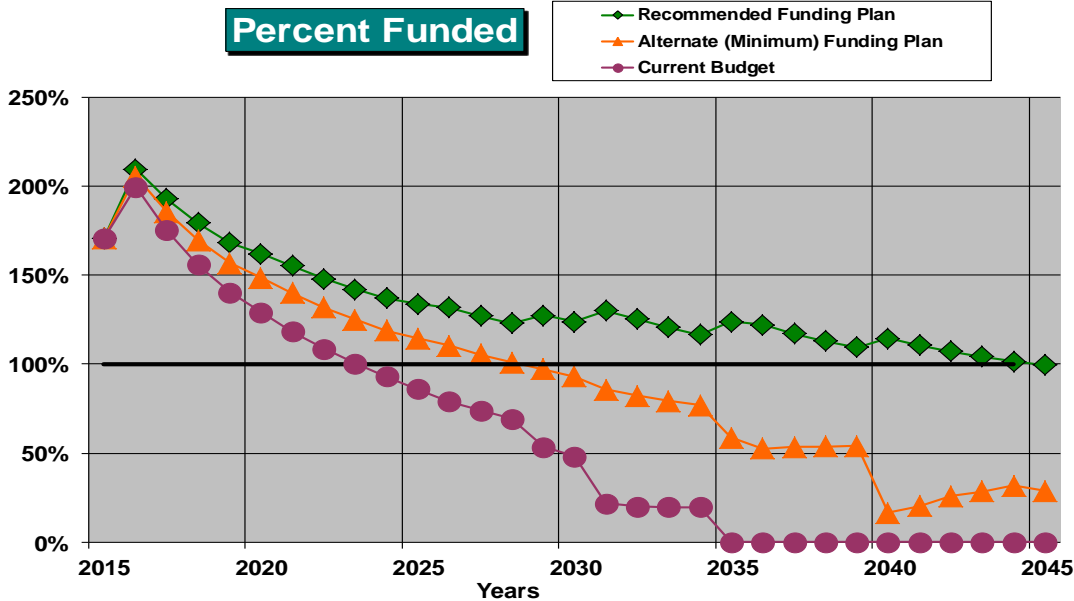


Figure 4

## **Table Descriptions**

The tabular information in this Report is broken down into six tables.

Table 1 is a summary of your Reserve Components (your Reserve Component List), the information found in Table 2.

Table 2 is your Reserve Component List, which forms the foundation of this Reserve Study. This table represents the information from which all other tables are derived.

Table 3 shows the calculation of your Fully Funded Balance, the measure of your current Reserve component deterioration. For each component, the Fully Funded Balance is the fraction of life used up multiplied by its estimated Current Replacement Cost.

Table 4 shows the significance of each component to Reserve 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 Current Replacement Cost by Useful Life, then that component's percentage of the total is displayed.

Table 5: This table 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 for each year.

Table 6: This table shows the cash flow detail for the next 30 years. This table makes it possible to see which components are projected to require repair or replacement each year, and the size of those individual expenses.

**Table 2: Reserve Component List Detail**

**16151-1**

#	Component	Quantity	Useful Life	Rem. Useful Life	[ --- Current Cost Estimate --- ]	
					Best Case	Worst Case
2128	Well #2 - Replace	(1) Well	50	13	\$30,000	\$50,000
2128	Well #3 - Replace	(1) Well	30	19	\$30,000	\$50,000
2128	Well #4 - Replace	(1) Well	30	24	\$30,000	\$50,000
2157	Water Storage Tank - Repair/Paint	~ 5,200 GSF	15	0	\$30,000	\$40,000
2189	Pump House - Maintain	(1) 10x8 Structure	20	7	\$1,000	\$2,000
2531	Sensaphone - Replace	(1) Unit	8	0	\$1,000	\$3,000
2533	Submersible Transducer - Replace	(1) Transducer	10	4	\$1,000	\$1,500
2535	Well Motor/Pump - Replace (2014)	(1) Unit	10	9	\$3,000	\$5,000
2535	Well Motors/Pumps - Replace (2005)	(2) Units	10	0	\$6,000	\$10,000
2537	Pumps/Valves - Allowance	Multiple Units	5	4	\$3,000	\$4,000
2569	Water Storage Tank - Minor Repairs	~ 200k Gallons	5	0	\$2,000	\$3,000
11	Total Funded Components					

**Table 3: Fully Funded Balance****16151-1**

#	Component	Current		Effective	Age	/	Useful	=	Fully
		Cost	X						
		Estimate					Life		Balance
2128	Well #2 - Replace	\$40,000	X	37	/	50	=		\$29,600
2128	Well #3 - Replace	\$40,000	X	11	/	30	=		\$14,667
2128	Well #4 - Replace	\$40,000	X	6	/	30	=		\$8,000
2157	Water Storage Tank - Repair/Paint	\$35,000	X	15	/	15	=		\$35,000
2189	Pump House - Maintain	\$1,500	X	13	/	20	=		\$975
2531	Sensaphone - Replace	\$2,000	X	8	/	8	=		\$2,000
2533	Submersible Transducer - Replace	\$1,250	X	6	/	10	=		\$750
2535	Well Motor/Pump - Replace (2014)	\$4,000	X	1	/	10	=		\$400
2535	Well Motors/Pumps - Replace (2005)	\$8,000	X	10	/	10	=		\$8,000
2537	Pumps/Valves - Allowance	\$3,500	X	1	/	5	=		\$700
2569	Water Storage Tank - Minor Repairs	\$2,500	X	5	/	5	=		\$2,500
									\$102,592



**Table 4: Component Significance****16151-1**

#	Component	Useful Life	Current Cost Estimate	Deterioration Cost/yr	Deterioration Significance
2128	Well #2 - Replace	50	\$40,000	\$800	9.2%
2128	Well #3 - Replace	30	\$40,000	\$1,333	15.4%
2128	Well #4 - Replace	30	\$40,000	\$1,333	15.4%
2157	Water Storage Tank - Repair/Paint	15	\$35,000	\$2,333	27.0%
2189	Pump House - Maintain	20	\$1,500	\$75	0.9%
2531	Sensaphone - Replace	8	\$2,000	\$250	2.9%
2533	Submersible Transducer - Replace	10	\$1,250	\$125	1.4%
2535	Well Motor/Pump - Replace (2014)	10	\$4,000	\$400	4.6%
2535	Well Motors/Pumps - Replace (2005)	10	\$8,000	\$800	9.2%
2537	Pumps/Valves - Allowance	5	\$3,500	\$700	8.1%
2569	Water Storage Tank - Minor Repairs	5	\$2,500	\$500	5.8%
11	Total Funded Components			\$8,650	100.0%

**Table 5: 30-Year Reserve Plan Summary**

**16151-1**

**Fiscal Year Start: 01/01/15**

**Interest: 1.0%**

**Inflation: 3.0%**

**Reserve Fund Strength Calculations  
(All values as of Fiscal Year Start Date)**

**Projected Reserve Balance Changes**

Year	Starting Reserve Balance	Fully Funded Balance	Percent Funded	Special Assmt Risk	Reserve Contribs.	Loans or Special Assmts	Interest Income	Reserve Expenses
2015	\$175,103	\$102,592	170.7%	Low	\$8,640	\$0	\$1,564	\$47,500
2016	\$137,807	\$65,654	209.9%	Low	\$8,899	\$0	\$1,429	\$0
2017	\$148,135	\$76,800	192.9%	Low	\$9,166	\$0	\$1,534	\$0
2018	\$158,836	\$88,556	179.4%	Low	\$9,441	\$0	\$1,643	\$0
2019	\$169,920	\$100,949	168.3%	Low	\$9,724	\$0	\$1,729	\$5,346
2020	\$176,027	\$108,498	162.2%	Low	\$10,016	\$0	\$1,804	\$2,898
2021	\$184,949	\$119,097	155.3%	Low	\$10,317	\$0	\$1,910	\$0
2022	\$197,176	\$133,308	147.9%	Low	\$10,626	\$0	\$2,025	\$1,845
2023	\$207,982	\$146,365	142.1%	Low	\$10,945	\$0	\$2,132	\$2,534
2024	\$218,525	\$159,432	137.1%	Low	\$11,273	\$0	\$2,203	\$9,786
2025	\$222,215	\$165,761	134.1%	Low	\$11,611	\$0	\$2,220	\$14,111
2026	\$221,935	\$168,173	132.0%	Low	\$11,960	\$0	\$2,290	\$0
2027	\$236,185	\$185,551	127.3%	Low	\$12,319	\$0	\$2,435	\$0
2028	\$250,938	\$203,820	123.1%	Low	\$12,688	\$0	\$2,290	\$58,741
2029	\$207,174	\$162,515	127.5%	Low	\$13,069	\$0	\$2,111	\$7,185
2030	\$215,169	\$173,467	124.0%	Low	\$13,461	\$0	\$1,936	\$58,424
2031	\$172,142	\$132,375	130.0%	Low	\$13,865	\$0	\$1,783	\$3,209
2032	\$184,580	\$147,338	125.3%	Low	\$14,281	\$0	\$1,926	\$0
2033	\$200,786	\$166,484	120.6%	Low	\$14,709	\$0	\$2,091	\$0
2034	\$217,586	\$186,646	116.6%	Low	\$15,150	\$0	\$1,844	\$83,292
2035	\$151,289	\$122,078	123.9%	Low	\$15,605	\$0	\$1,503	\$18,964
2036	\$149,432	\$122,299	122.2%	Low	\$16,073	\$0	\$1,582	\$0
2037	\$167,087	\$142,542	117.2%	Low	\$16,555	\$0	\$1,762	\$0
2038	\$185,404	\$163,890	113.1%	Low	\$17,052	\$0	\$1,948	\$0
2039	\$204,404	\$186,390	109.7%	Low	\$17,563	\$0	\$1,664	\$95,033
2040	\$128,599	\$112,209	114.6%	Low	\$18,090	\$0	\$1,356	\$5,234
2041	\$142,811	\$128,838	110.8%	Low	\$18,542	\$0	\$1,528	\$0
2042	\$162,881	\$151,918	107.2%	Low	\$19,006	\$0	\$1,715	\$3,332
2043	\$180,270	\$172,834	104.3%	Low	\$19,481	\$0	\$1,909	\$0
2044	\$201,660	\$198,403	101.6%	Low	\$19,968	\$0	\$2,037	\$17,674

**Table 6: 30-Year Income/Expense Detail (yrs 0 through 4)****16151-1**

Fiscal Year	2015	2016	2017	2018	2019
Starting Reserve Balance	\$175,103	\$137,807	\$148,135	\$158,836	\$169,920
Annual Reserve Contribution	\$8,640	\$8,899	\$9,166	\$9,441	\$9,724
Recommended Special Assessments	\$0	\$0	\$0	\$0	\$0
Interest Earnings	\$1,564	\$1,429	\$1,534	\$1,643	\$1,729
<b>Total Income</b>	<b>\$185,307</b>	<b>\$148,135</b>	<b>\$158,836</b>	<b>\$169,920</b>	<b>\$181,373</b>
<b># Component</b>					
2128 Well #2 - Replace	\$0	\$0	\$0	\$0	\$0
2128 Well #3 - Replace	\$0	\$0	\$0	\$0	\$0
2128 Well #4 - Replace	\$0	\$0	\$0	\$0	\$0
2157 Water Storage Tank - Repair/Paint	\$35,000	\$0	\$0	\$0	\$0
2189 Pump House - Maintain	\$0	\$0	\$0	\$0	\$0
2531 Sensaphone - Replace	\$2,000	\$0	\$0	\$0	\$0
2533 Submersible Transducer - Replace	\$0	\$0	\$0	\$0	\$1,407
2535 Well Motor/Pump - Replace (2014)	\$0	\$0	\$0	\$0	\$0
2535 Well Motors/Pumps - Replace (2005)	\$8,000	\$0	\$0	\$0	\$0
2537 Pumps/Valves - Allowance	\$0	\$0	\$0	\$0	\$3,939
2569 Water Storage Tank - Minor Repairs	\$2,500	\$0	\$0	\$0	\$0
<b>Total Expenses</b>	<b>\$47,500</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$5,346</b>
Ending Reserve Balance:	\$137,807	\$148,135	\$158,836	\$169,920	\$176,027

**Table 6: 30-Year Income/Expense Detail (yrs 5 through 9)****16151-1**

Fiscal Year	2020	2021	2022	2023	2024
Starting Reserve Balance	\$176,027	\$184,949	\$197,176	\$207,982	\$218,525
Annual Reserve Contribution	\$10,016	\$10,317	\$10,626	\$10,945	\$11,273
Recommended Special Assessments	\$0	\$0	\$0	\$0	\$0
Interest Earnings	\$1,804	\$1,910	\$2,025	\$2,132	\$2,203
<b>Total Income</b>	<b>\$187,847</b>	<b>\$197,176</b>	<b>\$209,827</b>	<b>\$221,058</b>	<b>\$232,001</b>
<b># Component</b>					
2128 Well #2 - Replace	\$0	\$0	\$0	\$0	\$0
2128 Well #3 - Replace	\$0	\$0	\$0	\$0	\$0
2128 Well #4 - Replace	\$0	\$0	\$0	\$0	\$0
2157 Water Storage Tank - Repair/Paint	\$0	\$0	\$0	\$0	\$0
2189 Pump House - Maintain	\$0	\$0	\$1,845	\$0	\$0
2531 Sensaphone - Replace	\$0	\$0	\$0	\$2,534	\$0
2533 Submersible Transducer - Replace	\$0	\$0	\$0	\$0	\$0
2535 Well Motor/Pump - Replace (2014)	\$0	\$0	\$0	\$0	\$5,219
2535 Well Motors/Pumps - Replace (2005)	\$0	\$0	\$0	\$0	\$0
2537 Pumps/Valves - Allowance	\$0	\$0	\$0	\$0	\$4,567
2569 Water Storage Tank - Minor Repairs	\$2,898	\$0	\$0	\$0	\$0
<b>Total Expenses</b>	<b>\$2,898</b>	<b>\$0</b>	<b>\$1,845</b>	<b>\$2,534</b>	<b>\$9,786</b>
Ending Reserve Balance:	\$184,949	\$197,176	\$207,982	\$218,525	\$222,215

**Table 6: 30-Year Income/Expense Detail (yrs 10 through 14)****16151-1**

Fiscal Year	2025	2026	2027	2028	2029
Starting Reserve Balance	\$222,215	\$221,935	\$236,185	\$250,938	\$207,174
Annual Reserve Contribution	\$11,611	\$11,960	\$12,319	\$12,688	\$13,069
Recommended Special Assessments	\$0	\$0	\$0	\$0	\$0
Interest Earnings	\$2,220	\$2,290	\$2,435	\$2,290	\$2,111
<b>Total Income</b>	<b>\$236,046</b>	<b>\$236,185</b>	<b>\$250,938</b>	<b>\$265,915</b>	<b>\$222,354</b>
<b># Component</b>					
2128 Well #2 - Replace	\$0	\$0	\$0	\$58,741	\$0
2128 Well #3 - Replace	\$0	\$0	\$0	\$0	\$0
2128 Well #4 - Replace	\$0	\$0	\$0	\$0	\$0
2157 Water Storage Tank - Repair/Paint	\$0	\$0	\$0	\$0	\$0
2189 Pump House - Maintain	\$0	\$0	\$0	\$0	\$0
2531 Sensaphone - Replace	\$0	\$0	\$0	\$0	\$0
2533 Submersible Transducer - Replace	\$0	\$0	\$0	\$0	\$1,891
2535 Well Motor/Pump - Replace (2014)	\$0	\$0	\$0	\$0	\$0
2535 Well Motors/Pumps - Replace (2005)	\$10,751	\$0	\$0	\$0	\$0
2537 Pumps/Valves - Allowance	\$0	\$0	\$0	\$0	\$5,294
2569 Water Storage Tank - Minor Repairs	\$3,360	\$0	\$0	\$0	\$0
<b>Total Expenses</b>	<b>\$14,111</b>	<b>\$0</b>	<b>\$0</b>	<b>\$58,741</b>	<b>\$7,185</b>
Ending Reserve Balance:	\$221,935	\$236,185	\$250,938	\$207,174	\$215,169

**Table 6: 30-Year Income/Expense Detail (yrs 15 through 19)**

**16151-1**

Fiscal Year	2030	2031	2032	2033	2034
Starting Reserve Balance	\$215,169	\$172,142	\$184,580	\$200,786	\$217,586
Annual Reserve Contribution	\$13,461	\$13,865	\$14,281	\$14,709	\$15,150
Recommended Special Assessments	\$0	\$0	\$0	\$0	\$0
Interest Earnings	\$1,936	\$1,783	\$1,926	\$2,091	\$1,844
<b>Total Income</b>	<b>\$230,565</b>	<b>\$187,789</b>	<b>\$200,786</b>	<b>\$217,586</b>	<b>\$234,580</b>
<b># Component</b>					
2128 Well #2 - Replace	\$0	\$0	\$0	\$0	\$0
2128 Well #3 - Replace	\$0	\$0	\$0	\$0	\$70,140
2128 Well #4 - Replace	\$0	\$0	\$0	\$0	\$0
2157 Water Storage Tank - Repair/Paint	\$54,529	\$0	\$0	\$0	\$0
2189 Pump House - Maintain	\$0	\$0	\$0	\$0	\$0
2531 Sensaphone - Replace	\$0	\$3,209	\$0	\$0	\$0
2533 Submersible Transducer - Replace	\$0	\$0	\$0	\$0	\$0
2535 Well Motor/Pump - Replace (2014)	\$0	\$0	\$0	\$0	\$7,014
2535 Well Motors/Pumps - Replace (2005)	\$0	\$0	\$0	\$0	\$0
2537 Pumps/Valves - Allowance	\$0	\$0	\$0	\$0	\$6,137
2569 Water Storage Tank - Minor Repairs	\$3,895	\$0	\$0	\$0	\$0
<b>Total Expenses</b>	<b>\$58,424</b>	<b>\$3,209</b>	<b>\$0</b>	<b>\$0</b>	<b>\$83,292</b>
Ending Reserve Balance:	\$172,142	\$184,580	\$200,786	\$217,586	\$151,289

**Table 6: 30-Year Income/Expense Detail (yrs 20 through 24)****16151-1**

Fiscal Year	2035	2036	2037	2038	2039
Starting Reserve Balance	\$151,289	\$149,432	\$167,087	\$185,404	\$204,404
Annual Reserve Contribution	\$15,605	\$16,073	\$16,555	\$17,052	\$17,563
Recommended Special Assessments	\$0	\$0	\$0	\$0	\$0
Interest Earnings	\$1,503	\$1,582	\$1,762	\$1,948	\$1,664
<b>Total Income</b>	<b>\$168,397</b>	<b>\$167,087</b>	<b>\$185,404</b>	<b>\$204,404</b>	<b>\$223,632</b>
<b># Component</b>					
2128 Well #2 - Replace	\$0	\$0	\$0	\$0	\$0
2128 Well #3 - Replace	\$0	\$0	\$0	\$0	\$0
2128 Well #4 - Replace	\$0	\$0	\$0	\$0	\$81,312
2157 Water Storage Tank - Repair/Paint	\$0	\$0	\$0	\$0	\$0
2189 Pump House - Maintain	\$0	\$0	\$0	\$0	\$0
2531 Sensaphone - Replace	\$0	\$0	\$0	\$0	\$4,066
2533 Submersible Transducer - Replace	\$0	\$0	\$0	\$0	\$2,541
2535 Well Motor/Pump - Replace (2014)	\$0	\$0	\$0	\$0	\$0
2535 Well Motors/Pumps - Replace (2005)	\$14,449	\$0	\$0	\$0	\$0
2537 Pumps/Valves - Allowance	\$0	\$0	\$0	\$0	\$7,115
2569 Water Storage Tank - Minor Repairs	\$4,515	\$0	\$0	\$0	\$0
<b>Total Expenses</b>	<b>\$18,964</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$95,033</b>
Ending Reserve Balance:	\$149,432	\$167,087	\$185,404	\$204,404	\$128,599

**Table 6: 30-Year Income/Expense Detail (yrs 25 through 29)**

**16151-1**

Fiscal Year	2040	2041	2042	2043	2044
Starting Reserve Balance	\$128,599	\$142,811	\$162,881	\$180,270	\$201,660
Annual Reserve Contribution	\$18,090	\$18,542	\$19,006	\$19,481	\$19,968
Recommended Special Assessments	\$0	\$0	\$0	\$0	\$0
Interest Earnings	\$1,356	\$1,528	\$1,715	\$1,909	\$2,037
<b>Total Income</b>	<b>\$148,045</b>	<b>\$162,881</b>	<b>\$183,602</b>	<b>\$201,660</b>	<b>\$223,666</b>
<b># Component</b>					
2128 Well #2 - Replace	\$0	\$0	\$0	\$0	\$0
2128 Well #3 - Replace	\$0	\$0	\$0	\$0	\$0
2128 Well #4 - Replace	\$0	\$0	\$0	\$0	\$0
2157 Water Storage Tank - Repair/Paint	\$0	\$0	\$0	\$0	\$0
2189 Pump House - Maintain	\$0	\$0	\$3,332	\$0	\$0
2531 Sensaphone - Replace	\$0	\$0	\$0	\$0	\$0
2533 Submersible Transducer - Replace	\$0	\$0	\$0	\$0	\$0
2535 Well Motor/Pump - Replace (2014)	\$0	\$0	\$0	\$0	\$9,426
2535 Well Motors/Pumps - Replace (2005)	\$0	\$0	\$0	\$0	\$0
2537 Pumps/Valves - Allowance	\$0	\$0	\$0	\$0	\$8,248
2569 Water Storage Tank - Minor Repairs	\$5,234	\$0	\$0	\$0	\$0
<b>Total Expenses</b>	<b>\$5,234</b>	<b>\$0</b>	<b>\$3,332</b>	<b>\$0</b>	<b>\$17,674</b>
Ending Reserve Balance:	\$142,811	\$162,881	\$180,270	\$201,660	\$205,992



## 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)

**Effective Age:** The difference between Useful Life and Remaining Useful Life. Note that this is not necessarily equivalent to the chronological age of the component.

**Fully Funded Balance (FFB):** 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.

$$\text{FFB} = (\text{Current Cost} \times \text{Effective Age}) / \text{Useful Life}$$

**Inflation:** 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 Table 6.

**Interest:** 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.

**Percent Funded:** 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.

**Remaining Useful Life (RUL):** The estimated time, in years, that a common area component can be expected to continue to serve its intended function.

**Useful Life (UL):** 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 area maintenance repair & replacement responsibility
- 2) Components must have a limited life
- 3) Life limit must be predictable
- 4) Above a minimum threshold cost (board's discretion – typically 1/2 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 costs, 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.

Client: 16151A Kings Row HOA

Comp # : 2113      Site Drainage System - Clean/Repair      Quantity: (1) System

Location : North and south sides of property

Funded? : No

History :

Evaluation : No current problems observed or reported. Annual preventive maintenance work is typically performed as part of an association's general maintenance/operating fund. However, if a pattern of larger expenses develops, we may recommend including a rotating funding allowance for larger expenses during future Reserve Study updates. Maintain records of any substantial projects so that future funding recommendations can be accurately based on recent project history.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source:

Comp # : 2128      Well #2 - Replace      Quantity: (1) Well

Location : Underground

Funded? : Yes

History :

Evaluation : Reported that well #2 is the least used well. Well was initially installed in 1978. Per the board, the wells are typically lasting about 30 years, and then a new well will need to be installed. However, since well #2 is the used less than average, the useful life was extended. As routine maintenance, inspect regularly, test system and repair as needed from Operating budget. This item is typically not included on a Reserve Study, however, since the board is noting that the wells have a limited life, it is best to be plan prudently.

Useful Life:

50 years

Remaining Life:

13 years

Photo Not Available

Best Case: \$30,000

Lower allowance

Worst Case: \$50,000

Higher allowance

Cost Source: Estimate Provided by Client

# Association Reserves Colorado, LLC

# Component Details

Client: 16151A Kings Row HOA

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**Comp # : 2128**      **Well #3 - Replace**

Quantity: (1) Well

Location : Underground

Funded? : Yes

History :

Evaluation : Well was initially installed in 2004. Per the board, the wells are typically lasting about 30 years, and then a new well will need to be installed. No issues were reported at the time of the inspection. As routine maintenance, inspect regularly, test system and repair as needed from Operating budget. This item is typically not included on a Reserve Study, however, since the board is noting that the wells have a limited life, it is best to be plan prudently.

Useful Life:

30 years

Remaining Life:

19 years

Photo Not Available

Best Case: \$30,000

Lower allowance

Worst Case: \$50,000

Higher allowance

Cost Source: Estimate Provided by Client

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**Comp # : 2128**      **Well #4 - Replace**

Quantity: (1) Well

Location : Underground

Funded? : Yes

History :

Evaluation : Well was initially installed in 2009. Per the board, the wells are typically lasting about 30 years, and then a new well will need to be installed. No issues were reported at the time of the inspection. As routine maintenance, inspect regularly, test system and repair as needed from Operating budget. This item is typically not included on a Reserve Study, however, since the board is noting that the wells have a limited life, it is best to be plan prudently.

Useful Life:

30 years

Remaining Life:

24 years

Photo Not Available

Best Case: \$30,000

Lower allowance

Worst Case: \$50,000

Higher allowance

Cost Source: Estimate Provided by Client

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Client: 16151A Kings Row HOA

**Comp # : 2157      Water Storage Tank - Repair/Paint      Quantity: ~ 5,200 GSF**

Location : Center of property

Funded? : Yes

History :

Evaluation : Per Mike McGowan (970)704-0400 of Mannix Painting, the interior and the exterior of the tank needs to be painted every 10-20 years. Interior of the tank requires (3) coats of food grade paint, and the exterior requires (2) coats spot prime. Tank should be inspected periodically to identify and weakened/weathered sections which may need to be repairs and painting. Expect to repair as needed and paint at roughly the interval shown here in order to maintain a good, consistent appearance.

Useful Life:  
15 years

Remaining Life:  
0 years



Best Case: \$30,000  
Lower allowance

Worst Case: \$40,000  
Higher allowance

Cost Source: Research with Local Vendor/Contractor

**Comp # : 2189      Pump House - Maintain      Quantity: (1) 10x8 Structure**

Location : Center of property

Funded? : Yes

History :

Evaluation : The roof is comp shingle and ~ 80 GSF. The wood exterior is painted and is ~250 GSF. This component represents an allowance for repairs/remodeling of the guard house. The pump house was recently painted. Pump house should be inspected, cleaned and small maintenance projects made as an Operating expense. Typical Reserve-funded projects may include exterior painting and roof repairs, interior remodeling, etc. No expectation to completely replace the structure under normal circumstances. Useful life and cost estimates shown here may be updated and adjusted during future Reserve Study updates based on actual project history or new estimates obtained by the association.

Useful Life:  
20 years

Remaining Life:  
7 years



Best Case: \$1,000  
Lower allowance

Worst Case: \$2,000  
Higher allowance

Cost Source: ARI Cost Database: Similar Project Cost History

Client: 16151A Kings Row HOA

Comp # : 2531      Sensaphone - Replace      Quantity: (1) Unit

Location : Pump House

Funded? : Yes

History :

Evaluation : Per Kevin Madison - 970/618-5680, the current unit is obsolete and should be replaced soon.

Useful Life:  
8 years

Remaining Life:  
0 years



Best Case: \$1,000

Worst Case: \$3,000

Lower allowance

Higher allowance

Cost Source: Research with Local Vendor/Contractor

Comp # : 2533      Submersible Transducer - Replace      Quantity: (1) Transducer

Location : Storage Tank

Funded? : Yes

History :

Evaluation : Per Kevin Madison the submersible water storage transducer is located inside the storage tank.

Useful Life:  
10 years

Remaining Life:  
4 years

Photo Not Available

Best Case: \$1,000

Worst Case: \$1,500

Lower allowance

Higher allowance

Cost Source: Research with Local Vendor/Contractor

**Client: 16151A Kings Row HOA**

**Comp # : 2535 Well Motor/Pump - Replace (2014)**      Quantity: (1) Unit  
 Location : Pump house, underground  
 Funded? : Yes

History :

Evaluation : Consists of the unit for well #2. Per Raun Samuelson - 970-945-6309, (1) of the (3) units is reported to be in working condition, and was replaced in 2014. Recommend periodic maintenance (If required- Lubricate motor according to motor manufacturer's instructions. Periodic greasing is required for most motors), and inspections to ensure proper useful working conditions.

Useful Life:  
10 years

Remaining Life:  
9 years



Best Case: \$3,000  
Lower allowance

Worst Case: \$5,000  
Higher allowance

Cost Source: Research with Local Vendor/Contractor

**Comp # : 2535 Well Motors/Pumps - Replace (2005)**      Quantity: (2) Units  
 Location : Pump house, underground  
 Funded? : Yes

History :

Evaluation : Per Raun Samuelson - 970-945-6309, (2) of the (3) units are reported to be in working condition, but the units are at the end of their predicted useful life. Recommend periodic maintenance (If require- Lubricate motor according to motor manufacturer's instructions. Periodic greasing is required for most motors), and inspections to ensure proper useful working conditions.

Useful Life:  
10 years

Remaining Life:  
0 years



Best Case: \$6,000  
Lower allowance

Worst Case: \$10,000  
Higher allowance

Cost Source: Research with Local Vendor/Contractor



Client: 16151A Kings Row HOA

Comp # : 2537 Pumps/Valves - Allowance

Quantity: Multiple Units

Location : Common areas

Funded? : Yes

History :

Evaluation : Irrigation/potable pumps/motors and valves can often be repaired or rebuilt rather than completely replaced. Small component repairs should be considered an Operating expense. Pumps and motors need to be serviced regularly by landscaping/irrigation vendor or other maintenance personnel to ensure proper function. An allowance has been provided below for ongoing replacements and repairs.

Useful Life:  
5 years

Remaining Life:  
4 years



Best Case: \$3,000

Worst Case: \$4,000

Lower allowance

Higher allowance

Cost Source: ARI Cost Database

Comp # : 2567 Potable Water Storage Tank -Replace

Quantity: ~ 200k Gallons

Location : Center of property

Funded? : No Unpredictable life

History :

Evaluation : Typically, if installed per architectural specifications and local building codes, there is no predictable time frame for large scale repair/replacement expenses within the scope of our report. However, it was reported by numerous vendors that if the tank is not maintained on a reoccurring schedule, then the tank may experience a shorter useful life. If leaks, defective material and/or issues become evident, have qualified vendor and/or engineer evaluate in more detail and develop scope of any repair/replacement needed; funding for even one time projects can be incorporated within Reserve Study updates if warranted. If patterns of significant repair costs emerge, funding may be incorporated into future Reserve Study updates to supplement the Operating budget. No basis for Reserve funding at this time.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source:

Client: 16151A Kings Row HOA

Comp # : 2569 Water Storage Tank - Minor Repairs

Quantity: ~ 200k Gallons

Location : Center of property

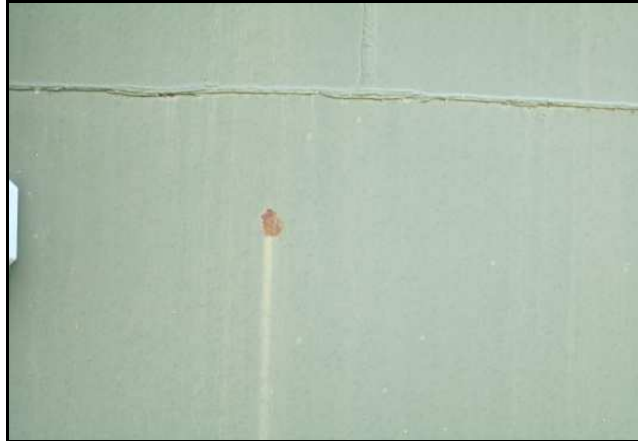
Funded? : Yes

History :

Evaluation : Reported that the tank should be inspected every 5 years by a qualified expert. This component allows funding to be available for repairs needed at the time of the inspection.

Useful Life:  
5 years

Remaining Life:  
0 years



Best Case: \$2,000  
Lower allowance

Worst Case: \$3,000  
Higher allowance

Cost Source: Research with Local Vendor/Contractor

Comp # : 2597 Irrigation System - Repair

Quantity: (1) System

Location : Throughout common areas

Funded? : No

History :

Evaluation : As routine maintenance, inspect regularly, test system and repair as needed from Operating budget. Consult with irrigation vendor to determine what types of repairs and replacements are included in the landscaping contract. If properly installed without defect, the elements within this system are generally low-cost and have a failure rate that is difficult to predict, making it best-suited to be handled through the Operating budget. No basis for Reserve funding at this time. If significant problems and systemic replacements become a concern over time, an allowance for ongoing replacements may need to be added during future Reserve Study updates.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source: