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“Full” Reserve Study



48 East HOA Phoenix, Arizona

Report #: 21767-0
For Period Beginning: January 1, 2017
Expires: December 31, 2017
Date Prepared: October 18, 2016



Hello, and welcome to your Reserve Study!

We 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?

Visit our website at www.ReserveStudy.com or call us at:

480-361-5340 or 800-393-7903

Relax, it's from

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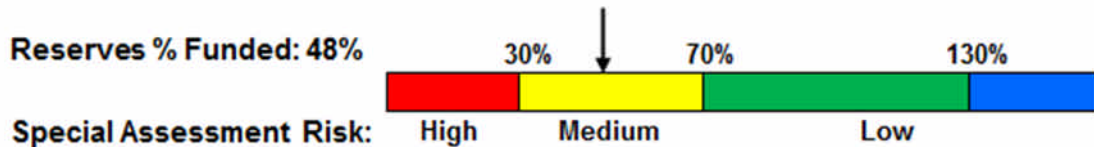
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3- Minute Executive Summary

Association: 48 East HOA **#:** 21767-0
Location: Phoenix, Arizona **# of Units:** 74
Report Period: January 1, 2017 through December 31, 2017

Findings/Recommendations as-of 1/1/2017:

Projected Starting Reserve Balance:	\$18,600
Current Fully Funded Reserve Balance:	\$38,679
Average Reserve Deficit (Surplus) Per Unit:.....	\$271
Recommended 2017 Monthly “Full Funding” Contributions:.....	\$725
Alternate Minimum Contributions* To Keep Reserves Above \$0:.....	\$625
Recommended 2017 Special Assessment for Reserves:.....	\$0
Most Recent Budgeted Reserve Contribution Rate:	\$309



Economic Assumptions:

Net Annual “After Tax” Interest Earnings Accruing to Reserves.....1.00%
Annual Inflation Rate3.00%

- This is a “Full” Reserve Study (original, created “from scratch”) based on our site inspection on September 29, 2016.
- The Reserve expense threshold for this analysis is \$1,000. This means no expenses under \$1,000 are funded in the Reserve Study.
- Because your Reserve Fund is 48% Funded, this means the association’s special assessment & deferred maintenance risk is currently medium. The objective of your multi-year Funding Plan is to Fully Fund your Reserves, where associations enjoy a low risk of Reserve cash flow problems.
- Based on this starting point and your anticipated future expenses, our recommendation is to increase your Reserve contributions to \$725/month. Nominal annual increases are scheduled to help offset inflation (see tables herein for details).

*officially called “Baseline Funding”

#	Component	Useful Life (yrs)	Rem. Useful Life (yrs)	Current Cost Estimate
103	Concrete - Repair	10	5	\$2,000
501	Stucco Walls - Repair	20	15	\$18,000
505	Stucco Walls - Repaint	7	4	\$11,000
510	Metal Fence - Replace	30	9	\$1,000
701	Monument - Refurbish	20	8	\$2,500
805	Landscape Granite - Replenish	8	5	\$29,000
806	River Rock - Replenish	20	0	\$4,500
810	Drywells - Inspect/Clean	5	2	\$2,150
812	Drywells - Partial Replace	35	14	\$16,000
9	Total Funded Components			

Note 1: 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.

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?

National Reserve Study Standards outlines a 4-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...

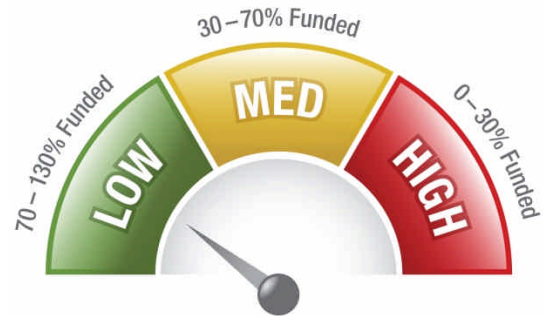
- 1) Actual client cost history, or current proposals
- 2) Comparison to Association Reserves database of work done at similar associations
- 3) Vendor Recommendations
- 4) Reliable National Industry cost estimating guidebooks

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.



SPECIAL ASSESSMENT RISK

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 Board Members to recommend to their association. Remember, it is the Board’s job to provide for the ongoing care of the common areas. Board Members 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 29, 2016, we started by inspecting the landscaping. Next, we inspected the common stucco walls and fence. Finally, we inspected the monument and any remaining common areas.



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 \$19,162. Adding the next five years, your *first ten years* of projected Reserve expenses are \$62,215. 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.

Annual Reserve Expenses

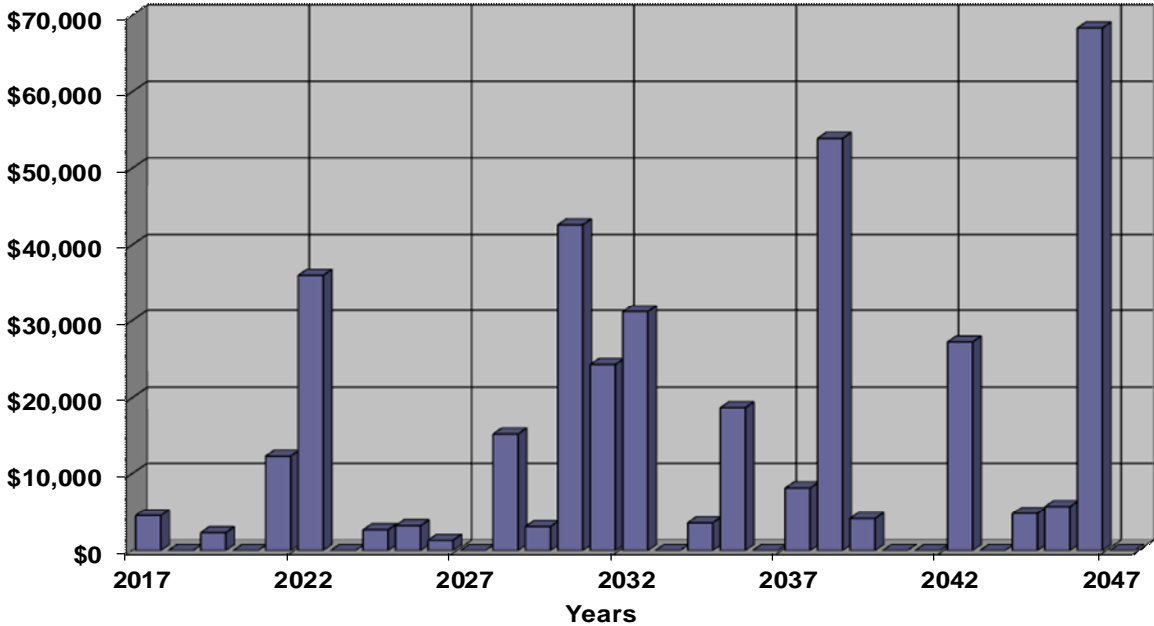


Figure 1

Reserve Fund Status

The starting point for our financial analysis is your Reserve Fund balance, projected to be \$18,600 as-of the start of your Fiscal Year on January 1, 2017. This is based on your actual balance on June 30, 2016 of \$16,758 and anticipated Reserve contributions projected through the end of your Fiscal Year. As of January 1, 2017, your Fully Funded Balance is computed to be \$38,679 (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 48% Funded. Across the country, approximately 13% of associations in this range experience special assessments or deferred maintenance.

Recommended Funding Plan

Based on your current Percent Funded and both your near-term and long-term Reserve needs, we recommend budgeted contributions of \$725/month this Fiscal Year. The overall 30-yr plan, in perspective, is shown below. This same information is shown numerically in Tables 5 & 6.

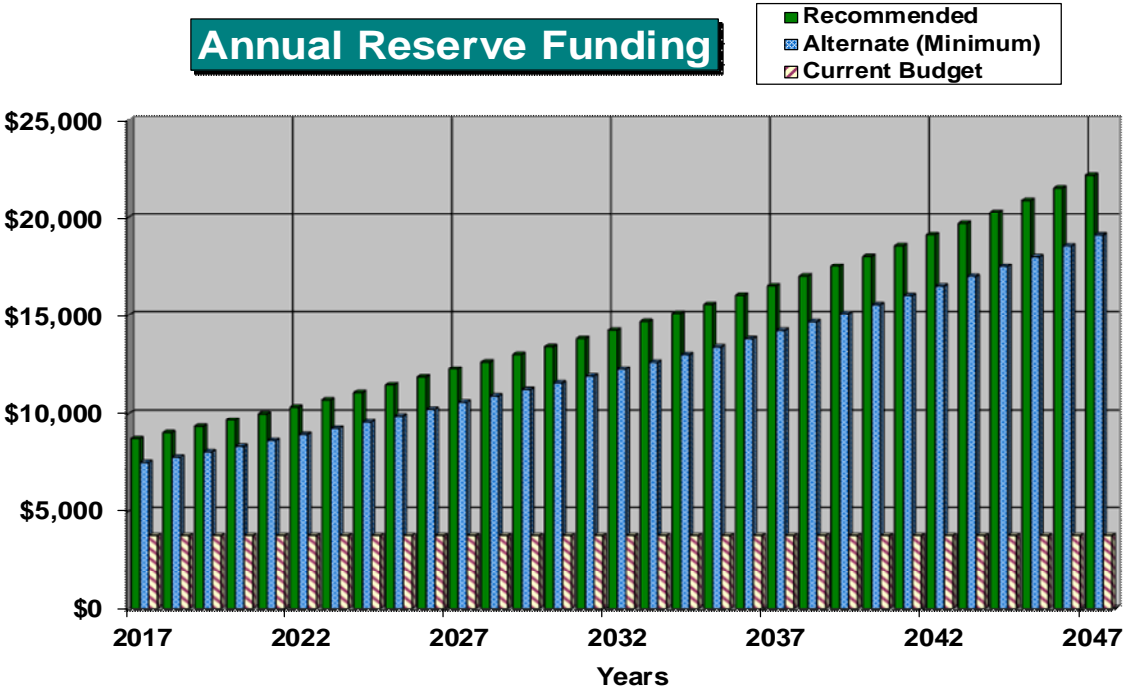


Figure 2

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.

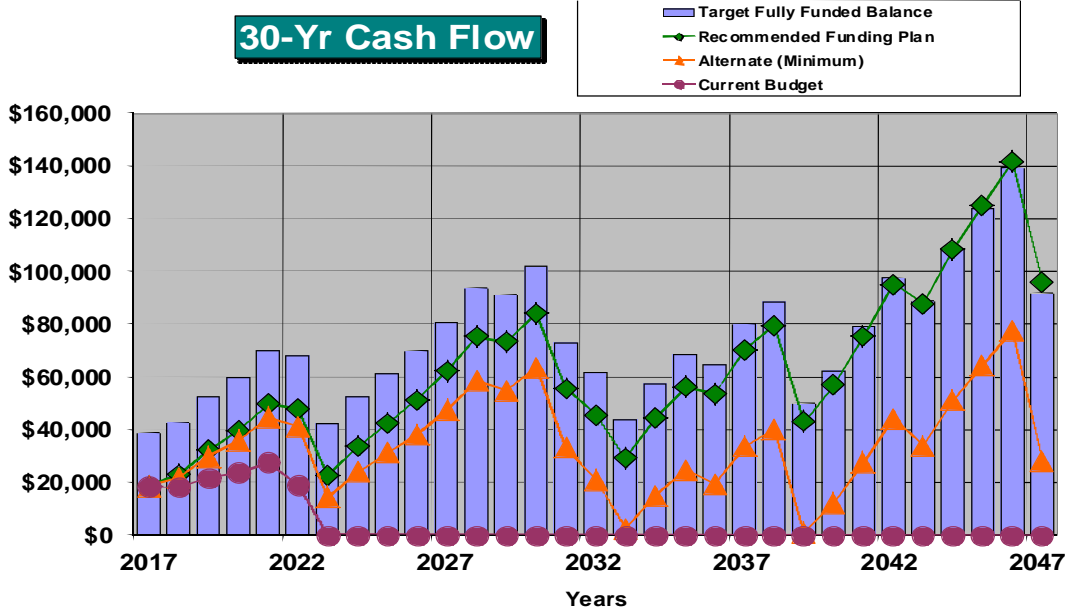


Figure 3

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

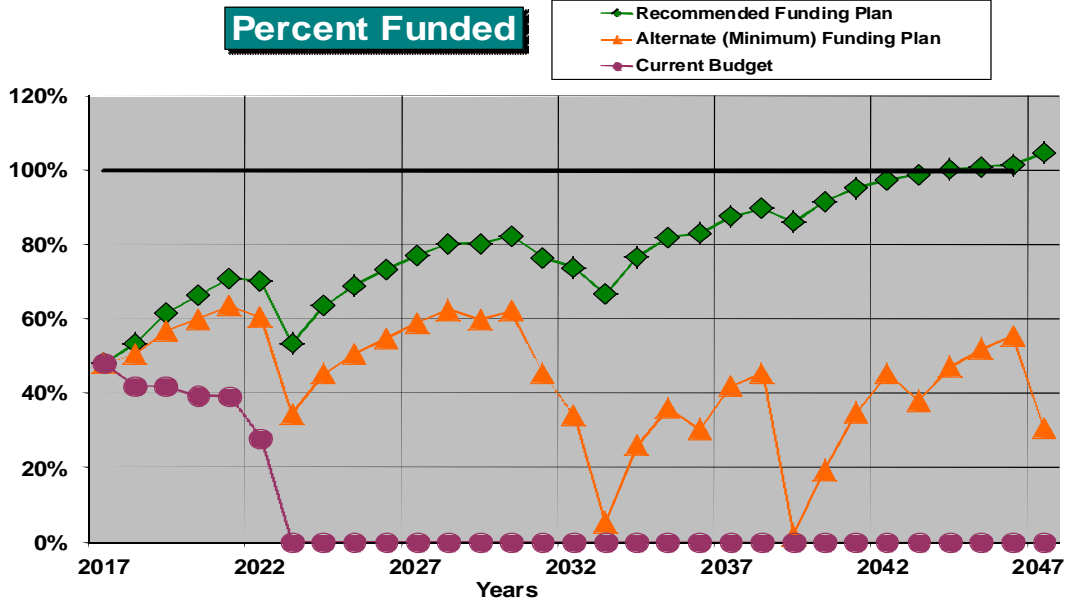


Figure 4

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

21767-0

#	Component	Quantity	Useful Life	Rem. Useful Life	[--- Current Cost Estimate ---]	
					Best Case	Worst Case
103	Concrete - Repair	Approx 4,500 Sq Ft	10	5	\$1,700	\$2,300
501	Stucco Walls - Repair	Approx 16,400 Sq Ft	20	15	\$16,000	\$20,000
505	Stucco Walls - Repaint	Approx 16,400 Sq Ft	7	4	\$10,000	\$12,000
510	Metal Fence - Replace	Approx 10 LF	30	9	\$900	\$1,100
701	Monument - Refurbish	(1) Monument	20	8	\$2,200	\$2,800
805	Landscape Granite - Replenish	Approx 300 Tons	8	5	\$26,000	\$32,000
806	River Rock - Replenish	Approx 70 Tons	20	0	\$4,000	\$5,000
810	Drywells - Inspect/Clean	(4) Drywells	5	2	\$2,000	\$2,300
812	Drywells - Partial Replace	(1) of (4) Drywells	35	14	\$14,000	\$18,000
9	Total Funded Components					

Table 3: Fully Funded Balance**21767-0**

#	Component	Current Cost Estimate	X	Effective Age	/	Useful Life	=	Fully Funded Balance
103	Concrete - Repair	\$2,000	X	5	/	10	=	\$1,000
501	Stucco Walls - Repair	\$18,000	X	5	/	20	=	\$4,500
505	Stucco Walls - Repaint	\$11,000	X	3	/	7	=	\$4,714
510	Metal Fence - Replace	\$1,000	X	21	/	30	=	\$700
701	Monument - Refurbish	\$2,500	X	12	/	20	=	\$1,500
805	Landscape Granite - Replenish	\$29,000	X	3	/	8	=	\$10,875
806	River Rock - Replenish	\$4,500	X	20	/	20	=	\$4,500
810	Drywells - Inspect/Clean	\$2,150	X	3	/	5	=	\$1,290
812	Drywells - Partial Replace	\$16,000	X	21	/	35	=	\$9,600
								\$38,679

Table 4: Component Significance**21767-0**

#	Component	Useful Life	Current Cost Estimate	Deterioration Cost/Yr.	Deterioration Significance
103	Concrete - Repair	10	\$2,000	\$200	2.6%
501	Stucco Walls - Repair	20	\$18,000	\$900	11.9%
505	Stucco Walls - Repaint	7	\$11,000	\$1,571	20.8%
510	Metal Fence - Replace	30	\$1,000	\$33	0.4%
701	Monument - Refurbish	20	\$2,500	\$125	1.7%
805	Landscape Granite - Replenish	8	\$29,000	\$3,625	47.9%
806	River Rock - Replenish	20	\$4,500	\$225	3.0%
810	Drywells - Inspect/Clean	5	\$2,150	\$430	5.7%
812	Drywells - Partial Replace	35	\$16,000	\$457	6.0%
9	Total Funded Components			\$7,567	100.0%

Table 5: 30-Year Reserve Plan Summary

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Report Start Date: 01/01/17

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
2017	\$18,600	\$38,679	48.1%	Med	\$8,700	\$0	\$208	\$4,500
2018	\$23,008	\$42,999	53.5%	Med	\$9,005	\$0	\$276	\$0
2019	\$32,289	\$52,316	61.7%	Med	\$9,320	\$0	\$360	\$2,281
2020	\$39,687	\$59,805	66.4%	Med	\$9,646	\$0	\$447	\$0
2021	\$49,780	\$70,116	71.0%	Low	\$9,983	\$0	\$488	\$12,381
2022	\$47,871	\$68,239	70.2%	Low	\$10,333	\$0	\$352	\$35,937
2023	\$22,619	\$42,306	53.5%	Med	\$10,695	\$0	\$281	\$0
2024	\$33,594	\$52,882	63.5%	Med	\$11,069	\$0	\$380	\$2,644
2025	\$42,399	\$61,330	69.1%	Med	\$11,456	\$0	\$468	\$3,167
2026	\$51,156	\$69,781	73.3%	Low	\$11,857	\$0	\$567	\$1,305
2027	\$62,275	\$80,700	77.2%	Low	\$12,272	\$0	\$687	\$0
2028	\$75,234	\$93,595	80.4%	Low	\$12,640	\$0	\$743	\$15,227
2029	\$73,391	\$91,508	80.2%	Low	\$13,020	\$0	\$787	\$3,065
2030	\$84,133	\$102,209	82.3%	Low	\$13,410	\$0	\$699	\$42,587
2031	\$55,654	\$72,855	76.4%	Low	\$13,812	\$0	\$507	\$24,201
2032	\$45,772	\$61,902	73.9%	Low	\$14,227	\$0	\$375	\$31,159
2033	\$29,214	\$43,808	66.7%	Med	\$14,654	\$0	\$367	\$0
2034	\$44,235	\$57,629	76.8%	Low	\$15,093	\$0	\$502	\$3,554
2035	\$56,277	\$68,580	82.1%	Low	\$15,546	\$0	\$549	\$18,727
2036	\$53,645	\$64,618	83.0%	Low	\$16,012	\$0	\$619	\$0
2037	\$70,277	\$80,223	87.6%	Low	\$16,493	\$0	\$748	\$8,128
2038	\$79,391	\$88,335	89.9%	Low	\$16,988	\$0	\$612	\$53,949
2039	\$43,042	\$49,917	86.2%	Low	\$17,497	\$0	\$500	\$4,120
2040	\$56,919	\$62,105	91.6%	Low	\$18,022	\$0	\$662	\$0
2041	\$75,603	\$79,350	95.3%	Low	\$18,563	\$0	\$853	\$0
2042	\$95,019	\$97,574	97.4%	Low	\$19,120	\$0	\$914	\$27,219
2043	\$87,833	\$88,784	98.9%	Low	\$19,693	\$0	\$981	\$0
2044	\$108,508	\$108,256	100.2%	Low	\$20,284	\$0	\$1,168	\$4,776
2045	\$125,184	\$123,897	101.0%	Low	\$20,893	\$0	\$1,334	\$5,720
2046	\$141,691	\$139,555	101.5%	Low	\$21,519	\$0	\$1,188	\$68,340

Table 6: 30-Year Income/Expense Detail (yrs 0 through 4)**21767-0**

Fiscal Year	2017	2018	2019	2020	2021
Starting Reserve Balance	\$18,600	\$23,008	\$32,289	\$39,687	\$49,780
Annual Reserve Contribution	\$8,700	\$9,005	\$9,320	\$9,646	\$9,983
Recommended Special Assessments	\$0	\$0	\$0	\$0	\$0
Interest Earnings	\$208	\$276	\$360	\$447	\$488
Total Income	\$27,508	\$32,289	\$41,968	\$49,780	\$60,252
# Component					
103 Concrete - Repair	\$0	\$0	\$0	\$0	\$0
501 Stucco Walls - Repair	\$0	\$0	\$0	\$0	\$0
505 Stucco Walls - Repaint	\$0	\$0	\$0	\$0	\$12,381
510 Metal Fence - Replace	\$0	\$0	\$0	\$0	\$0
701 Monument - Refurbish	\$0	\$0	\$0	\$0	\$0
805 Landscape Granite - Replenish	\$0	\$0	\$0	\$0	\$0
806 River Rock - Replenish	\$4,500	\$0	\$0	\$0	\$0
810 Drywells - Inspect/Clean	\$0	\$0	\$2,281	\$0	\$0
812 Drywells - Partial Replace	\$0	\$0	\$0	\$0	\$0
Total Expenses	\$4,500	\$0	\$2,281	\$0	\$12,381
Ending Reserve Balance:	\$23,008	\$32,289	\$39,687	\$49,780	\$47,871

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

21767-0

Fiscal Year	2022	2023	2024	2025	2026
Starting Reserve Balance	\$47,871	\$22,619	\$33,594	\$42,399	\$51,156
Annual Reserve Contribution	\$10,333	\$10,695	\$11,069	\$11,456	\$11,857
Recommended Special Assessments	\$0	\$0	\$0	\$0	\$0
Interest Earnings	\$352	\$281	\$380	\$468	\$567
Total Income	\$58,556	\$33,594	\$45,043	\$54,323	\$63,580
# Component					
103 Concrete - Repair	\$2,319	\$0	\$0	\$0	\$0
501 Stucco Walls - Repair	\$0	\$0	\$0	\$0	\$0
505 Stucco Walls - Repaint	\$0	\$0	\$0	\$0	\$0
510 Metal Fence - Replace	\$0	\$0	\$0	\$0	\$1,305
701 Monument - Refurbish	\$0	\$0	\$0	\$3,167	\$0
805 Landscape Granite - Replenish	\$33,619	\$0	\$0	\$0	\$0
806 River Rock - Replenish	\$0	\$0	\$0	\$0	\$0
810 Drywells - Inspect/Clean	\$0	\$0	\$2,644	\$0	\$0
812 Drywells - Partial Replace	\$0	\$0	\$0	\$0	\$0
Total Expenses	\$35,937	\$0	\$2,644	\$3,167	\$1,305
Ending Reserve Balance:	\$22,619	\$33,594	\$42,399	\$51,156	\$62,275

Table 6: 30-Year Income/Expense Detail (yrs 10 through 14)**21767-0**

Fiscal Year	2027	2028	2029	2030	2031
Starting Reserve Balance	\$62,275	\$75,234	\$73,391	\$84,133	\$55,654
Annual Reserve Contribution	\$12,272	\$12,640	\$13,020	\$13,410	\$13,812
Recommended Special Assessments	\$0	\$0	\$0	\$0	\$0
Interest Earnings	\$687	\$743	\$787	\$699	\$507
Total Income	\$75,234	\$88,618	\$87,198	\$98,241	\$69,973
# Component					
103 Concrete - Repair	\$0	\$0	\$0	\$0	\$0
501 Stucco Walls - Repair	\$0	\$0	\$0	\$0	\$0
505 Stucco Walls - Repaint	\$0	\$15,227	\$0	\$0	\$0
510 Metal Fence - Replace	\$0	\$0	\$0	\$0	\$0
701 Monument - Refurbish	\$0	\$0	\$0	\$0	\$0
805 Landscape Granite - Replenish	\$0	\$0	\$0	\$42,587	\$0
806 River Rock - Replenish	\$0	\$0	\$0	\$0	\$0
810 Drywells - Inspect/Clean	\$0	\$0	\$3,065	\$0	\$0
812 Drywells - Partial Replace	\$0	\$0	\$0	\$0	\$24,201
Total Expenses	\$0	\$15,227	\$3,065	\$42,587	\$24,201
Ending Reserve Balance:	\$75,234	\$73,391	\$84,133	\$55,654	\$45,772

Table 6: 30-Year Income/Expense Detail (yrs 15 through 19)**21767-0**

Fiscal Year	2032	2033	2034	2035	2036
Starting Reserve Balance	\$45,772	\$29,214	\$44,235	\$56,277	\$53,645
Annual Reserve Contribution	\$14,227	\$14,654	\$15,093	\$15,546	\$16,012
Recommended Special Assessments	\$0	\$0	\$0	\$0	\$0
Interest Earnings	\$375	\$367	\$502	\$549	\$619
Total Income	\$60,373	\$44,235	\$59,830	\$72,372	\$70,277
# Component					
103 Concrete - Repair	\$3,116	\$0	\$0	\$0	\$0
501 Stucco Walls - Repair	\$28,043	\$0	\$0	\$0	\$0
505 Stucco Walls - Repaint	\$0	\$0	\$0	\$18,727	\$0
510 Metal Fence - Replace	\$0	\$0	\$0	\$0	\$0
701 Monument - Refurbish	\$0	\$0	\$0	\$0	\$0
805 Landscape Granite - Replenish	\$0	\$0	\$0	\$0	\$0
806 River Rock - Replenish	\$0	\$0	\$0	\$0	\$0
810 Drywells - Inspect/Clean	\$0	\$0	\$3,554	\$0	\$0
812 Drywells - Partial Replace	\$0	\$0	\$0	\$0	\$0
Total Expenses	\$31,159	\$0	\$3,554	\$18,727	\$0
Ending Reserve Balance:	\$29,214	\$44,235	\$56,277	\$53,645	\$70,277

Table 6: 30-Year Income/Expense Detail (yrs 20 through 24)**21767-0**

Fiscal Year	2037	2038	2039	2040	2041
Starting Reserve Balance	\$70,277	\$79,391	\$43,042	\$56,919	\$75,603
Annual Reserve Contribution	\$16,493	\$16,988	\$17,497	\$18,022	\$18,563
Recommended Special Assessments	\$0	\$0	\$0	\$0	\$0
Interest Earnings	\$748	\$612	\$500	\$662	\$853
Total Income	\$87,518	\$96,990	\$61,038	\$75,603	\$95,019
# Component					
103 Concrete - Repair	\$0	\$0	\$0	\$0	\$0
501 Stucco Walls - Repair	\$0	\$0	\$0	\$0	\$0
505 Stucco Walls - Repaint	\$0	\$0	\$0	\$0	\$0
510 Metal Fence - Replace	\$0	\$0	\$0	\$0	\$0
701 Monument - Refurbish	\$0	\$0	\$0	\$0	\$0
805 Landscape Granite - Replenish	\$0	\$53,949	\$0	\$0	\$0
806 River Rock - Replenish	\$8,128	\$0	\$0	\$0	\$0
810 Drywells - Inspect/Clean	\$0	\$0	\$4,120	\$0	\$0
812 Drywells - Partial Replace	\$0	\$0	\$0	\$0	\$0
Total Expenses	\$8,128	\$53,949	\$4,120	\$0	\$0
Ending Reserve Balance:	\$79,391	\$43,042	\$56,919	\$75,603	\$95,019

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

21767-0

Fiscal Year	2042	2043	2044	2045	2046
Starting Reserve Balance	\$95,019	\$87,833	\$108,508	\$125,184	\$141,691
Annual Reserve Contribution	\$19,120	\$19,693	\$20,284	\$20,893	\$21,519
Recommended Special Assessments	\$0	\$0	\$0	\$0	\$0
Interest Earnings	\$914	\$981	\$1,168	\$1,334	\$1,188
Total Income	\$115,052	\$108,508	\$129,960	\$147,411	\$164,398
# Component					
103 Concrete - Repair	\$4,188	\$0	\$0	\$0	\$0
501 Stucco Walls - Repair	\$0	\$0	\$0	\$0	\$0
505 Stucco Walls - Repaint	\$23,032	\$0	\$0	\$0	\$0
510 Metal Fence - Replace	\$0	\$0	\$0	\$0	\$0
701 Monument - Refurbish	\$0	\$0	\$0	\$5,720	\$0
805 Landscape Granite - Replenish	\$0	\$0	\$0	\$0	\$68,340
806 River Rock - Replenish	\$0	\$0	\$0	\$0	\$0
810 Drywells - Inspect/Clean	\$0	\$0	\$4,776	\$0	\$0
812 Drywells - Partial Replace	\$0	\$0	\$0	\$0	\$0
Total Expenses	\$27,219	\$0	\$4,776	\$5,720	\$68,340
Ending Reserve Balance:	\$87,833	\$108,508	\$125,184	\$141,691	\$96,058

Accuracy, Limitations, and Disclosures

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 and its employees have no ownership, management, or other business relationships with the client other than this Reserve Study engagement. DJ Vlaming, R.S., company president, is a credentialed Reserve Specialist (#61). All work done by Association Reserves – AZ, 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 noted otherwise in our "Site Inspection Notes" comments. No destructive or intrusive testing was performed. This Report and the 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

BTU	British Thermal Unit (a standard unit of energy)
DIA	Diameter
GSF	Gross Square Feet (area). Equivalent to Square Feet
GSY	Gross Square Yards (area). Equivalent to Square Yards
HP	Horsepower
LF	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

Client: 21767 48 East HOA

COMMON AREAS

Comp #: 103 Concrete - Repair

Quantity: Approx 4,500 Sq Ft

Funded?: Yes.

History: Installed during 1996.

Location: (2) drainage areas- bordering 47th Pl & South Fork Dr

Evaluation: There is no expectancy to completely replace the concrete. This component provides an allowance for periodic repairs and/or partial replacements.

Useful Life:
10 years

Remaining Life:
5 years



Best Case: \$1,700
Allowance for repairs

Worst Case: \$2,300
Higher allowance

Cost Source: ARI Cost Allowance

Comp #: 201 Asphalt - Resurface

Quantity: Numerous Sq Ft

Funded?: No. Streets are maintained by the City, not the HOA.

History: Installed during 1996.

Location: Streets throughout community

Evaluation: No Reserve funding required.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source:

Client: 21767 48 East HOA

Comp #: 403 Mailboxes - Replace

Quantity: (6) Clusters, (3) Lockers

Funded?: No. Mailboxes are the responsibility of the Post Office, not the HOA.

History:

Location: Adjacent to streets

Evaluation: There are (2) 8-box clusters, (4) 16-box clusters, and (3) parcel lockers. No Reserve funding required.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source:

Comp #: 410 Bulletin Boards - Replace

Quantity: (2) Bulletin Boards

Funded?: No. Replacement cost is expected to be too small for Reserve designation.

History:

Location: Adjacent to streets (next to the mailboxes)

Evaluation: Manufactured by United Visual Products. Replace when needed as an Operating expense.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source:

Client: 21767 48 East HOA

Comp #: 501 Stucco Walls - Repair

Quantity: Approx 16,400 Sq Ft

Funded?: Yes.

History: ~\$17,400 was spent during 2011-2013 for repairs.

Location: Bordering common areas

Evaluation: Walls are expected to last the life of the community under normal circumstances. This component provides an allowance for repairs and/or partial replacement due to excessive settling or other sources of damage.

Useful Life:
20 years

Remaining Life:
15 years



Best Case: \$16,000
Allowance for repairs

Worst Case: \$20,000
Higher allowance

Cost Source: Client Cost History

Comp #: 505 Stucco Walls - Repaint

Quantity: Approx 16,400 Sq Ft

Funded?: Yes.

History: Repainted during 2014 for ~\$10,050. Some minor touch-ups were completed during 2016.

Location: Bordering common areas

Evaluation: Periodic repainting should be expected to maintain the appearance and to keep the surfaces properly sealed.

Useful Life:
7 years

Remaining Life:
4 years



Best Case: \$10,000
Estimate to repaint

Worst Case: \$12,000
Higher estimate

Cost Source: Client Cost History

Client: 21767 48 East HOA

Comp #: 510 Metal Fence - Replace

Quantity: Approx 10 LF

Funded?: Yes.

History: Installed during 1996.

Location: Mounted between stucco walls bordering 48th St

Evaluation: Some rust issues evident. Future replacement should be anticipated. Periodic repainting every 3-4 years should be completed as an Operating expense to maintain the appearance and to inhibit rust.

Useful Life:
30 years

Remaining Life:
9 years



Best Case: \$900
Estimate to replace

Worst Case: \$1,100
Higher estimate

Cost Source: ARI Cost Database

Comp #: 701 Monument - Refurbish

Quantity: (1) Monument

Funded?: Yes.

History: Assumed to be original from 1996.

Location: Bordering Chandler Blvd (at 47th Pl)

Evaluation: Expect to eventually replace the metal lettering to update and modernize the appearance. No issues observed at this time.

Useful Life:
20 years

Remaining Life:
8 years



Best Case: \$2,200
Estimate to refurbish

Worst Case: \$2,800
Higher estimate

Cost Source: ARI Cost Database

Client: 21767 48 East HOA

Comp #: 800 Irrigation System - Replace **Quantity:** Lines, Valves, Emitters

Funded?: No. We assume the system will be repaired as-needed using Operating funds.

History:

Location: Common areas throughout community

Evaluation: It is beyond the scope of this Reserve Study to quantify and assess the conditions of the irrigation system. We assume the system will be repaired as an ongoing maintenance expense. If the HOA would like to add in funding for future replacement as a Reserve expense, we would need to be provided with timing and cost estimates.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source:

Comp #: 801 Irrigation Controllers - Replace **Quantity:** (2) Controllers

Funded?: No. Individual replacement cost is expected to be too small for Reserve designation.

History:

Location: Bordering Chandler Blvd & 48th St

Evaluation: There is (1) Hardie controller and (1) Hunter controller. Replace as-needed using Operating funds.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source:

Client: 21767 48 East HOA

Comp #: 803 Backflow Valves - Replace **Quantity:** (2) Valves
Funded?: No. Replacement cost is too small for Reserve designation.
History: The backflow valve bordering 48th St was replaced during 2016 for ~\$350.
Location: Bordering Chandler Blvd & 48th St
Evaluation: Replace individually as-needed using Operating funds. No Reserve funding required.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source:

Comp #: 805 Landscape Granite - Replenish **Quantity:** Approx 300 Tons
Funded?: Yes.
History: Replenished during 2014 for ~\$27,300.
Location: Common areas bordering Chandler Blvd & 48th St
Evaluation: There is no expectancy to replace the landscape granite. This component provides funding to periodically top-dress with a new 1" layer. Surfaces appear generally full and in good shape.

Useful Life:
8 years

Remaining Life:
5 years



Best Case: \$26,000
Estimate to replenish

Worst Case: \$32,000
Higher estimate

Cost Source: Client Cost History

Client: 21767 48 East HOA

Comp #: 806 River Rock - Replenish

Quantity: Approx 70 Tons

Funded?: Yes.

History:

Location: Common areas bordering Chandler Blvd & 48th St

Evaluation: The river rock has slowly sunk into the ground over time. The HOA would like to replenish the river rock in the near future to restore the appearance and function of the river rock. Long life component under normal circumstances.

Useful Life:
20 years

Remaining Life:
0 years



Best Case: \$4,000

Worst Case: \$5,000

Estimate to replenish

Higher estimate

Cost Source: Internet Research

Comp #: 808 Trees + Plants - Trim/Replace

Quantity: Trees, Plants, Shrubs

Funded?: No. Recommend maintaining trees and plants annually as an Operating expense.

History:

Location: Common areas throughout community

Evaluation: No Reserve funding required.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source:

Client: 21767 48 East HOA

Comp #: 810 Drywells - Inspect/Clean

Quantity: (4) Drywells

Funded?: Yes.

History: Inspected and cleaned during 2014 for ~\$2,050.

Location: Drainage areas bordering Chandler Blvd & 48th St

Evaluation: Periodic inspection and cleaning should be anticipated to ensure proper function and longevity.

Useful Life:
5 years

Remaining Life:
2 years



Best Case: \$2,000
Estimate to inspect/clean

Worst Case: \$2,300
Higher estimate

Cost Source: Client Cost History

Comp #: 812 Drywells - Partial Replace

Quantity: (1) of (4) Drywells

Funded?: Yes.

History: Installed during 1996.

Location: Drainage areas bordering Chandler Blvd & 48th St

Evaluation: Replacement of drywells is typically due to improper installation or neglect. Funding is provided to replace (1) of (4) drywells eventually, in the event failure does occur.

Useful Life:
35 years

Remaining Life:
14 years



Best Case: \$14,000
Estimate to replace (1) of (4)
drywells

Worst Case: \$18,000
Higher estimate

Cost Source: ARI Cost Database