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Update “With Site-Visit” Reserve Study



Grand Ridge Drive Neighborhood Issaquah, WA

Report #: 16879-4
For Period Beginning: July 1, 2016
Expires: June 30, 2017

Date Prepared: January 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:

253/661-5437

Relax, it's from



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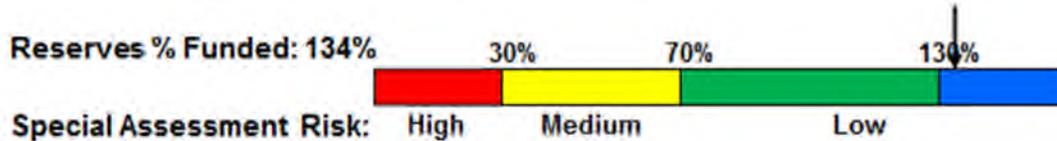
3- Minute Executive Summary

Association: Grand Ridge Drive Neighborhood **#:** 16879-4
Location: Issaquah, WA **# of Units:** 40
Report Period: July 1, 2016 through June 30, 2017

Findings/Recommendations as-of 7/1/2016:

Projected Starting Reserve Balance:	\$233,502
Current Fully Funded Reserve Balance:	\$174,122
Average Reserve Deficit (Surplus) Per Unit:	\$(1,485)
100% 2016-2017 Monthly “Full Funding” Contributions:	\$1,900
Baseline contributions (min to keep Reserves above \$0:	\$1,840
Recommended 2016 Special Assessment:	\$0

Most Recent Budgeted Reserve Contribution Rate:\$1,900



Economic Assumptions:

Net Annual “After Tax” Interest Earnings Accruing to Reserves..... 0.15%
Annual Inflation Rate..... 3.00%

- This is an “Update With-Site-Visit” Reserve Study, based on our site inspection on January 8, 2016 and meets or exceeds all requirements of the RCW. This study was prepared by a credentialed Reserve Specialist (RS™).
- Your Reserve Fund is currently 134% 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, in order to maintain this strong status throughout the study period, our recommendation is to maintain your Reserve contributions at the current level (\$1,900/month) which is the recommended 100% level as noted above. No assets appropriate for Reserve designation were excluded. See photo appendix for component details and the basis of our assumptions.

#	Component	Useful Life (yrs)	Rem. Useful Life (yrs)	Current Cost Estimate
201	Asphalt - Resurface/Overlay	35	23	\$409,500
202	Asphalt - Periodic Repairs/Repl.	6	5	\$13,650
210	Drainage/Culverts - Repair/Replace	10	3	\$7,150
324	Bridge Lights - Repair/Replace	15	3	\$3,600
501	Masonry - Clean/Seal/Repair	15	3	\$8,750
505	Split Rail Fence - Replace	12	2	\$5,150
506	Bridge Rail - Repair/Replace	20	11	\$7,200
1005	Irrigation Time Clocks - Replace	10	1	\$6,700
1402	Stone Pillars/Monuments - Rpr/Replc	15	3	\$3,750
9	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.

Cross reference component numbers with photographic inventory appendix.

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 [Update With-Site-Visit](#) Reserve Study, we started with a review of your prior Reserve Study, then looked into recent Reserve expenditures, evaluated how expenditures are handled (ongoing maintenance vs Reserves), and

researched any well-established association precedents. We performed an on-site inspection to evaluate your common areas, *updating and adjusting* your Reserve Component List as appropriate.

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 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 January 8, 2016, we visually inspected all visible common areas while compiling a photographic inventory, noting: current condition, make & model information where appropriate, apparent levels of care and maintenance, exposure to weather elements and other factors that may affect the components useful life. We also met with Association Management. We discussed past projects, current concerns and future plans. We also informed which items are being handled from the Operational maintenance budget, not Reserves.

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 \$37,771. Adding the next five years, your *first ten years* of projected Reserve expenses are \$53,595. 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.

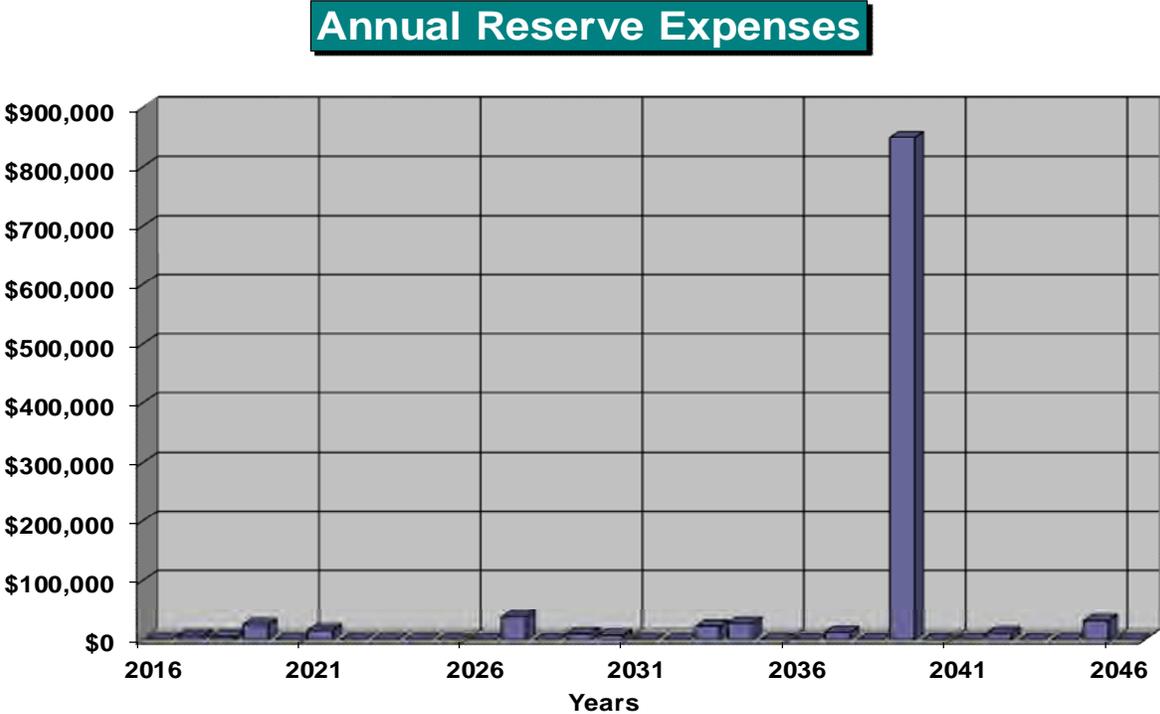


Figure 1

Reserve Fund Status

The starting point for our financial analysis is your Reserve Fund balance, projected to be \$233,502 as-of the start of your Fiscal Year on July 1, 2016. As of July 1, 2016, your Fully Funded Balance is computed to be \$174,122 (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 134% 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 \$1,900/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.

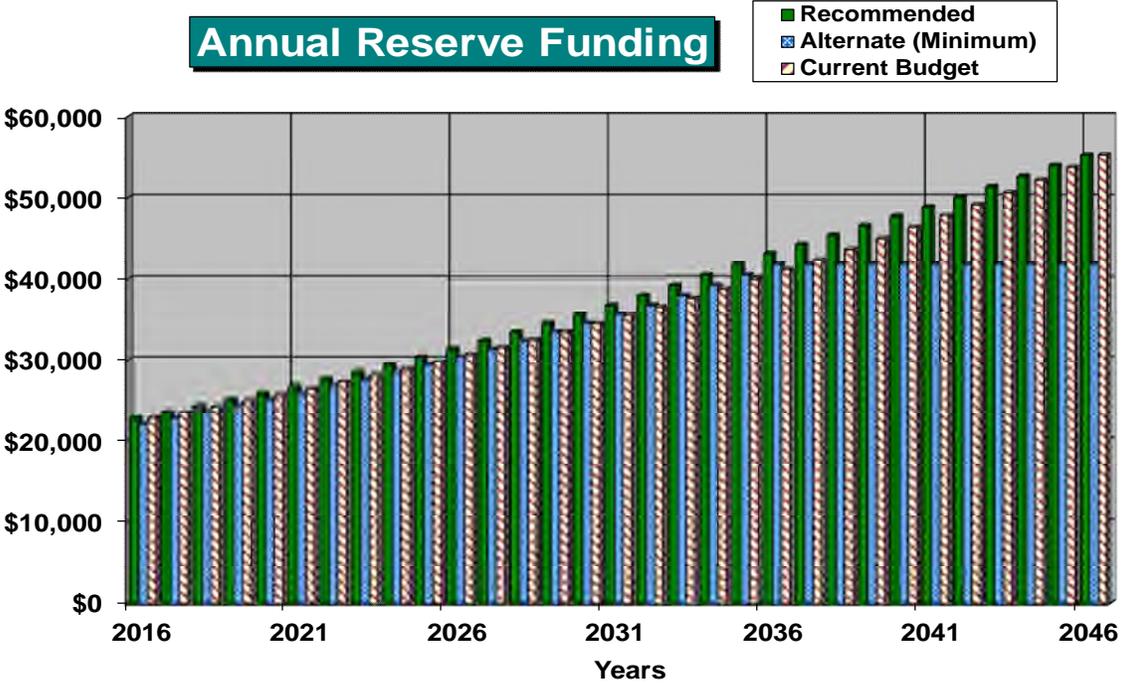


Figure 2

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.

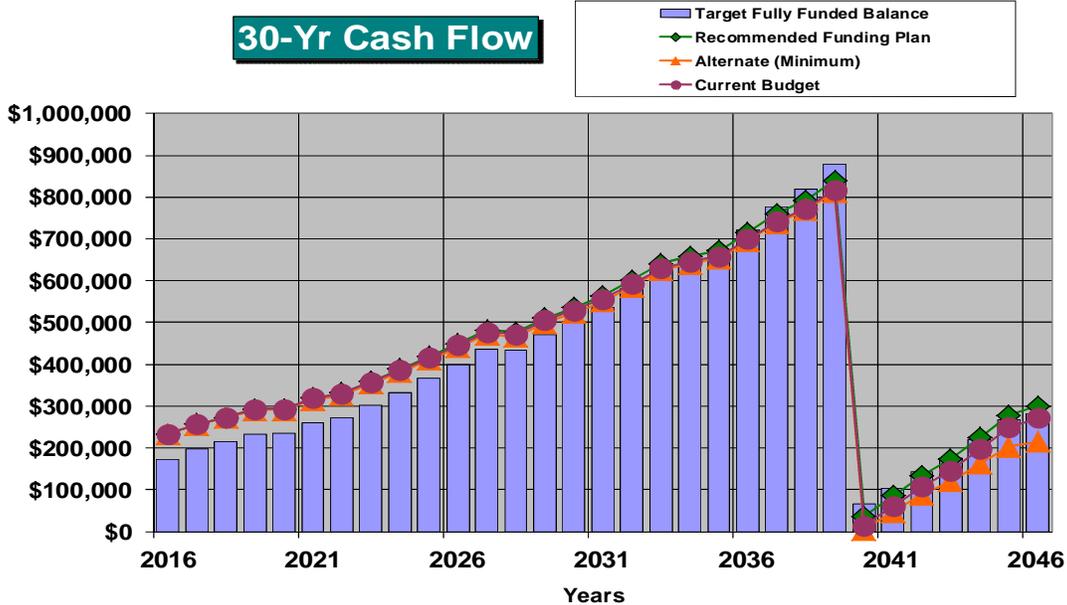


Figure 3

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

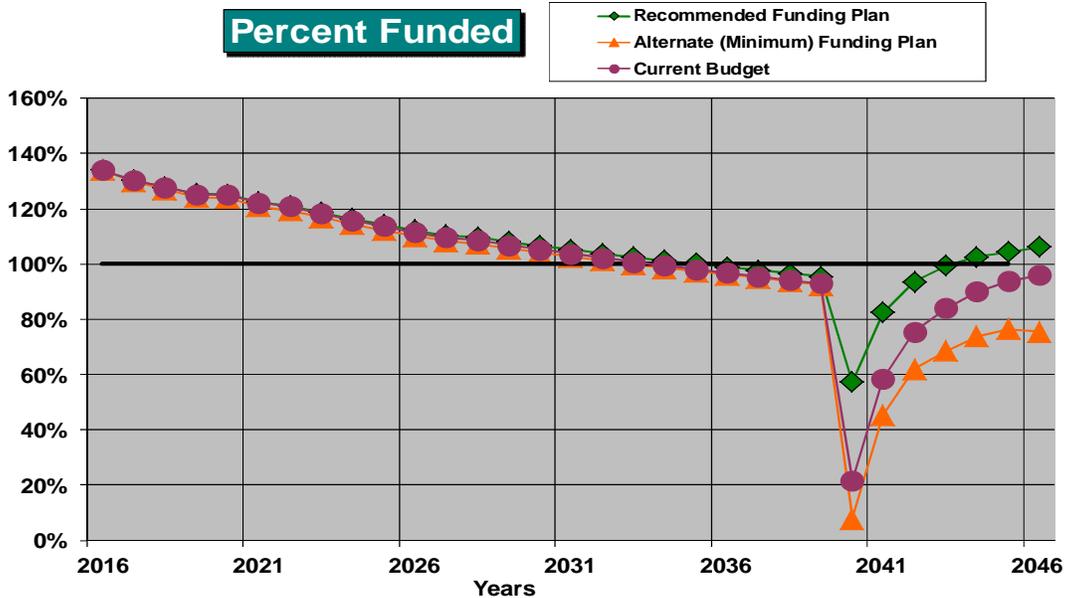


Figure 4

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 the estimated 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

16879-4

#	Component	Quantity	Useful Life	Rem. Useful Life	[--- Current Cost Estimate ---]	
					Best Case	Worst Case
201	Asphalt - Resurface/Overlay	~182,000 GSF	35	23	\$364,000	\$455,000
202	Asphalt - Periodic Repairs/Repl.	Approx 182,000 sq ft	6	5	\$10,900	\$16,400
210	Drainage/Culverts - Repair/Replace	Extensive linear feet	10	3	\$5,500	\$8,800
324	Bridge Lights - Repair/Replace	(6) post lights	15	3	\$3,000	\$4,200
501	Masonry - Clean/Seal/Repair	~1,500 GSF, stone	15	3	\$6,600	\$10,900
505	Split Rail Fence - Replace	~265 LF, wood	12	2	\$4,500	\$5,800
506	Bridge Rail - Repair/Replace	~160 LF, wood	20	11	\$6,400	\$8,000
1005	Irrigation Time Clocks - Replace	(2) control stations	10	1	\$6,000	\$7,400
1402	Stone Pillars/Monuments - Rpr/Replc	(6) masonry monuments	15	3	\$3,000	\$4,500
9	Total Funded Components					

Table 3: Fully Funded Balance**16879-4**

#	Component	Current Cost Estimate	X	Effective Age	/	Useful Life	=	Fully Funded Balance
201	Asphalt - Resurface/Overlay	\$409,500	X	12	/	35	=	\$140,400
202	Asphalt - Periodic Repairs/Repl.	\$13,650	X	1	/	6	=	\$2,275
210	Drainage/Culverts - Repair/Replace	\$7,150	X	7	/	10	=	\$5,005
324	Bridge Lights - Repair/Replace	\$3,600	X	12	/	15	=	\$2,880
501	Masonry - Clean/Seal/Repair	\$8,750	X	12	/	15	=	\$7,000
505	Split Rail Fence - Replace	\$5,150	X	10	/	12	=	\$4,292
506	Bridge Rail - Repair/Replace	\$7,200	X	9	/	20	=	\$3,240
1005	Irrigation Time Clocks - Replace	\$6,700	X	9	/	10	=	\$6,030
1402	Stone Pillars/Monuments - Rpr/Replc	\$3,750	X	12	/	15	=	\$3,000
								\$174,122

Table 4: Component Significance**16879-4**

#	Component	Useful Life	Current	Deterioration Cost/yr	Deterioration Significance
			Cost Estimate		
201	Asphalt - Resurface/Overlay	35	\$409,500	\$11,700	67.9%
202	Asphalt - Periodic Repairs/Repl.	6	\$13,650	\$2,275	13.2%
210	Drainage/Culverts - Repair/Replace	10	\$7,150	\$715	4.2%
324	Bridge Lights - Repair/Replace	15	\$3,600	\$240	1.4%
501	Masonry - Clean/Seal/Repair	15	\$8,750	\$583	3.4%
505	Split Rail Fence - Replace	12	\$5,150	\$429	2.5%
506	Bridge Rail - Repair/Replace	20	\$7,200	\$360	2.1%
1005	Irrigation Time Clocks - Replace	10	\$6,700	\$670	3.9%
1402	Stone Pillars/Monuments - Rpr/Replc	15	\$3,750	\$250	1.5%
9	Total Funded Components			\$17,223	100.0%

Table 5: 30-Year Reserve Plan Summary

16879-4

Fiscal Year Start: 07/01/16

Interest: 0.2%

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
2016	\$233,502	\$174,122	134.1%	Low	\$22,800	\$0	\$368	\$0
2017	\$256,670	\$197,084	130.2%	Low	\$23,541	\$0	\$398	\$6,901
2018	\$273,707	\$214,160	127.8%	Low	\$24,306	\$0	\$425	\$5,464
2019	\$292,975	\$233,777	125.3%	Low	\$25,096	\$0	\$440	\$25,406
2020	\$293,104	\$234,006	125.3%	Low	\$25,912	\$0	\$459	\$0
2021	\$319,476	\$260,992	122.4%	Low	\$26,754	\$0	\$488	\$15,824
2022	\$330,893	\$273,088	121.2%	Low	\$27,623	\$0	\$517	\$0
2023	\$359,034	\$302,462	118.7%	Low	\$28,521	\$0	\$560	\$0
2024	\$388,115	\$333,353	116.4%	Low	\$29,448	\$0	\$605	\$0
2025	\$418,168	\$365,825	114.3%	Low	\$30,405	\$0	\$651	\$0
2026	\$449,223	\$399,945	112.3%	Low	\$31,393	\$0	\$698	\$0
2027	\$481,314	\$435,783	110.4%	Low	\$32,413	\$0	\$718	\$38,136
2028	\$476,310	\$434,132	109.7%	Low	\$33,467	\$0	\$740	\$0
2029	\$510,517	\$472,448	108.1%	Low	\$34,555	\$0	\$784	\$10,500
2030	\$535,356	\$501,857	106.7%	Low	\$35,678	\$0	\$825	\$7,790
2031	\$564,068	\$535,721	105.3%	Low	\$36,837	\$0	\$874	\$0
2032	\$601,780	\$579,430	103.9%	Low	\$38,034	\$0	\$932	\$0
2033	\$640,746	\$625,279	102.5%	Low	\$39,270	\$0	\$974	\$22,561
2034	\$658,429	\$650,119	101.3%	Low	\$40,547	\$0	\$998	\$27,409
2035	\$672,565	\$671,591	100.1%	Low	\$41,865	\$0	\$1,041	\$0
2036	\$715,471	\$722,845	99.0%	Low	\$43,225	\$0	\$1,106	\$0
2037	\$759,802	\$776,569	97.8%	Low	\$44,306	\$0	\$1,164	\$12,464
2038	\$792,808	\$820,028	96.7%	Low	\$45,413	\$0	\$1,224	\$0
2039	\$839,446	\$878,619	95.5%	Low	\$46,549	\$0	\$658	\$849,234
2040	\$37,418	\$65,276	57.3%	Med	\$47,712	\$0	\$92	\$0
2041	\$85,222	\$103,295	82.5%	Low	\$48,905	\$0	\$165	\$0
2042	\$134,292	\$143,536	93.6%	Low	\$50,128	\$0	\$231	\$11,106
2043	\$173,544	\$174,658	99.4%	Low	\$51,381	\$0	\$299	\$0
2044	\$225,224	\$219,302	102.7%	Low	\$52,666	\$0	\$378	\$0
2045	\$278,268	\$266,467	104.4%	Low	\$53,982	\$0	\$434	\$32,167

Table 6: 30-Year Income/Expense Detail (yrs 0 through 4)**16879-4**

Fiscal Year	2016	2017	2018	2019	2020
Starting Reserve Balance	\$233,502	\$256,670	\$273,707	\$292,975	\$293,104
Annual Reserve Contribution	\$22,800	\$23,541	\$24,306	\$25,096	\$25,912
Recommended Special Assessments	\$0	\$0	\$0	\$0	\$0
Interest Earnings	\$368	\$398	\$425	\$440	\$459
Total Income	\$256,670	\$280,608	\$298,438	\$318,510	\$319,476
# Component					
201 Asphalt - Resurface/Overlay	\$0	\$0	\$0	\$0	\$0
202 Asphalt - Periodic Repairs/Repl.	\$0	\$0	\$0	\$0	\$0
210 Drainage/Culverts - Repair/Replace	\$0	\$0	\$0	\$7,813	\$0
324 Bridge Lights - Repair/Replace	\$0	\$0	\$0	\$3,934	\$0
501 Masonry - Clean/Seal/Repair	\$0	\$0	\$0	\$9,561	\$0
505 Split Rail Fence - Replace	\$0	\$0	\$5,464	\$0	\$0
506 Bridge Rail - Repair/Replace	\$0	\$0	\$0	\$0	\$0
1005 Irrigation Time Clocks - Replace	\$0	\$6,901	\$0	\$0	\$0
1402 Stone Pillars/Monuments - Rpr/Replc	\$0	\$0	\$0	\$4,098	\$0
Total Expenses	\$0	\$6,901	\$5,464	\$25,406	\$0
Ending Reserve Balance:	\$256,670	\$273,707	\$292,975	\$293,104	\$319,476

Table 6: 30-Year Income/Expense Detail (yrs 5 through 9)**16879-4**

Fiscal Year	2021	2022	2023	2024	2025
Starting Reserve Balance	\$319,476	\$330,893	\$359,034	\$388,115	\$418,168
Annual Reserve Contribution	\$26,754	\$27,623	\$28,521	\$29,448	\$30,405
Recommended Special Assessments	\$0	\$0	\$0	\$0	\$0
Interest Earnings	\$488	\$517	\$560	\$605	\$651
Total Income	\$346,717	\$359,034	\$388,115	\$418,168	\$449,223
# Component					
201 Asphalt - Resurface/Overlay	\$0	\$0	\$0	\$0	\$0
202 Asphalt - Periodic Repairs/Repl.	\$15,824	\$0	\$0	\$0	\$0
210 Drainage/Culverts - Repair/Replace	\$0	\$0	\$0	\$0	\$0
324 Bridge Lights - Repair/Replace	\$0	\$0	\$0	\$0	\$0
501 Masonry - Clean/Seal/Repair	\$0	\$0	\$0	\$0	\$0
505 Split Rail Fence - Replace	\$0	\$0	\$0	\$0	\$0
506 Bridge Rail - Repair/Replace	\$0	\$0	\$0	\$0	\$0
1005 Irrigation Time Clocks - Replace	\$0	\$0	\$0	\$0	\$0
1402 Stone Pillars/Monuments - Rpr/Replc	\$0	\$0	\$0	\$0	\$0
Total Expenses	\$15,824	\$0	\$0	\$0	\$0
Ending Reserve Balance:	\$330,893	\$359,034	\$388,115	\$418,168	\$449,223

Table 6: 30-Year Income/Expense Detail (yrs 10 through 14)**16879-4**

Fiscal Year	2026	2027	2028	2029	2030
Starting Reserve Balance	\$449,223	\$481,314	\$476,310	\$510,517	\$535,356
Annual Reserve Contribution	\$31,393	\$32,413	\$33,467	\$34,555	\$35,678
Recommended Special Assessments	\$0	\$0	\$0	\$0	\$0
Interest Earnings	\$698	\$718	\$740	\$784	\$825
Total Income	\$481,314	\$514,446	\$510,517	\$545,856	\$571,858
# Component					
201 Asphalt - Resurface/Overlay	\$0	\$0	\$0	\$0	\$0
202 Asphalt - Periodic Repairs/Repl.	\$0	\$18,895	\$0	\$0	\$0
210 Drainage/Culverts - Repair/Replace	\$0	\$0	\$0	\$10,500	\$0
324 Bridge Lights - Repair/Replace	\$0	\$0	\$0	\$0	\$0
501 Masonry - Clean/Seal/Repair	\$0	\$0	\$0	\$0	\$0
505 Split Rail Fence - Replace	\$0	\$0	\$0	\$0	\$7,790
506 Bridge Rail - Repair/Replace	\$0	\$9,966	\$0	\$0	\$0
1005 Irrigation Time Clocks - Replace	\$0	\$9,274	\$0	\$0	\$0
1402 Stone Pillars/Monuments - Rpr/Replc	\$0	\$0	\$0	\$0	\$0
Total Expenses	\$0	\$38,136	\$0	\$10,500	\$7,790
Ending Reserve Balance:	\$481,314	\$476,310	\$510,517	\$535,356	\$564,068

Table 6: 30-Year Income/Expense Detail (yrs 15 through 19)**16879-4**

Fiscal Year	2031	2032	2033	2034	2035
Starting Reserve Balance	\$564,068	\$601,780	\$640,746	\$658,429	\$672,565
Annual Reserve Contribution	\$36,837	\$38,034	\$39,270	\$40,547	\$41,865
Recommended Special Assessments	\$0	\$0	\$0	\$0	\$0
Interest Earnings	\$874	\$932	\$974	\$998	\$1,041
Total Income	\$601,780	\$640,746	\$680,991	\$699,974	\$715,471
# Component					
201 Asphalt - Resurface/Overlay	\$0	\$0	\$0	\$0	\$0
202 Asphalt - Periodic Repairs/Repl.	\$0	\$0	\$22,561	\$0	\$0
210 Drainage/Culverts - Repair/Replace	\$0	\$0	\$0	\$0	\$0
324 Bridge Lights - Repair/Replace	\$0	\$0	\$0	\$6,129	\$0
501 Masonry - Clean/Seal/Repair	\$0	\$0	\$0	\$14,896	\$0
505 Split Rail Fence - Replace	\$0	\$0	\$0	\$0	\$0
506 Bridge Rail - Repair/Replace	\$0	\$0	\$0	\$0	\$0
1005 Irrigation Time Clocks - Replace	\$0	\$0	\$0	\$0	\$0
1402 Stone Pillars/Monuments - Rpr/Replc	\$0	\$0	\$0	\$6,384	\$0
Total Expenses	\$0	\$0	\$22,561	\$27,409	\$0
Ending Reserve Balance:	\$601,780	\$640,746	\$658,429	\$672,565	\$715,471

Table 6: 30-Year Income/Expense Detail (yrs 20 through 24)**16879-4**

Fiscal Year	2036	2037	2038	2039	2040
Starting Reserve Balance	\$715,471	\$759,802	\$792,808	\$839,446	\$37,418
Annual Reserve Contribution	\$43,225	\$44,306	\$45,413	\$46,549	\$47,712
Recommended Special Assessments	\$0	\$0	\$0	\$0	\$0
Interest Earnings	\$1,106	\$1,164	\$1,224	\$658	\$92
Total Income	\$759,802	\$805,272	\$839,446	\$886,652	\$85,222
# Component					
201 Asphalt - Resurface/Overlay	\$0	\$0	\$0	\$808,184	\$0
202 Asphalt - Periodic Repairs/Repl.	\$0	\$0	\$0	\$26,939	\$0
210 Drainage/Culverts - Repair/Replace	\$0	\$0	\$0	\$14,111	\$0
324 Bridge Lights - Repair/Replace	\$0	\$0	\$0	\$0	\$0
501 Masonry - Clean/Seal/Repair	\$0	\$0	\$0	\$0	\$0
505 Split Rail Fence - Replace	\$0	\$0	\$0	\$0	\$0
506 Bridge Rail - Repair/Replace	\$0	\$0	\$0	\$0	\$0
1005 Irrigation Time Clocks - Replace	\$0	\$12,464	\$0	\$0	\$0
1402 Stone Pillars/Monuments - Rpr/Replc	\$0	\$0	\$0	\$0	\$0
Total Expenses	\$0	\$12,464	\$0	\$849,234	\$0
Ending Reserve Balance:	\$759,802	\$792,808	\$839,446	\$37,418	\$85,222

Table 6: 30-Year Income/Expense Detail (yrs 25 through 29)**16879-4**

Fiscal Year	2041	2042	2043	2044	2045
Starting Reserve Balance	\$85,222	\$134,292	\$173,544	\$225,224	\$278,268
Annual Reserve Contribution	\$48,905	\$50,128	\$51,381	\$52,666	\$53,982
Recommended Special Assessments	\$0	\$0	\$0	\$0	\$0
Interest Earnings	\$165	\$231	\$299	\$378	\$434
Total Income	\$134,292	\$184,651	\$225,224	\$278,268	\$332,684
# Component					
201 Asphalt - Resurface/Overlay	\$0	\$0	\$0	\$0	\$0
202 Asphalt - Periodic Repairs/Repl.	\$0	\$0	\$0	\$0	\$32,167
210 Drainage/Culverts - Repair/Replace	\$0	\$0	\$0	\$0	\$0
324 Bridge Lights - Repair/Replace	\$0	\$0	\$0	\$0	\$0
501 Masonry - Clean/Seal/Repair	\$0	\$0	\$0	\$0	\$0
505 Split Rail Fence - Replace	\$0	\$11,106	\$0	\$0	\$0
506 Bridge Rail - Repair/Replace	\$0	\$0	\$0	\$0	\$0
1005 Irrigation Time Clocks - Replace	\$0	\$0	\$0	\$0	\$0
1402 Stone Pillars/Monuments - Rpr/Replc	\$0	\$0	\$0	\$0	\$0
Total Expenses	\$0	\$11,106	\$0	\$0	\$32,167
Ending Reserve Balance:	\$134,292	\$173,544	\$225,224	\$278,268	\$300,517

Accuracy, Limitations, and Disclosures

Washington disclosures, per RCW:

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

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. James D. Talaga R.S., company president, is a credentialed Reserve Specialist (#66). All work done by Association Reserves WA, 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 found in prior Reserve Studies 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

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

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.

Client: 16879A Grand Ridge Drive Neighborhood

Comp # : 103 Concrete - Repair/Replace Quantity: ~10,000 GSF

Location : Entry drive, bridge, sidewalk, etc.

Funded? : No Useful life not predictable, repair/replace as needed out of operating budget

History : None known

Evaluation : As with our last inspection, although some local grime/dirt, we noted stable condition with no significant damage/deterioration observed. Repair any trip and fall hazards (1/2" or larger displacement) immediately to ensure safety. Although larger repair/replacement expenses can emerge as the community ages, difficult to predict timing, cost and scope with no basis for reserve funding at this time. Adjust as conditions, actual expense history indicates within future reserve study updates. As routine maintenance, inspect regularly, pressure wash for appearance and repair promptly as needed to prevent water penetrating into the base and causing further damage. Monitor tree roots nearby; consult with arborist for best practice. The stamped/decorative areas at the bridge sidewalks can be sealed to improve appearance.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source:

Comp # : 112 Bridge - Repair/Replace Quantity: Approx 22' x 96'

Location : Grand Ridge Drive

Funded? : No Useful life not predictable, repair/replace as needed out of operating budget

History : No major projects known

Evaluation : No obvious issues noted and no problems readily visible at this time; concrete, masonry block and asphalt roadway bridge. We assume properly designed and constructed. Regular inspections by engineer are prudent; factor those inspections and general repairs within operating budget. Assuming proactive maintenance, no predictable basis for reserve funding at this time for bridge and underlying culvert pipe. Track expenses and engineer's recommendations for basis of adjustment in reserve study updates in future years. Inspect regularly and factor local repairs within the general maintenance operating budget.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source:

Client: 16879A Grand Ridge Drive Neighborhood

Comp # : 201 Asphalt - Resurface/Overlay Quantity: ~182,000 GSF

Location : Roadway throughout Grand Ridge neighborhood

Funded? : Yes

History : None known

Evaluation : As with our previous site visit, stable surface condition noted with no significant raveling (loss of binder) damage or deterioration observed. Although regular seal coat cycles can provide protection from the oxidizing effects of weather, these type of roadways are generally not seal coated due to difficulty with mobilization, feasibility for a project of this size and overall cost/benefit ratio. However, we are recommending funding for periodic repairs (see # 202). Even with ordinary care and maintenance, plan for eventual large scale resurface/overlay at roughly the time frame below. As timing draws nearer, consult with asphalt vendor/consultant for recommendations and complete scope. As routine maintenance, keep roadway clean, free of debris and well drained; fill/seal cracks (hot rubberized crack fill) to prevent water from penetrating into the sub-base and accelerating damage.

Useful Life:
35 years

Remaining Life:
23 years



Best Case: \$364,000

Worst Case: \$455,000

\$2/Sq.Ft., Lower allowance for resurface/overlay

\$2.50/Sq.Ft., Higher allowance

Cost Source: ARI Cost Database: Similar Project Cost History

Client: 16879A Grand Ridge Drive Neighborhood

Comp # : 202 Asphalt - Periodic Repairs/Repl. Quantity: Approx 182,000 sq ft

Location : Roadway throughout Grand Ridge neighborhood

Funded? : Yes

History : None known

Evaluation : Asphalt appears to be in good condition at this time with no cracks, raveling, alligating or other damage/deterioration observed. Although regular cycles of seal coating can protect the pavement from the deteriorating effects of sun and water, sealcoating is most common in places such as parking lots and low speed driveway accesses. We assume the roadways here are constructed to shed water. While asphalt seal coating is not funded for here, best to plan for periodic funding for larger repairs/replacement that might be needed prior to anticipated large scale resurface/overlay project (#201). We have extended the remaining useful life here based on the condition and construction is not complete in this community. The timing/pricing here can vary and to be used as placeholders. As part of routine maintenance, inspect regularly, fill cracks and clean oil stains promptly in between cycles as routine maintenance. Keep roadways clean and free of debris.

Useful Life:
6 years

Remaining Life:
5 years



Best Case: \$10,900

\$2.00/Sq.Ft., Lower allowance for periodic repairs/replacement of about 3% of total surface area

Worst Case: \$16,400

\$3.00/Sq.Ft., Higher allowance for 3% of surface area, more removal/replacement

Cost Source: ARI Cost Database: Similar Project Cost History

Client: 16879A Grand Ridge Drive Neighborhood

Comp # : 210 Drainage/Culverts - Repair/Replace

Quantity: Extensive linear feet

Location : Adjacent to roadway throughout Grand Ridge

Funded? : Yes

History : No major projects known

Evaluation : As with our previous reserve study site visit, no problems observed and none reported of roadside culvert areas or bio-swales throughout community. In the past, reported that the two drains near the park/open space were cleaned, however cost less than \$500 and funded from operating budget. We assume to be properly designed and constructed. Drainage facilities are typically inspected periodically by governing authority; typically storm system maintenance guidelines can be found on their website. Although annual work should be performed as part of general maintenance operating funding, we recommend including a funding allowance for periodic larger expenses that might occur. Track expenses and adjust in reserve study updates as needed. As part of routine maintenance, inspect regularly and clean/repair/replace locally as needed.

Useful Life:
10 years

Remaining Life:
3 years



Best Case: \$5,500

Worst Case: \$8,800

Lower repair/replacement allowance

Higher allowance, more extensive

Cost Source: ARI Cost Database: Similar Project Cost History

Comp # : 320 Street Lights - Replace

Quantity: (11) metal light poles

Location : Scattered common area locations, adjacent to road

Funded? : No PSE/Intolight responsible to maintain, not Association

History : None known

Evaluation : Street lights are the responsibility of Intolight/PSE to maintain, repair and replace. With this understanding, no reserve funding needed

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source:

Client: 16879A Grand Ridge Drive Neighborhood

Comp # : 324 Bridge Lights - Repair/Replace Quantity: (6) post lights

Location : Mounted on masonry monuments at entry and bridge

Funded? : Yes

History : None known

Evaluation : We did not observe any visible signs of problems during our daylight inspection. In the past, Association Management reported cost for bulb replacements is high. Best to plan for large scale replacement at roughly the time frame below for cost efficiency and consistent quality/appearance in these visible community areas. As routine maintenance, inspect, repair/change bulbs as needed.

Useful Life:
15 years

Remaining Life:
3 years



Best Case: \$3,000

Worst Case: \$4,200

\$500/each (x6), Lower allowance to replace

\$700/each (x6), Higher allowance, better quality

Cost Source: ARI Cost Database: Similar Project Cost History

Comp # : 403 Mailboxes/Housings - Replace Quantity: (4) stands/housings

Location : Adjacent to roadways throughout community

Funded? : No IHCA responsible, not sub-Association responsibility

History : None known

Evaluation : Per Association Management, mailboxes and shelters are the responsibility of IHCA to maintain not Grand Ridge Dr. Neighborhood, therefore no funding needed for this study.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source:

Client: 16879A Grand Ridge Drive Neighborhood

Comp # : 501 Masonry - Clean/Seal/Repair Quantity: ~1,500 GSF, stone

Location : Retaining / guardrail at scattered common areas

Funded? : Yes

History : No major projects known

Evaluation : Some local wear/deterioration, however no major damage noted such as cracking, settling, etc. Key to long lasting performance is original proper design and installation with adequate base and surrounding drainage. Although difficult to predict timing, cost and scope, we recommend a periodic funding allowance for repairs/refurbishing (cleaning/sealing) of stone walls at bridge to maintain appearance of these highly visible common areas. As part of routine maintenance, inspect regularly and repair as needed from operating budget.

Useful Life:
15 years

Remaining Life:
3 years



Best Case: \$6,600

Worst Case: \$10,900

Lower periodic repair/refurbish allowance

Higher allowance

Cost Source: ARI Cost Database: Similar Project Cost History

Client: 16879A Grand Ridge Drive Neighborhood

Comp # : 505 Split Rail Fence - Replace

Quantity: ~265 LF, wood

Location : Common area, adjacent to roadway

Funded? : Yes

History : No major projects known

Evaluation : Weathered, grayed appearance with some leaning but no widespread damage noted. Although stain can be applied to improve appearance/provide protection, not common at these type of fences which are typically left to weather naturally. Plan to replace at roughly the time frame below with funding included here for similar style fence. At next replacement, association might want to consider replacing with lower maintenance products like composite, vinyl, etc; typical costs at installation about 40 to 50% higher, but requires less maintenance and has significantly longer life. As routine maintenance, inspect regularly for any damage, repair as needed and avoid contact with ground and surrounding vegetation.

Useful Life:

12 years

Remaining Life:

2 years



Best Case: \$4,500

Worst Case: \$5,800

\$17/LF, Lower allowance to remove and replace with similar

\$22/LF, Higher allowance

Cost Source: ARI Cost Database: Similar Project Cost History

Client: 16879A Grand Ridge Drive Neighborhood

Comp # : 506 Bridge Rail - Repair/Replace Quantity: ~160 LF, wood

Location : Bridge along Grand View Drive near entry of community

Funded? : Yes

History : No major projects known

Evaluation : As with our previous site visit, weathered/grayed appearance of heavy, cedar timber construction, however no widespread or significant damage/deterioration observed; some local deterioration. Reported to us in the past by Association Management that routine cleaning/painting/sealing is funded out of the annual operating budget. Over time these wood components will deteriorate due to constant exposure. Best to plan for major repairs/replacement of wood components as shown here. As routine maintenance, inspect regularly to ensure safety and stability; repair promptly as needed using general operating/maintenance funds.

Useful Life:
20 years

Remaining Life:
11 years



Best Case: \$6,400

\$40/LF, Lower allowance for repairs/replacement

Worst Case: \$8,000

\$50/LF, Higher allowance

Cost Source: ARI Cost Database: Similar Project Cost History

Client: 16879A Grand Ridge Drive Neighborhood

Comp # : 1002 Irrigation System - Repair/Replace Quantity: Valves, pipes, etc.

Location : Common areas

Funded? : No Useful life not predictable, repair/replace as needed out of operating budget

History : No major projects known

Evaluation : As with our previous site visit, system was winterized during our site visit therefore we did not observe functioning, however, no problems reported to us. If properly installed and bedded without defect, the lines themselves are expected to be long-lived with no predictable expectation for replacement. While large system renovations, repairs, zone reconfiguration, etc. may become necessary, difficult to predict cost/timing. Other than controllers (see #1005) no basis for reserve funding of various irrigation system components at this time. As routine maintenance, inspect regularly, test system and repair as needed. Follow proper winterization and spring start up procedures. Have system professionally evaluated annually and if large scale renovations are needed, include in reserve study updates.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source:

Comp # : 1005 Irrigation Time Clocks - Replace Quantity: (2) control stations

Location : Metal lock-boxes at scattered common areas

Funded? : Yes

History : Unknown

Evaluation : As with our previous site visit, we inspected during winter, so we did not observe operating. No problems reported to us. Best to plan to replace at the time frame shown here due to parts obsolescence, technological upgrades, etc. Inspect regularly and repair/replace as needed. Note: time clocks/controllers are housed in heavy-plate, powdered-coated steel enclosures. Very sturdy construction with no predictable basis for replacement and no funding included here.

Useful Life:

10 years

Remaining Life:

1 years



Best Case: \$6,000

Worst Case: \$7,400

Lower allowance to replace

Higher allowance

Cost Source: Inflated Research

Client: 16879A Grand Ridge Drive Neighborhood

Comp # : 1402 Stone Pillars/Monuments - Rpr/Replc Quantity: (6) masonry monuments

Location : (2) at main entrance to community and (4) at bridge

Funded? : Yes

History : None known

Evaluation : No major damage/deterioration noted of stone pillars/monuments and wall areas at bridge. All appear stable at this time with no significant or widespread cracking, settling or other problems observed at stone surfaces. Metal plaques attached at entry monuments in good condition. Key to long lasting performance is original proper design and installation with adequate base and construction. Although difficult to predict timing, cost and scope, we recommend a periodic funding allowance for larger repairs/refurbishing (cleaning/sealing) to maintain appearance of this highly visible community areas. As part of routine maintenance, inspect regularly and repair as needed from operating budget.

Useful Life:

15 years

Remaining Life:

3 years



Best Case: \$3,000

Worst Case: \$4,500

Lower repair/refurbish allowance

Higher allowance

Cost Source: ARI Cost Database: Similar Project Cost History

Client: 16879A Grand Ridge Drive Neighborhood

Comp # : 1901 Landscape - Refurbish Quantity: Shrubs, grass, trees, etc

Location : Common areas

Funded? : No Useful life not predictable, repair/replace as needed out of operating budget

History : Unknown

Evaluation : No widespread issues with common area landscaping noted at this time and no problems reported to us. Although typically funded as ongoing maintenance item, this component may be utilized for setting aside funds for larger expenses that do not occur on an annual basis, such as large scale plantings, resodding lawn areas, bark/mulch replenishment, etc. Often times these type of projects can be handled within the annual operating budget as a separate line item from the landscape maintenance contract. At this time no specific projects anticipated and Association Management reports operating budget has provided funding for additional landscape items as needed. No reserve funding included. Monitor and include funding in reserve study updates if needed / desired.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source:

Comp # : 1950 Reserve Study Update Quantity: Annual

Location : Common elements of association

Funded? : No Annual costs, best handled in operational budget

History : Last reserve study for Associations' 2015-16 fiscal year

Evaluation : Per Washington law (RCW), reserve studies are to be updated annually, with site inspections by an independent reserve study professional to occur no less than every three years to assess changes in condition (i.e., physical, economic, governmental, etc...) and the resulting effect on the community's long-term reserve plan. Most appropriately factored within operating budget, not as reserve component.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source:
