

# REPLACEMENT RESERVE REPORT FY 2012

## VILLAS AT SNOWDEN OVERLOOK II



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VILLAS AT SNOWDEN OVERLOOK II

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# REPLACEMENT RESERVE REPORT

## VILLAS AT SNOWNDEN OVERLOOK II

COLUMBIA, MARYLAND



**Scope.** The Villas at Snowden Overlook II is a townhouse community located in Columbia, Maryland. The Villas at Snowden Overlook II was constructed in 2007. The community consists of twenty townhouse-style buildings with a total of 79 units. The survey examined the common elements of the property, including:

- Asphalt drive and parking.
- Concrete sidewalks, mailbox pads, and curb and gutter.
- Vinyl fencing, water and sewer laterals, and storm water drainage.
- Building exteriors, roofing, and gutter / downspouts

**Level of Service.** This study has been performed as a Level I, Full Service Reserve Study as defined under the National Reserve Study Standards that have been adopted by the Community Associations Institute. As such, a complete component inventory was established based on information regarding commonly-owned components provided by the community manager and upon quantities derived from field measurement. The condition of all commonly-owned components was ascertained from a site visit and the visual inspection of each component by the Analyst. The life expectancy and the value of the components are provided based in part on these observations. The fund status and funding plan have been derived from analysis of this data.

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**Purpose.** The purpose of this Replacement Reserve Study is to provide The Villas at Snowden Overlook II Condominium Association (hereinafter called the Association) with an inventory of the common community facilities and infrastructure components that require periodic replacement. The Study includes a general view of the condition of these items and an effective financial plan to fund projected periodic replacements.

- **Inventory of Items Owned by the Association.** Section B Replacement Reserve Inventory lists the Projected Replacements of the commonly owned items that require periodic replacement using funding from Replacement Reserves. The Replacement Reserve Inventory also provides information about excluded items, which are items whose replacements are not scheduled for funding from Replacement Reserves.
- **Condition of Items Owned by the Association.** Section B Replacement Reserve Inventory includes our estimates of the normal economic life and the remaining economic life for the projected replacements. Section C Calendar of Projected Annual Replacements provides a year-by-year listing of the projected replacements. Section D Condition Assessment provides additional detail for items that are unique or deserving of attention because of their condition or the manner in which they have been treated in this Study.
- **Financial Plan.** The Association has a fiduciary responsibility to protect the appearance, value, and safety of the property and it is therefore essential the Association have a financial plan that provides funding for the projected replacements. In conformance with American Institute of Certified Public Accountant guidelines, Section A Replacement Reserve Analysis evaluates the current funding of Replacement Reserves as reported by the Association and recommends annual funding of Replacement Reserves by two generally accepted accounting methods; the Cash Flow Method and the Component Method. Section A Replacement Reserve Analysis includes graphic and tabular presentations of these methods and current Association funding. An Executive Summary of these calculations is provided on Page A1.

**Basis.** The data contained in this Replacement Reserve Study is based upon the following:

- The Request for Proposal submitted and executed by the Association.
- Our visual evaluation and measurements on August 14, 2011. Miller - Dodson Associates has visually inspected the common elements of the property in order to ascertain the remaining useful life and the replacement costs of these components.

**Engineering Drawings.** The Condominium Plat – Phase 6 for The Villas at Snowden Overlook Condominium II by Gutschick, Little & Weber, P.A. and dated 6/19/2007 was used as a guide in establishing the quantities of asphalt pavement, concrete sidewalk, concrete curb and gutter, and storm water drainage facilities.

We recommend the Association assemble a library of site and building plans of the entire community. Reproducible drawings should be stored and kept in a secure fireproof location. The Association will find these drawings to be a valuable resource in planning and executing future projects.

**Current Funding.** This reserve study has been prepared for Fiscal Year 2012 covering the period from January 1, 2012 to December 31, 2012. The Replacement Reserves on deposit as of August 31, 2011 are reported to be \$106,652.84. The planned contribution for the fiscal year is \$39,180.00. This results in a Reserve Fund balance at the start of the fiscal year as follows:

8/31/2001 balance	\$106,652.84
4 months contribution	\$13,000.00
Planned expenditures	-0-
FY 2012 opening balance	\$119,712.84

The balance and contribution figures have been supplied by the property management agent and confirmation or audit of these figures is beyond the scope of the study. For the purposes of this study, it is assumed that the annual contribution will be deposited at the end of each month.

**Acknowledgement.** Miller - Dodson Associates would like to acknowledge the assistance and input of Mr. Jose Ponton, Property Manager and Mr. Steve Cappello, Association Treasurer who provided very helpful insight into the current operations at the property.

**Analyst's Credentials.** This study has been performed by Mr. Harvey Mosier. Mr. Mosier has a degree in Business Administration and over 40 years experience in project design, contract administration, and inspection of public and private facilities. As a consultant, Mr. Mosier has completed multiple facilities studies, life cycle cost studies, and analyses for repair verses replacement of facilities and systems. He is currently a Reserve Analyst for Miller - Dodson Associates, Inc.

Respectfully submitted,  
MILLER - DODSON ASSOCIATES, INC.

Harvey Mosier  
Reserve Analyst

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## EXECUTIVE SUMMARY

The Villas at Snowden Overlook II Replacement Reserve Inventory identifies 58 Projected Replacements for funding from Replacement Reserves, with an estimated one-time replacement cost of \$2,277,447.

The Replacement Reserve Analysis calculates recommended funding of Replacement Reserves by the two generally accepted methods, the Cash Flow Method and the Component Method. The Analysis also evaluates current funding of Replacement Reserves, as reported by the Association. The calculations and evaluation are summarized below:

### **\$58,686 CASH FLOW METHOD MINIMUM ANNUAL FUNDING OF REPLACEMENT RESERVES IN THE STUDY YEAR, 2012.**

\$61.90 Per unit (average), minimum monthly funding of Replacement Reserves

The Cash Flow Method (CFM) calculates Minimum Annual Funding of Replacement Reserves that will fund Projected Replacements identified in the Replacement Reserve Inventory from a common pool of Replacement Reserves and prevent Replacement Reserves from dropping below a Minimum Recommended Balance.

CFM - Minimum Annual Funding remains the same between peaks in cumulative expenditures called Peak Years.

The first Peak Year occurs in 2036 and the CFM - Minimum Annual Funding of Replacement Reserves in 2037 declines to \$52,923 (\$55.83 per unit, per month), after the completion of \$1,472,986 of replacements in 2012 to 2036.

After 2036 the CFM - Minimum Annual Funding remains constant for the remainder of the Study Period.

### **\$83,769 COMPONENT METHOD RECOMMENDED ANNUAL FUNDING OF REPLACEMENT RESERVES IN THE STUDY YEAR, 2012.**

\$88.36 Per unit (average), recommended monthly funding of Replacement Reserves

The Component Method is a time tested and very conservative funding model developed by HUD in the early 1980's.

The Component Method treats each projected replacement in the Replacement Reserve Inventory as a separate account. Deposits are made to each individual account, where funds are held for exclusive use by that item.

Based on this funding model, the Association has a Current Funding Objective of \$187,889.

The Association reports having \$119,713 on deposit, which is 63.7% funded.

### **\$39,180 CURRENT ANNUAL FUNDING OF REPLACEMENT RESERVES (as reported by the Association).**

\$41.33 Per unit (average), reported current monthly funding of Replacement Reserves

The evaluation of Current Funding, as reported by the Association, has calculated that if the Association continues to fund Replacement Reserves at the current level, there will NOT be adequate funds for Projected Replacements in 7 years of the 30-year Study Period, and a maximum shortfall of \$-373,773 occurs in 2036.

Pages A2 and A3 explain the Study Year, Study Period, Adjustments (interest & inflation), Beginning Balance, and Projected Replacements. Pages A4 to A9 explain in more detail the calculations associated with the Cash Flow Method, Component Method, and Current Funding.

## REPLACEMENT RESERVE STATUS AND FUNDING PLAN

Current funding of Replacement Reserves is inadequate to fund Projected Replacements.

We recommend the Association adopt a Replacement Reserve Funding Plan based on the Cash Flow Method or the Component Method, to ensure that adequate funding is available throughout the 30-Year Study Period for the \$1,555,988 of Projected Replacements listed in the Villas at Snowden Overlook II Replacement Reserve Inventory.

The Funding Plan should be professionally evaluated every three to five years or after completion of each major replacement project. The Board of Directors has a fiduciary responsibility to review the Funding Plan annually and should consider annual increases in Replacement Reserve funding at least equal to the Consumer Price Index.

## REPLACEMENT RESERVE ANALYSIS - GENERAL INFORMATION

The Villas at Snowden Overlook II Replacement Reserve Analysis calculations of recommended funding of Replacement Reserves by the Cash Flow Method and the Component Method, and the evaluation of the Current Funding, are based upon the same General Information; including the Study Year, Study Period, Adjustments (for interest, inflation, and/or a constant increase in annual funding), Beginning Balance, and Projected Replacements:

### STUDY YEAR

The Association reports that their accounting year begins on January 1, and the Study Year, the first year evaluated by the Replacement Reserve Analysis, begins on January 1, 2012.

### STUDY PERIOD

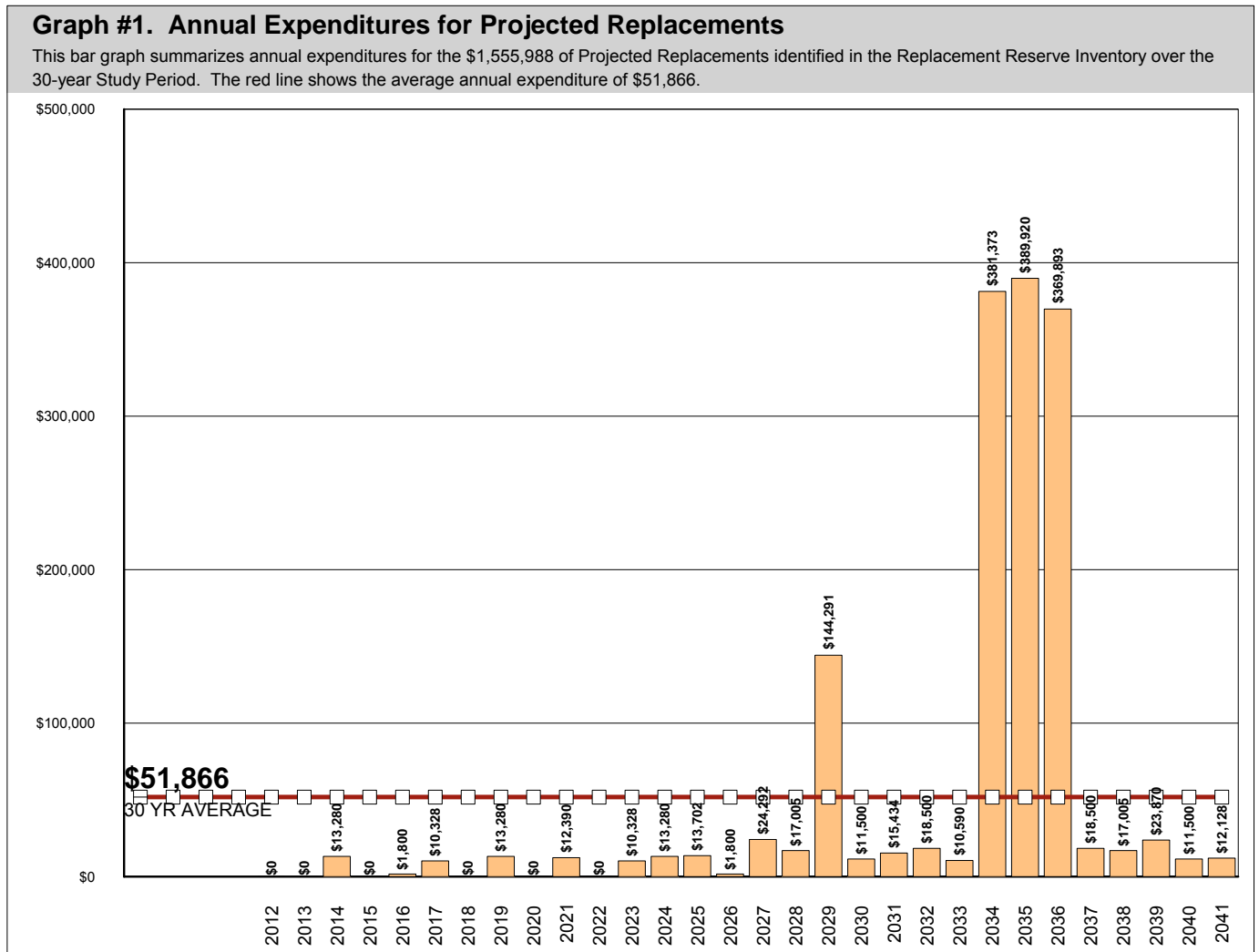
The Replacement Reserve Analysis evaluates the funding of Replacement Reserves over a 30-year Study Period that begins on January 1, 2012.

### ADJUSTMENTS

The calculations in this Replacement Reserve Analysis do not account for interest earned on Replacement Reserves, the effects of inflation on the costs of Projected Replacements, or a constant annual increase in Annual Funding of Replacement Reserves. If requested, we will provide a Replacement Reserve Analysis with adjustments for inflation, interest, and/or a constant annual increase in funding, using values provided by the Association.

### BEGINNING BALANCE

The Association reports Replacement Reserves on Deposit totaling \$119,713 at the start of the Study Year.





**PROJECTED REPLACEMENTS**

The Villas at Snowden Overlook II Replacement Reserve Inventory (Section B) identifies 58 Projected Replacements with a one-time Replacement Cost of \$2,277,447 and replacements totaling \$1,555,988 over the 30-year Study Period. Projected Replacements are the replacement of commonly-owned items that:

- require periodic replacement and
- whose replacement is to be funded from Replacement Reserves.

The Replacement Reserve Inventory also identifies 55 Excluded Items. Expenditures for the replacement of these items are NOT scheduled for funding from Replacement Reserves. The accuracy of the calculations made in the Replacement Reserve Analysis is dependent on expenditures NOT being made for Excluded Items. The rationale behind these exclusions is discussed in detail on Page B1.

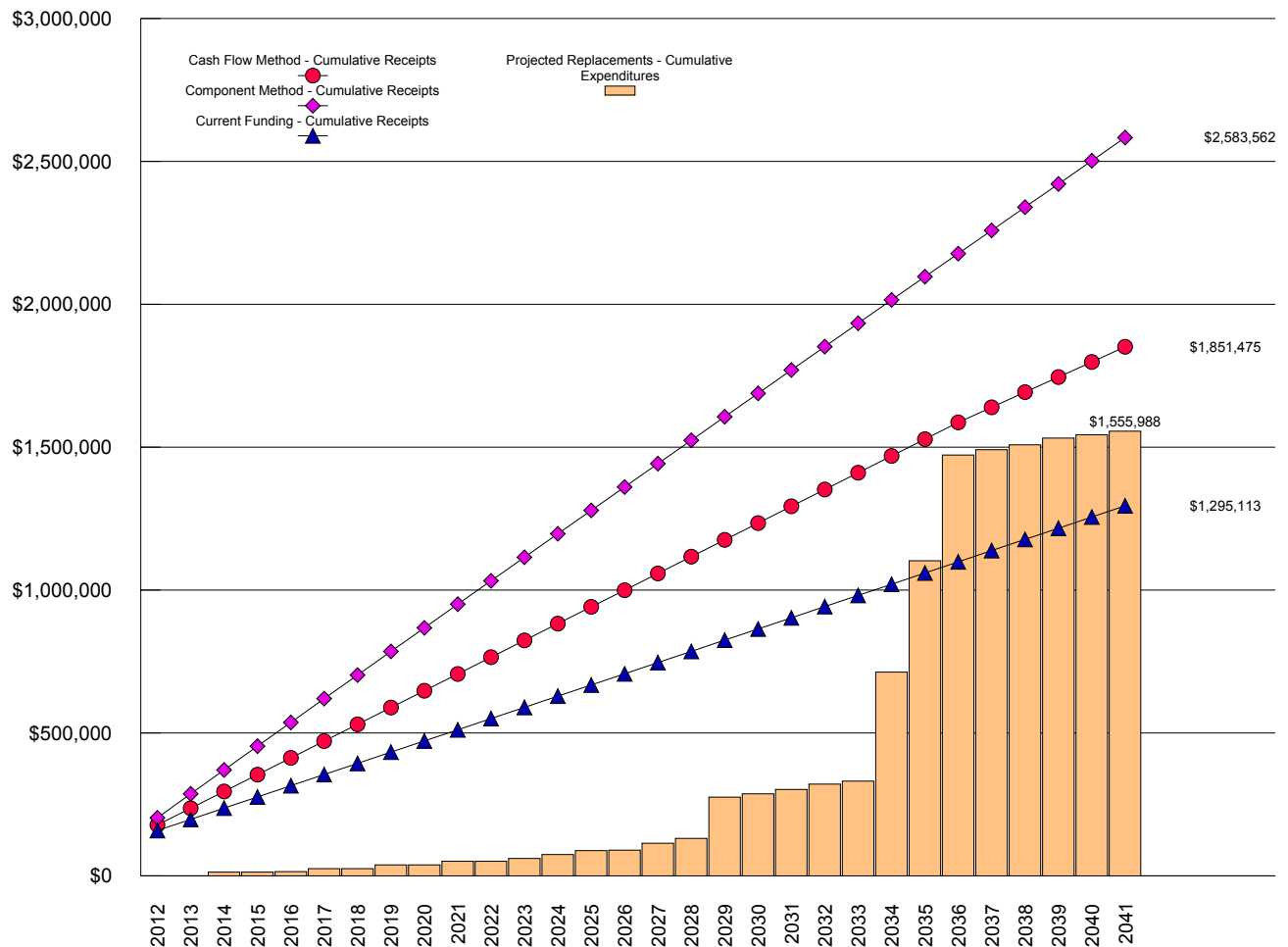
Expenditures from Replacements Reserves should be made only after consultation with an accounting professional.

The Section B - Replacement Reserve Inventory, contains Tables that list each Projected Replacement (and any Excluded Items) broken down into 11 major categories (Pages B3 to B12). Tables are also included that list each Projected Replacement by year for each of the 30 years of the Study Period beginning on Page C1.

The accuracy of this Replacement Reserve Analysis is dependent upon expenditures from Replacement Reserves being made only for the Projected Replacements specifically listed in the Replacement Reserve Inventory.

**Graph #2. Comparison of Cumulative Replacement Reserve Funding and Expenditures**

The line graph shows Replacement Reserves - Cumulative Receipts over the 30-year Study Period by the Cash Flow Method (red circles), Component Method (purple diamonds), and the Current Funding Plan as reported by the Association (blue triangles). The bar graph shows the Cumulative Expenditures necessary to fund the Project Replacements listed in the Replacement Reserve Inventory (Section B) and summarized in Graph #1.



### CASH FLOW METHOD



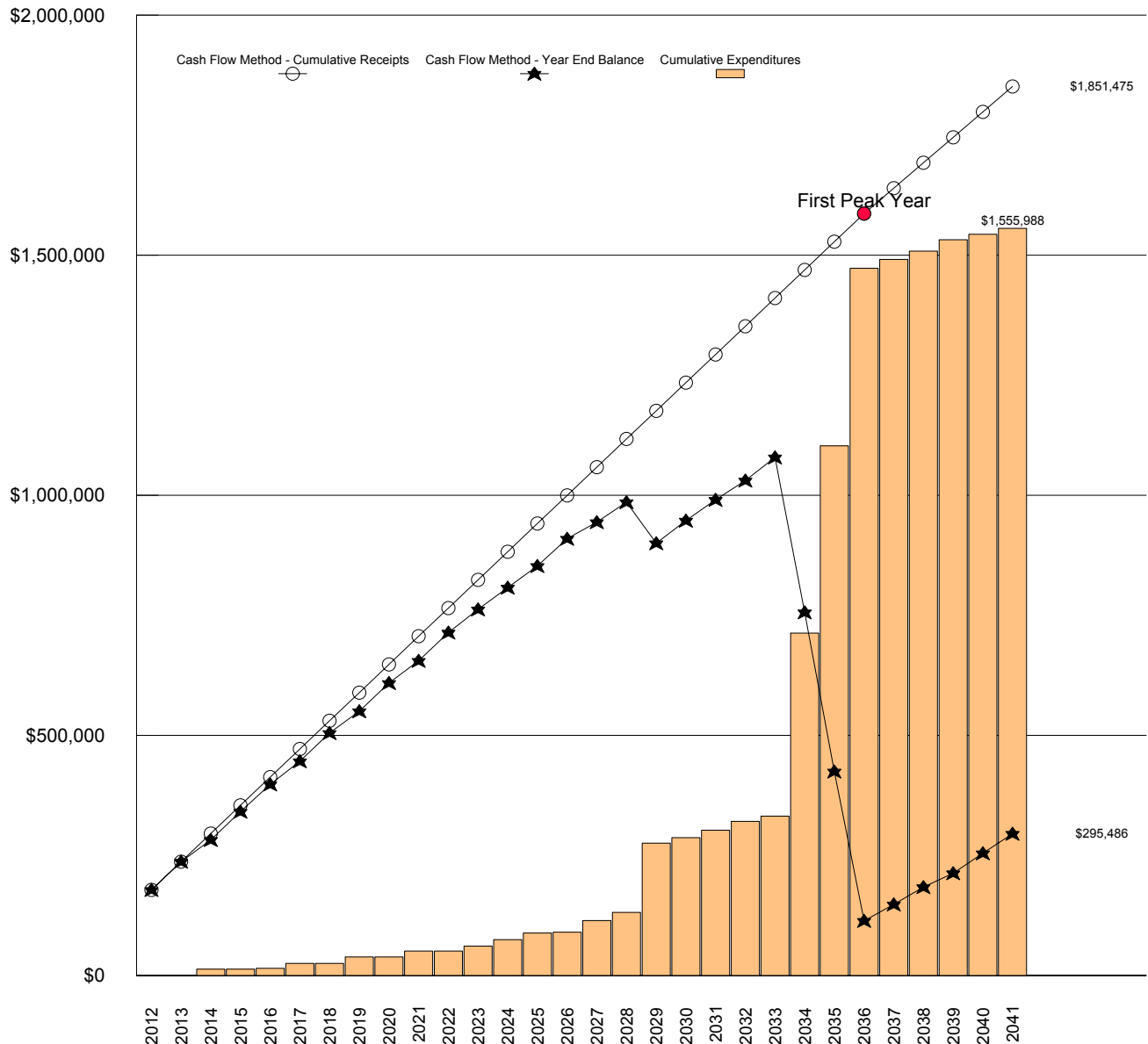
**\$58,686 CASH FLOW METHOD MINIMUM ANNUAL FUNDING OF REPLACEMENT RESERVES IN THE STUDY YEAR, 2012.**

\$61.90 Per unit (average), minimum monthly funding of Replacement Reserves

General. The Cash Flow Method is founded on the concept that the Replacement Reserve Account is solvent if cumulative receipts always exceed cumulative expenditures. The Cash Flow Method calculates a MINIMUM annual deposit to Replacement Reserves that will:

- Fund all Projected Replacements listed in the Replacement Reserve Inventory (see Section B)
- Prevent Replacement Reserves from dropping below the Minimum Recommended Balance (see Page A-5)
- Allow a constant annual funding level between peaks in cumulative expenditures

**Graph #3. Cash Flow Method - Cumulative Receipts and Expenditures Graph**



**CASH FLOW METHOD (cont'd)**

- Replacement Reserves - Minimum Recommended Balance. The Minimum Recommended Balance is \$113,872, which is 5.0 percent of the one-time replacement cost of the Projected Replacements listed in the Replacement Reserve Inventory. Unless otherwise noted in the Comments on Page A-9, the Minimum Recommended Balance has been established by the Analyst based upon an evaluation of the types of items included in the Replacement Reserve Inventory.
- Peak Years. The Cash Flow Method calculates a constant annual funding of Replacement Reserves between peaks in cumulative expenditures called Peak Years. In Peak Years, Replacement Reserves on Deposit decline to the Replacement Reserves - Minimum Recommended Balance discussed in the paragraph above.  
 First Peak Year. The First Peak Year occurs in 2036, after the completion of \$1,472,986 of replacements in 2012 to 2036. The Cash Flow Method - Minimum Annual Funding of Replacement Reserves declines from \$58,686 in 2036 to \$52,923 in 2037.  
 Subsequent Peak Years. There are no subsequent Peak Years and after the first Peak Year in 2036, the Cash Flow Method - Minimum Annual Funding remains constant for the remainder of the Study Period.
- Study Period. The Cash Flow Method calculates the recommended contributions to Replacement Reserves over the 30-year Study Period. These calculations are based upon a 40-year projection of expenditures for Projected Replacements to avoid the Replacement Reserve balance dropping to the Minimum Recommended Balance in the final year of the Study Period.
- Failure to Fund. The Cash Flow Method calculates a MINIMUM annual funding of Replacement Reserves. Failure to fund Replacement Reserves at the minimum level calculated by the Cash Flow Method will result in Replacement Reserves not being available for the Projected Replacements listed in the Replacement Reserve Inventory and/or Replacement Reserves dropping below the Minimum Recommended Balance.
- Adjustment to the Cash Flow Method for interest and inflation. The calculations in this Replacement Reserve Analysis do not account for interest earned on Replacement Reserves, the effects of inflation of the cost of Projected Replacements, or a constant annual increase in Annual Funding of Replacement Reserves.
- Comparison of Cash Flow Funding and Average Annual Expenditure. The Average Annual Expenditure for Projected Replacements listed in the Reserve Inventory over the 30-year Study Period is \$51,866 (see Graph #1). The Cash Flow Method - Minimum Annual Funding of Replacement Reserves in the Study Year is \$58,686. This is 113.1 percent of the Average Annual Expenditure, indicating that the Association is building Replacement Reserves in advance of the first Peak Year in 2036.

**Table #1. Cash Flow Method Data - Years 1 through 30**

Year	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Beginning balance	\$119,713									
Minimum annual funding	\$58,686	\$58,686	\$58,686	\$58,686	\$58,686	\$58,686	\$58,686	\$58,686	\$58,686	\$58,686
Expenditures			\$13,280		\$1,800	\$10,328		\$13,280		\$12,390
Year end balance	\$178,399	\$237,084	\$282,490	\$341,176	\$398,061	\$446,420	\$505,106	\$550,511	\$609,197	\$655,493
Minimum recommended balance	\$113,872	\$113,872	\$113,872	\$113,872	\$113,872	\$113,872	\$113,872	\$113,872	\$113,872	\$113,872
Cumulative expenditures	\$51,078	\$61,406	\$74,686	\$88,388	\$103,188	\$114,480	\$131,485	\$153,261	\$179,551	\$211,941
Cumulative receipts	\$178,399	\$237,084	\$295,770	\$354,456	\$413,142	\$471,828	\$530,513	\$589,199	\$647,885	\$706,571
Year	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Minimum annual funding	\$58,686	\$58,686	\$58,686	\$58,686	\$58,686	\$58,686	\$58,686	\$58,686	\$58,686	\$58,686
Expenditures		\$10,328	\$13,280	\$13,702	\$1,800	\$24,292	\$17,005	\$144,291	\$11,500	\$15,434
Year end balance	\$714,178	\$762,537	\$807,942	\$852,926	\$909,812	\$944,205	\$985,886	\$900,281	\$947,467	\$990,719
Minimum recommended balance	\$113,872	\$113,872	\$113,872	\$113,872	\$113,872	\$113,872	\$113,872	\$113,872	\$113,872	\$113,872
Cumulative expenditures	\$51,078	\$61,406	\$74,686	\$88,388	\$103,188	\$114,480	\$131,485	\$153,261	\$179,551	\$211,941
Cumulative receipts	\$765,257	\$823,942	\$882,628	\$941,314	\$1,000,000	\$1,058,686	\$1,117,371	\$1,176,057	\$1,234,743	\$1,293,429
Year	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041
Minimum annual funding	\$58,686	\$58,686	\$58,686	\$58,686	\$58,686	\$52,923	\$52,923	\$52,923	\$52,923	\$52,923
Expenditures	\$18,500	\$10,590	\$381,373	\$389,920	\$369,893	\$18,500	\$17,005	\$23,870	\$11,500	\$12,128
Year end balance	\$1,030,905	\$1,079,000	\$756,313	\$425,079	\$113,872	\$148,296	\$184,214	\$213,267	\$254,691	\$295,486
Minimum recommended balance	\$113,872	\$113,872	\$113,872	\$113,872	\$113,872	\$113,872	\$113,872	\$113,872	\$113,872	\$113,872
Cumulative expenditures	\$321,210	\$331,800	\$713,173	\$1,103,093	\$1,472,986	\$1,491,486	\$1,508,491	\$1,532,361	\$1,543,861	\$1,555,988
Cumulative receipts	\$1,352,115	\$1,410,800	\$1,469,486	\$1,528,172	\$1,586,858	\$1,639,781	\$1,692,705	\$1,745,628	\$1,798,551	\$1,851,475

First Peak Year

### COMPONENT METHOD

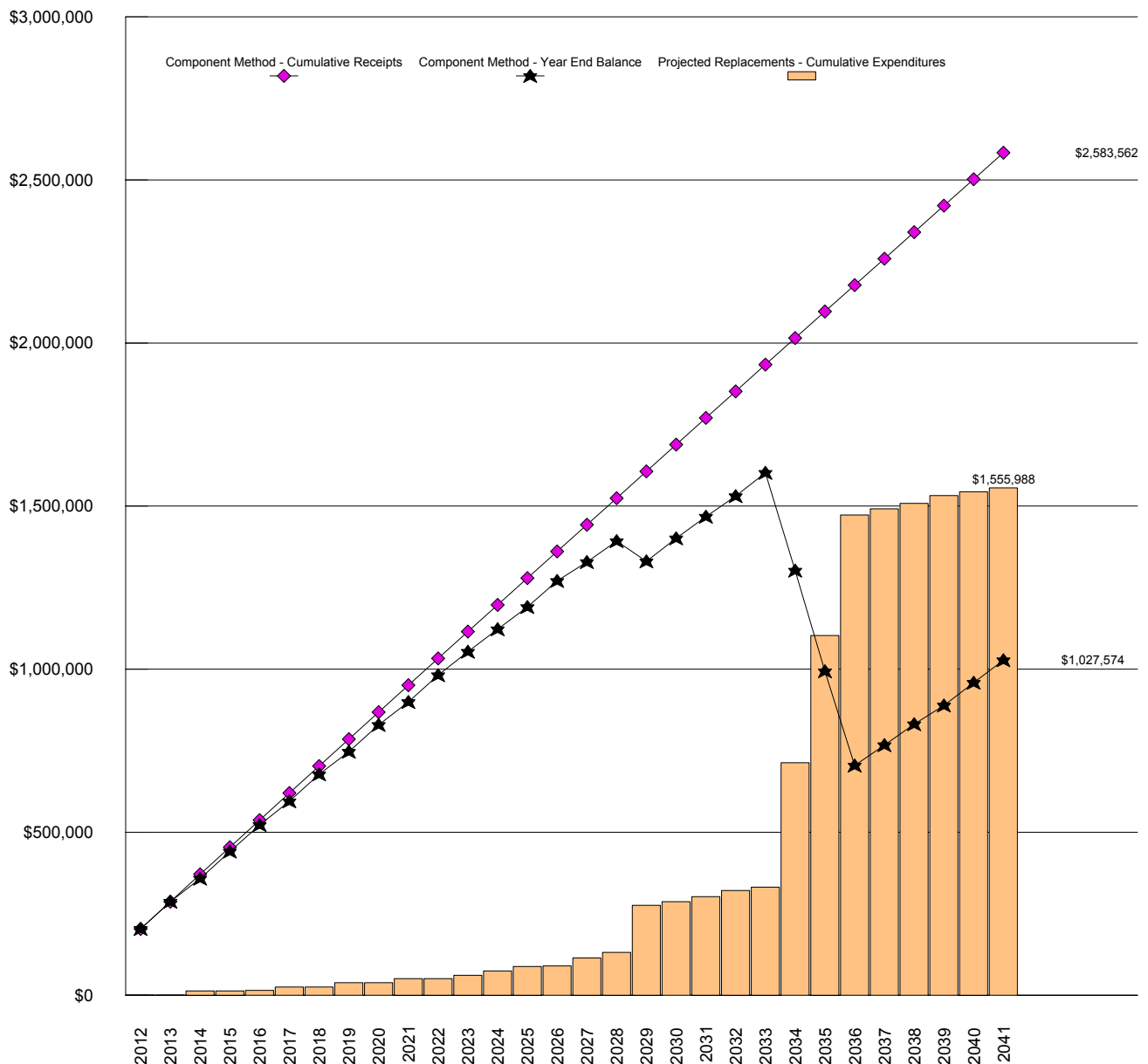


**\$83,769 COMPONENT METHOD RECOMMENDED ANNUAL FUNDING OF REPLACEMENT RESERVES IN THE STUDY YEAR, 2012.**

\$88.36 Per unit (average), recommended monthly funding of Replacement Reserves

General. The Component Method is a time tested and very conservative mathematical model developed by HUD in the early 1980s. Each of the 58 Projected Replacements listed in the Replacement Reserve Inventory is treated as a separate account. The Beginning Balance is allocated to each of these individual accounts, as is all subsequent funding of Replacement Reserves. These funds are "locked" in these individual accounts and are not available to fund other Projected Replacements. The calculation of the Recommended Annual Funding of Replacement Reserves is a multi-step process outlined in more detail on Page A7.

**Graph #4. Component Method - Cumulative Receipts and Expenditures Graph**



**COMPONENT METHOD (cont'd)**

- **Current Funding Objective.** A Current Funding Objective is calculated for each of the Projected Replacements listed in the Replacement Reserve Inventory. Replacement Cost is divided by the Normal Economic Life to determine the nominal annual contribution. The Remaining Economic Life is then subtracted from the Normal Economic Life to calculate the number of years that the nominal annual contribution should have been made. The two values are then multiplied to determine the Current Funding Objective. This is repeated for each of the 58 Projected Replacements. The total, \$187,889, is the Current Funding Objective.

For an example, consider a very simple Replacement Reserve Inventory with one Projected Replacement, a fence with a \$1,000 Replacement Cost, a Normal Economic Life of 10 years, and a Remaining Economic Life of 2 years. A contribution to Replacement Reserves of \$100 (\$1,000 ÷ 10 years) should have been made in each of the previous 8 years (10 years - 2 years). The result is a Current Funding Objective of \$800 (8 years x \$100 per year).

- **Funding Percentage.** The Funding Percentage is calculated by dividing the Beginning Balance (\$119,713) by the Current Funding Objective (\$187,889). At Villas at Snowden Overlook II the Funding Percentage is 63.7%
- **Allocation of the Beginning Balance.** The Beginning Balance is divided among the 58 Projected Replacements in the Replacement Reserve Inventory. The Current Funding Objective for each Projected Replacement is multiplied by the Funding Percentage and these funds are then "locked" into the account of each item.

If we relate this calculation back to our fence example, it means that the Association has not accumulated \$800 in Reserves (the Funding Objective), but rather at 63.7 percent funded, there is \$510 in the account for the fence.

- **Annual Funding.** The Recommended Annual Funding of Replacement Reserves is then calculated for each Projected Replacement. The funds allocated to the account of the Projected Replacement are subtracted from the Replacement Cost. The result is then divided by the number of years until replacement, and the result is the annual funding for each of the Projected Replacements. The sum of these is \$83,769, the Component Method Recommended Annual Funding of Replacement Reserves in the Study Year (2012).

In our fence example, the \$510 in the account is subtracted from the \$1,000 Total Replacement Cost and divided by the 2 years that remain before replacement, resulting in an annual deposit of \$245. Next year, the deposit remains \$245, but in the third year, the fence is replaced and the annual funding adjusts to \$100.

- **Adjustment to the Component Method for interest and inflation.** The calculations in the Replacement Reserve Analysis do not account for interest earned on Replacement Reserves, the effects of inflation of the cost of Projected Replacements, or a constant annual increase in Annual Funding of Replacement Reserves.

**Table #2. Component Method Data - Years 1 through 30**

Year	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Beginning balance	\$119,713									
Recommended annual funding	\$83,769	\$83,769	\$83,769	\$83,127	\$83,127	\$83,127	\$82,565	\$82,565	\$82,565	\$82,565
Expenditures			\$13,280		\$1,800	\$10,328		\$13,280		\$12,390
Year end balance	\$203,482	\$287,251	\$357,740	\$440,867	\$522,193	\$594,992	\$677,557	\$746,841	\$829,406	\$899,580
Cumulative Expenditures			\$13,280	\$13,280	\$15,080	\$25,408	\$25,408	\$38,688	\$38,688	\$51,078
Cumulative Receipts	\$203,482	\$287,251	\$371,020	\$454,147	\$537,274	\$620,400	\$702,965	\$785,530	\$868,094	\$950,659
Year	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Recommended annual funding	\$82,244	\$82,244	\$81,995	\$81,995	\$81,838	\$81,838	\$81,550	\$82,250	\$81,812	\$81,801
Expenditures		\$10,328	\$13,280	\$13,702	\$1,800	\$24,292	\$17,005	\$144,291	\$11,500	\$15,434
Year end balance	\$981,825	\$1,053,742	\$1,122,456	\$1,190,748	\$1,270,786	\$1,328,333	\$1,392,878	\$1,330,838	\$1,401,149	\$1,467,516
Cumulative Expenditures	\$51,078	\$61,406	\$74,686	\$88,388	\$90,188	\$114,480	\$131,485	\$275,776	\$287,276	\$302,710
Cumulative Receipts	\$1,032,903	\$1,115,147	\$1,197,142	\$1,279,136	\$1,360,975	\$1,442,813	\$1,524,363	\$1,606,614	\$1,688,425	\$1,770,226
Year	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041
Recommended annual funding	\$81,751	\$81,795	\$81,685	\$81,220	\$81,000	\$81,000	\$81,213	\$81,213	\$81,140	\$81,318
Expenditures	\$18,500	\$10,590	\$381,373	\$389,920	\$369,893	\$18,500	\$17,005	\$23,870	\$11,500	\$12,128
Year end balance	\$1,530,767	\$1,601,973	\$1,302,285	\$993,585	\$704,692	\$767,192	\$831,400	\$888,743	\$958,383	\$1,027,574
Cumulative Expenditures	\$321,210	\$331,800	\$713,173	\$1,103,093	\$1,472,986	\$1,491,486	\$1,508,491	\$1,532,361	\$1,543,861	\$1,555,988
Cumulative Receipts	\$1,851,978	\$1,933,773	\$2,015,458	\$2,096,678	\$2,177,677	\$2,258,677	\$2,339,890	\$2,421,104	\$2,502,243	\$2,583,562

### CURRENT FUNDING



**\$39,180 CURRENT ANNUAL FUNDING OF REPLACEMENT RESERVES**  
 (as reported by the Association).

\$41.33 Per unit (average), reported current monthly funding of Replacement Reserves

General. Our evaluation of the Current Association Funding assumes that the Association will continue to fund Replacement Reserves at the current level of \$39,180 per year in each of the 30 years of the Study Period.

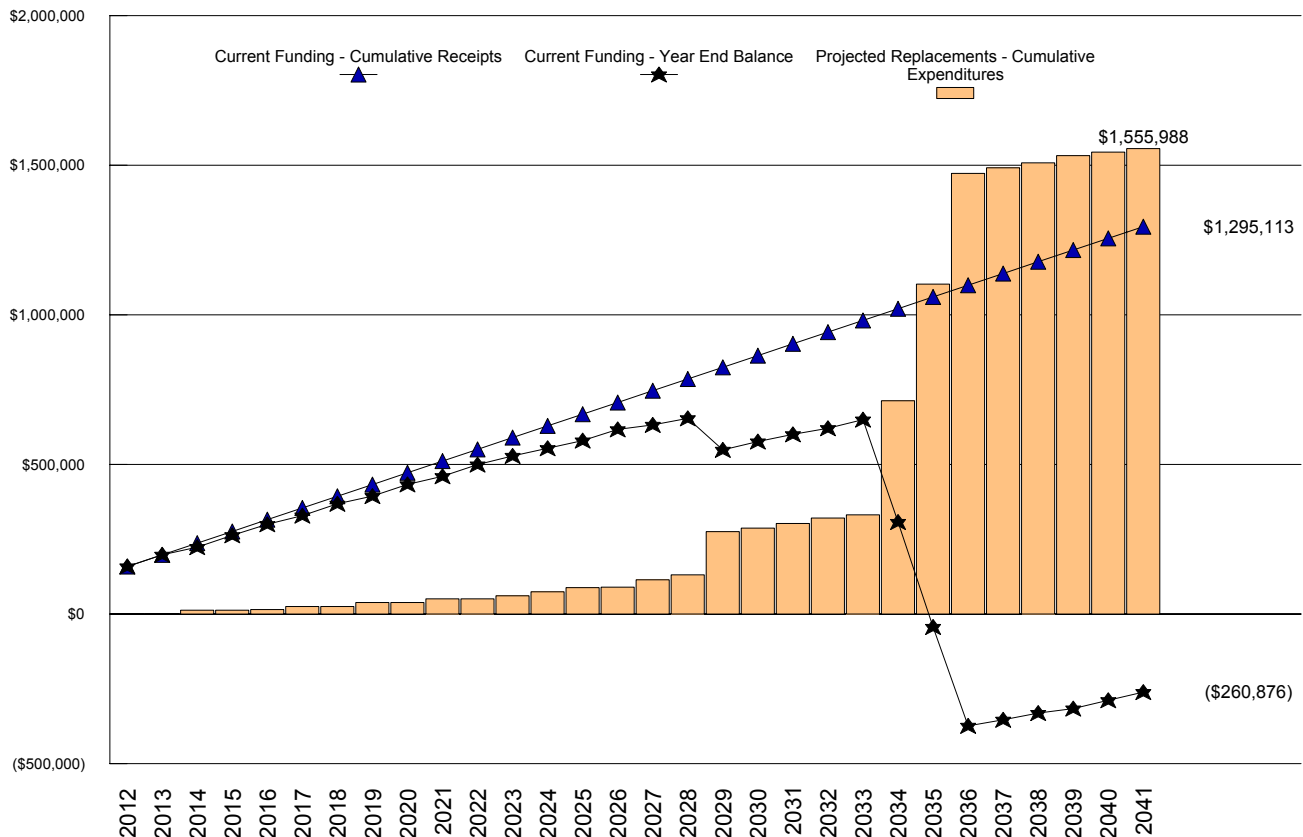
Our evaluation is based upon this Replacement Reserve Funding Level, a \$119,713 Beginning Balance, the Projected Annual Replacement Expenditures shown in Graph #1 and listed in the Replacement Reserve Inventory, and any interest, inflation rate, or constant annual increase in annual contribution adjustments discussed below.

- Evaluation. Our calculations have determined that Current Annual Funding of Replacement Reserves, as reported by the Association, is inadequate to fund Projected Replacement beginning in 2035.

The Current Annual Funding of Replacement Reserves results in insufficient funds to make Projected Replacements in 7 years of the 30-year Study Period, and a maximum shortfall of \$-373,773 occurs in 2036.

- Adjustment to the Current Association Funding for interest and inflation. The Calculations in the Replacement Reserve Analysis do not account for interest earned on Replacement Reserves, the effects of inflation of the cost of Projected Replacements, or a constant annual increase in Annual Funding of Replacement Reserves.
- Comparison of Current Association Funding and Average Annual Expenditure. The average annual expenditure for Projected Replacements listed in the Reserve Inventory over the 30-year Study Period is \$51,866 (see Graph #1). Current Association annual funding of Replacement Reserves is \$39,180, or approximately 76 percent of the Average Annual Expenditure.

**Graph #5. Current Association Funding - Cumulative Receipts and Expenditures Graph**



CURRENT FUNDING (cont'd)

Table #3. Current Funding Data - Years 1 through 30

Year	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Beginning balance	\$119,713									
Annual deposit	\$39,180	\$39,180	\$39,180	\$39,180	\$39,180	\$39,180	\$39,180	\$39,180	\$39,180	\$39,180
Expenditures			\$13,280		\$1,800	\$10,328		\$13,280		\$12,390
Year end balance	\$158,893	\$198,073	\$223,972	\$263,152	\$300,532	\$329,385	\$368,565	\$394,465	\$433,645	\$460,435
Cumulative Expenditures			\$13,280	\$13,280	\$15,080	\$25,408	\$25,408	\$38,688	\$38,688	\$51,078
Cumulative Receipts	\$158,893	\$198,073	\$237,253	\$276,433	\$315,613	\$354,793	\$393,973	\$433,153	\$472,333	\$511,513
Year	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Annual deposit	\$39,180	\$39,180	\$39,180	\$39,180	\$39,180	\$39,180	\$39,180	\$39,180	\$39,180	\$39,180
Expenditures		\$10,328	\$13,280	\$13,702	\$1,800	\$24,292	\$17,005	\$144,291	\$11,500	\$15,434
Year end balance	\$499,615	\$528,467	\$554,367	\$579,845	\$617,225	\$632,113	\$654,288	\$549,177	\$576,857	\$600,603
Cumulative expenditures	\$51,078	\$61,406	\$74,686	\$88,388	\$90,188	\$114,480	\$131,485	\$275,776	\$287,276	\$302,710
Cumulative receipts	\$550,693	\$589,873	\$629,053	\$668,233	\$707,413	\$746,593	\$785,773	\$824,953	\$864,133	\$903,313
Year	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041
Annual deposit	\$39,180	\$39,180	\$39,180	\$39,180	\$39,180	\$39,180	\$39,180	\$39,180	\$39,180	\$39,180
Expenditures	\$18,500	\$10,590	\$381,373	\$389,920	\$369,893	\$18,500	\$17,005	\$23,870	\$11,500	\$12,128
Year end balance	\$621,283	\$649,873	\$307,680	(\$43,060)	(\$373,773)	(\$353,093)	(\$330,918)	(\$315,608)	(\$287,928)	(\$260,876)
Cumulative Expenditures	\$321,210	\$331,800	\$713,173	\$1,103,093	\$1,472,986	\$1,491,486	\$1,508,491	\$1,532,361	\$1,543,861	\$1,555,988
Cumulative Receipts	\$942,493	\$981,673	\$1,020,853	\$1,060,033	\$1,099,213	\$1,138,393	\$1,177,573	\$1,216,753	\$1,255,933	\$1,295,113

COMMENTS ON THE REPLACEMENT RESERVE ANALYSIS

- This Replacement Reserve Study has been developed in compliance with the Community Associations Institute, National Reserve Study Standards, for a Level One Study - Full Service.
- Villas at Snowden Overlook II has 79 units. The type of property is condominium association.
- Our calculations assume that Replacement Reserves are not subject to tax.

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## REPLACEMENT RESERVE INVENTORY GENERAL INFORMATION

Villas at Snowden Overlook II - Replacement Reserve Inventory identifies 113 items. Two types of items are identified, Projected Replacements and Excluded Items:

- **PROJECTED REPLACEMENTS.** 58 of the items are Projected Replacements and the periodic replacements of these items are scheduled for funding from Replacement Reserves. The Projected Replacements have an estimated one-time replacement cost of \$2,277,447. Replacements totaling \$1,555,988 are scheduled in the Replacement Reserve Inventory over the 30-year Study Period.

Projected Replacements are the replacement of commonly owned physical assets that require periodic replacement and whose replacement is to be funded from Replacement Reserves.

- **EXCLUDED ITEMS.** 55 of the items are Excluded Items, and expenditures for these items are NOT scheduled for funding from Replacement Reserves. The accuracy of the calculations made in the Replacement Reserve Analysis is dependent on expenditures NOT being made for Excluded Items. The Excluded Items are listed in the Replacement Reserve Inventory to identify specific items and categories of items that are not to be funded from Replacement Reserves. There are multiple categories of items that are typically excluded from funding by Replacement Reserves, including but not limited to:

**Tax Code.** The United States Tax Code grants very favorable tax status to Replacement Reserves, conditioned on expenditures being made within certain guidelines. These guidelines typically exclude maintenance activities, partial replacements, repairs, capital improvements, and one-time only replacements.

**Value.** Items with a replacement cost of less than \$1,000 are typically excluded from funding from Replacement Reserves. This exclusion is made to accurately reflect how Replacement Reserves are administered. If the Association has selected an alternative level, it will be noted in the Replacement Reserve Inventory - General Comments on Page B2.

**Long-lived Items.** Items that when properly maintained, can be assumed to have a life equal to the property as a whole, are typically excluded from the Replacement Reserve Inventory.

**Unit improvements.** Items located on property owned by a single unit and where the items serve a single unit are generally assumed to be the responsibility of that unit, not the Association.

**Other non-common improvements.** Items owned by the local government, public and private utility companies, the United States Postal Service, Master Associations, state and local highway authorities, etc., may be installed on property that is owned by the Association. These types of items are generally not the responsibility of the Association and are excluded from the Replacement Reserve Inventory.

The rationale for the exclusion of an item from funding by Replacement Reserves is discussed in more detail in the 'Comments' section of its page of the Replacement Reserve Inventory.

- **CATEGORIES.** The 113 items included in the Villas at Snowden Overlook II Replacement Reserve Inventory are divided into 11 major categories. Each category is printed on a separate page, Pages B3 to B12.
- **LEVEL OF SERVICE.** This Replacement Reserve Inventory has been developed in compliance with the standards established for a Level One Study - Full Service, as defined by the National Reserve Study Standards, established in 1998 by Community Associations Institute, which states:

*A Level I - Full Service Reserve Study includes the computation of complete component inventory information regarding commonly owned components provided by the property manager, quantities derived from field measurements and/or quantity takeoffs from to-scale engineering drawings that may be made available. The condition of all components is ascertained from a visual inspection of each component by the analyst. The life expectancy and the value of the components are provided based on these observations and the funding status and funding plan are then derived from analysis of this data.*

## REPLACEMENT RESERVE INVENTORY - GENERAL INFORMATION (cont'd)

- INVENTORY DATA. Each of the 58 Projected Replacements listed in the Replacement Reserve Inventory includes the following data:

Item Number. The Item Number is assigned sequentially and is intended for identification purposes only.

Item Description. We have named each item included in the Inventory. Where the name of the item and the category are not sufficient to specifically identify the item, we have included additional information in the Comments section at the bottom of the page.

Units. We have used standard abbreviations to identify the number of units including SF-square feet, FT-foot, SY-square yard, LS-lump sum, EA-each, and PR-pair. Nonstandard abbreviations are noted in the Comments section on the page on which the abbreviation is used.

Number of Units. The methods used to develop the quantities are discussed in "Level of Service" above.

Unit Replacement Cost. We use three sources to develop the unit cost data shown in the Inventory; actual replacement cost data provided by the client, industry standard estimating manuals, and a cost database that we have developed based upon our detailed interviews with contractors and service providers who are specialists in their respective lines of work. In addition, trends in the Producers Price Index (PPI), labor rates, and transportation costs are monitored and considered. This cost database is reviewed and updated regularly by Miller Dodson and biannually by an independent professional cost estimating firm.

Normal Economic Life (Yrs). The number of years that a new and properly installed item should be expected to remain in service.

Economic Life Remaining (Yrs). The estimated number of years before an item will need to be replaced. In "normal" conditions, this could be calculated by subtracting the age of the item from the Normal Economic Life of the item, but only rarely do physical assets age "normally". Some items may have longer or shorter lives depending on many factors such as environment, initial quality of the item, maintenance, etc.

Total Replacement Cost. This is calculated by multiplying the Unit Replacement Cost by the Number of Units.

Each of the 55 Excluded Items includes the Item Description, Units, and Number of Units. Many of the Excluded Items are listed as a 'Lump Sum' with a quantity of 1. For the Excluded Items, this indicates that all of the items identified by the 'Item Description' are excluded from funding by Replacement Reserves.

- REVIEW OF EXPENDITURES. All expenditures from Replacement Reserves should be made only after consultation with an accounting professional.
- PARTIAL FUNDING. Items may have been included in the Replacement Reserve Inventory at less than 100 percent of their full quantity and/or replacement cost. This is done on items that will never be replaced in their entirety, but which may require periodic replacements over an extended period of time. The assumptions that provide the basis for any partial funding are noted on in the Comments section.

## REPLACEMENT RESERVE INVENTORY - GENERAL COMMENTS

- PLEASE NOTE: For inventory items with a Remaining Economic Life greater than 40 years, the replacement projections fall outside this study's limits and are not included in the annual calculations. However, tracking these items over time will bring them within the 40 year window and they will be included in the future.

**SITE COMPONENT  
 PROJECTED REPLACEMENTS**

ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NORMAL ECONOMIC LIFE (YRS)	REMAINING ECONOMIC LIFE (YRS)	REPLACEMENT COST (\$)
1	Asphalt pavement, seal coat	sf	73,780	\$0.18	5	2	\$13,280
2	Asphalt pavement, mill & overlay	sf	73,780	\$1.45	20	17	\$106,981
3	Concrete flatwork (6%)	sf	1,215	\$8.50	60	5	\$10,328
4	Concrete flatwork (6%)	sf	1,215	\$8.50	60	11	\$10,328
5	Concrete flatwork (6%)	sf	1,215	\$8.50	60	17	\$10,328
6	Concrete flatwork (6%)	sf	1,215	\$8.50	60	23	\$10,328
7	Concrete flatwork (6%)	sf	1,215	\$8.50	60	29	\$10,328
8	Concrete flatwork (6%)	sf	1,215	\$8.50	60	35	\$10,328
9	Concrete flatwork (6%)	sf	1,215	\$8.50	60	41	\$10,328
10	Concrete flatwork (6%)	sf	1,215	\$8.50	60	47	\$10,328
11	Concrete flatwork (6%)	sf	1,215	\$8.50	60	53	\$10,328
12	Concrete flatwork (6%)	sf	1,215	\$8.50	60	59	\$10,328
13	Concrete curb & gutter (6%)	ft	353	\$30.00	60	9	\$10,590
14	Concrete curb & gutter (6%)	ft	353	\$30.00	60	15	\$10,590
15	Concrete curb & gutter (6%)	ft	353	\$30.00	60	21	\$10,590
16	Concrete curb & gutter (6%)	ft	353	\$30.00	60	27	\$10,590
17	Concrete curb & gutter (6%)	ft	353	\$30.00	60	33	\$10,590
18	Concrete curb & gutter (6%)	ft	353	\$30.00	60	39	\$10,590
19	Concrete curb & gutter (6%)	ft	353	\$30.00	60	45	\$10,590
20	Concrete curb & gutter (6%)	ft	353	\$30.00	60	51	\$10,590
21	Concrete curb & gutter (6%)	ft	353	\$30.00	60	57	\$10,590
22	Concrete curb & gutter (6%)	ft	353	\$30.00	60	63	\$10,590
SITE COMPONENT - Replacement Costs - Subtotal							\$329,436

**SITE COMPONENT  
 COMMENTS**

- We have assumed that the Association will replace the asphalt pavement by the installation of a 2 inch thick overlay. The pavement will need to be milled prior to the installation of the overlay. Milling and the cost of minor repairs (5 to 10 percent of the total area) to the base materials and bearing soils beneath the pavement are included in the cost shown above.

**SITE COMPONENT (cont.)**

**PROJECTED REPLACEMENTS**

ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NORMAL ECONOMIC LIFE (YRS)	REMAINING ECONOMIC LIFE (YRS)	REPLACEMENT COST (\$)
23	Board fence (vinyl) (25%)	ft	403	\$34.00	25	13	\$13,702
24	Board fence (vinyl) (25%)	ft	403	\$34.00	25	15	\$13,702
25	Board fence (vinyl) (25%)	ft	403	\$34.00	25	17	\$13,702
26	Board fence (vinyl) (25%)	ft	401	\$34.00	25	19	\$13,634
27	Water laterals (10%)	ls	1	\$11,500.00	20	18	\$11,500
28	Water laterals (10%)	ls	1	\$11,500.00	20	23	\$11,500
29	Water laterals (10%)	ls	1	\$11,500.00	20	28	\$11,500
30	Water laterals (10%)	ls	1	\$11,500.00	20	32	\$11,500
31	Water laterals (10%)	ls	1	\$11,500.00	20	37	\$11,500
32	Sewer laterals (10%)	ls	1	\$18,500.00	20	20	\$18,500
33	Sewer laterals (10%)	ls	1	\$18,500.00	20	25	\$18,500
34	Sewer laterals (10%)	ls	1	\$18,500.00	20	30	\$18,500
35	Sewer laterals (10%)	ls	1	\$18,500.00	20	35	\$18,500
36	Sewer laterals (10%)	ls	1	\$18,500.00	20	40	\$18,500
37	Stormwater structures and piping (5%)	ls	1	\$6,000.00	50	35	\$6,000
38	Stormwater structures and piping (5%)	ls	1	\$6,000.00	50	45	\$6,000
39	Stormwater structures and piping (5%)	ls	1	\$6,000.00	50	55	\$6,000
40	Stormwater structures and piping (5%)	ls	1	\$6,000.00	50	65	\$6,000
41	Stormwater structures and piping (5%)	ls	1	\$6,000.00	50	75	\$6,000
SITE COMPONENT (cont.) - Replacement Costs - Subtotal							\$234,740

**SITE COMPONENT (cont.)**

**COMMENTS**

- Board fence replacement accelerated based on fencing problems reported by the Association.

**BUILDING EXTERIOR  
 PROJECTED REPLACEMENTS**

ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NORMAL ECONOMIC LIFE (YRS)	REMAINING ECONOMIC LIFE (YRS)	REPLACEMENT COST (\$)
42	Shingle asphalt/fiberglass (33.3%)	sf	70,766	\$4.75	25	22	\$336,139
43	Shingle asphalt/fiberglass (33.3%)	sf	70,766	\$4.75	25	23	\$336,139
44	Shingle asphalt/fiberglass (33.3%)	sf	70,766	\$4.75	25	24	\$336,139
45	Roof - metal roofing (small roofs)	ls	1	\$1,200.00	40	36	\$1,200
46	Roof - metal roofing (small roofs)	ls	1	\$1,200.00	40	38	\$1,200
47	Roof - metal roofing (small roofs)	ls	1	\$1,200.00	40	40	\$1,200
48	Gutter & downspout, - (33.3%)	ft	4,916	\$6.50	25	22	\$31,954
49	Gutter & downspout, - (33.3%)	ft	4,916	\$6.50	25	23	\$31,954
50	Gutter & downspout, - (33.3%)	ft	4,916	\$6.50	25	24	\$31,954
51	Siding and window trim (0.5%)	ls	1	\$1,800.00	5	4	\$1,800
52	Vinyl horizontal siding - (33.3%)	sf	31,280	\$5.85	40	36	\$182,988
53	Vinyl horizontal siding - (33.3%)	sf	31,280	\$5.85	40	38	\$182,988
54	Vinyl horizontal siding - (33.3%)	sf	31,280	\$5.85	40	40	\$182,988
55	Vinyl soffits - (33.3%)	sf	3,175	\$3.95	40	36	\$12,541
56	Vinyl soffits - (33.3%)	sf	3,175	\$3.95	40	38	\$12,541
57	Vinyl soffits - (33.3%)	sf	3,175	\$3.95	40	40	\$12,541
58	Brick and stone tuckpointing (10%)	sf	1,790	\$9.50	10	16	\$17,005
<b>BUILDING EXTERIOR - Replacement Costs - Subtotal</b>							<b>\$1,713,270</b>

**BUILDING EXTERIOR  
 COMMENTS**

- Item #51 Siding and window trim includes an allowance for resealing material.
- Item #56 -Brick and stone tuckpointing includes allowance for stone column at community entrance.

**VALUATION EXCLUSIONS**

**EXCLUDED ITEMS**

ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NORMAL ECONOMIC LIFE (YRS)	REMAINING ECONOMIC LIFE (YRS)	REPLACEMENT COST (\$)
	Site lighting fixtures	ls	1				EXCLUDED
	Mailboxes	ls	1				EXCLUDED

**VALUATION EXCLUSIONS**

**COMMENTS**

- Valuation Exclusions. For ease of administration of the Replacement Reserves and to reflect accurately how Replacement Reserves are administered, items with a dollar value less than \$1,000.00 have not been scheduled for funding from Replacement Reserves. Examples of items excluded from funding by Replacement Reserves by this standard are listed above.
  
- The list above exemplifies exclusions by the cited standard(s) and is not intended to be comprehensive.

**LONG-LIFE EXCLUSIONS**

**EXCLUDED ITEMS**

ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NORMAL ECONOMIC LIFE (YRS)	REMAINING ECONOMIC LIFE (YRS)	REPLACEMENT COST (\$)
	Masonry features	ls	1				EXCLUDED
	Exterior brick veneer	ls	1				EXCLUDED
	Exterior stone veneer	ls	1				EXCLUDED
	Building foundation(s)	ls	1				EXCLUDED
	Concrete floor slabs (interior)	ls	1				EXCLUDED
	Wall, floor, & roof structure	ls	1				EXCLUDED

**LONG-LIFE EXCLUSIONS**

**COMMENTS**

- Long Life Exclusions. Components that when properly maintained, can be assumed to have a life equal to the property as a whole, are normally excluded from the Replacement Reserve Inventory. Examples of items excluded from funding by Replacement Reserves by this standard are listed above.
- Exterior masonry is generally assumed to have an unlimited economic life but periodic repointing is required and we have included this for funding in the Replacement Reserve Inventory.
- The list above exemplifies exclusions by the cited standard(s) and is not intended to be comprehensive.

**UNIT IMPROVEMENTS EXCLUSIONS**

**EXCLUDED ITEMS**

ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NORMAL ECONOMIC LIFE (YRS)	REMAINING ECONOMIC LIFE (YRS)	REPLACEMENT COST (\$)
	Domestic water pipes serving one unit	ls	1				EXCLUDED
	Sanitary sewers serving one unit	ls	1				EXCLUDED
	Electrical wiring serving one unit	ls	1				EXCLUDED
	Cable TV service serving one unit	ls	1				EXCLUDED
	Telephone service serving one unit	ls	1				EXCLUDED
	Gas service serving one unit	ls	1				EXCLUDED
	Driveway on an individual lot	ls	1				EXCLUDED
	Apron on an individual lot	ls	1				EXCLUDED
	Sidewalk on an individual lot	ls	1				EXCLUDED
	Stairs on an individual lot	ls	1				EXCLUDED
	Unit windows	ls	1				EXCLUDED
	Unit doors	ls	1				EXCLUDED
	Unit skylights	ls	1				EXCLUDED
	Unit deck, patio, and/or balcony	ls	1				EXCLUDED
	Unit interior	ls	1				EXCLUDED
	Unit HVAC system	ls	1				EXCLUDED

**UNIT IMPROVEMENTS EXCLUSIONS**

**COMMENTS**

- Unit improvement Exclusions. We understand that the elements of the project that relate to a single unit are the responsibility of that unit owner. Examples of items excluded from funding by Replacement Reserves by this standard are listed above.
  
- The list above exemplifies exclusions by the cited standard(s) and is not intended to be comprehensive.



**UTILITY EXCLUSIONS**

**EXCLUDED ITEMS**

ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NORMAL ECONOMIC LIFE (YRS)	REMAINING ECONOMIC LIFE (YRS)	REPLACEMENT COST (\$)
	Primary electric feeds	ls	1				EXCLUDED
	Electric transformers	ls	1				EXCLUDED
	Cable TV systems and structures	ls	1				EXCLUDED
	Telephone cables and structures	ls	1				EXCLUDED
	Site lighting	ls	1				EXCLUDED
	Gas mains and meters	ls	1				EXCLUDED
	Water mains and meters	ls	1				EXCLUDED
	Sanitary sewers main	ls	1				EXCLUDED

**UTILITY EXCLUSIONS**

**COMMENTS**

- Utility Exclusions. Many improvements owned by utility companies are on property owned by the Association. We have assumed that repair, maintenance, and replacements of these components will be done at the expense of the appropriate utility company. Examples of items excluded from funding Replacement Reserves by this standard are listed above.
  
- The list above exemplifies exclusions by the cited standard(s) and is not intended to be comprehensive.

**MAINTENANCE AND REPAIR EXCLUSIONS**

**EXCLUDED ITEMS**

ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NORMAL ECONOMIC LIFE (YRS)	REMAINING ECONOMIC LIFE (YRS)	REPLACEMENT COST (\$)
	Cleaning of asphalt pavement	ls	1				EXCLUDED
	Crack sealing of asphalt pavement	ls	1				EXCLUDED
	Painting of curbs	ls	1				EXCLUDED
	Striping of parking spaces	ls	1				EXCLUDED
	Numbering of parking spaces	ls	1				EXCLUDED
	Landscaping and site grading	ls	1				EXCLUDED
	Exterior painting	ls	1				EXCLUDED
	Interior painting	ls	1				EXCLUDED
	Repair services	ls	1				EXCLUDED
	Partial replacements	ls	1				EXCLUDED
	Capital improvements	ls	1				EXCLUDED

**MAINTENANCE AND REPAIR EXCLUSIONS**

**COMMENTS**

- Maintenance activities, one-time-only repairs, and capital improvements. These activities are NOT appropriately funded from Replacement Reserves. The inclusion of such component in the Replacement Reserve Inventory could jeopardize the special tax status of ALL Replacement Reserves, exposing the Association to significant tax liabilities. We recommend that the Board of Directors discuss these exclusions and Revenue Ruling 75-370 with a Certified Public Accountant.
- Examples of items excluded from funding by Replacement Reserves by this standard are listed above.
- The list above exemplifies exclusions by the cited standard(s) and is not intended to be comprehensive.

**GOVERNMENT EXCLUSIONS**

**EXCLUDED ITEMS**

ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NORMAL ECONOMIC LIFE (YRS)	REMAINING ECONOMIC LIFE (YRS)	REPLACEMENT COST (\$)
	Government, roadways & parking	ls	1				EXCLUDED
	Government, sidewalks & curbs	ls	1				EXCLUDED
	Government, lighting	ls	1				EXCLUDED
	Government, stormwater mgmt.	ls	1				EXCLUDED
	Government, ponds	ls	1				EXCLUDED
	Government, mailboxes	ls	1				EXCLUDED

**GOVERNMENT EXCLUSIONS**

**COMMENTS**

- Government Exclusions. We have assumed that some of the improvements installed on property owned by the Association will be maintained by the state, county, or local government, or other association or other responsible entity. Examples of items excluded from funding by Replacement Reserves by this standard are listed above.
- Excluded right-of-ways, including LIST ROADS, and adjacent properties.
- The list above exemplifies exclusions by the cited standard(s) and is not intended to be comprehensive.

**IRRIGATION SYSTEM EXCLUSIONS**

**EXCLUDED ITEMS**

ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NORMAL ECONOMIC LIFE (YRS)	REMAINING ECONOMIC LIFE (YRS)	REPLACEMENT COST (\$)
	Subsurface irrigation pipe	ls	1				EXCLUDED
	Subsurface irrigation valve	ls	1				EXCLUDED
	Subsurface irrigation control wiring	ls	1				EXCLUDED
	Irrigation control system	ls	1				EXCLUDED
	Irrigation system electrical service	ls	1				EXCLUDED
	Irrigation system enclosures	ls	1				EXCLUDED

**IRRIGATION SYSTEM EXCLUSIONS**

**COMMENTS**

- Irrigation System Exclusions. We have assumed that the maintenance, repair, and periodic replacement of the components of the extensive irrigation systems at the property will not be funded from Replacement Reserves. These systems should be inspected each spring when the systems are brought on line and each fall when they are winterized. Repairs/replacements should be made in conjunction with these inspections.

## PROJECTED ANNUAL REPLACEMENTS GENERAL INFORMATION

CALENDAR OF ANNUAL REPLACEMENTS. The 58 Projected Replacements in the Villas at Snowden Overlook II Replacement Reserve Inventory whose replacement is scheduled to be funded from Replacement Reserves are broken down on a year-by-year basis, beginning on Page C2.

### REPLACEMENT RESERVE ANALYSIS AND INVENTORY POLICIES, PROCEDURES, AND ADMINISTRATION

- **REVISIONS.** Revisions will be made to the Replacement Reserve Analysis and Replacement Reserve Inventory in accordance with the written instructions of the Board of Directors. No additional charge is incurred for the first revision, if requested in writing within three months of the date of the Replacement Reserve Study. It is our policy to provide revisions in electronic (Adobe PDF) format only.
- **TAX CODE.** The United States Tax Code grants favorable tax status to a common interest development (CID) meeting certain guidelines for their Replacement Reserve. If a CID files their taxes as a 'Corporation' on Form 1020 (IRC Section 277), these guidelines typically require maintenance activities, partial replacements, minor replacements, capital improvements, and one-time only replacements to be excluded from Reserves. A CID cannot commingle planning for maintenance activities with capital replacement activities in the Reserves (Revenue Ruling 75-370). Funds for maintenance activities and capital replacements activities must be held in separate accounts. If a CID files taxes as an "Exempt Homeowners Association" using Form 1020H (IRC Section 528), the CID does not have to segregate these activities. However, because the CID may elect to change their method of filing from year to year within the Study Period, we advise using the more restrictive approach. We further recommend that the CID consult with their Accountant and consider creating separate and independent accounts and reserves for large maintenance items, such as painting.
- **CONFLICT OF INTEREST.** Neither Miller - Dodson Associates nor the Reserve Analyst has any prior or existing relationship with this Association which would represent a real or perceived conflict of interest.
- **RELIANCE ON DATA PROVIDED BY THE CLIENT.** Information provided by an official representative of the Association regarding financial, physical conditions, quality, or historical issues is deemed reliable.
- **INTENT.** This Replacement Reserve Study is a reflection of the information provided by the Association and the visual evaluations of the Analyst. It has been prepared for the sole use of the Association and is not for the purpose of performing an audit, quality/forensic analyses, or background checks of historical records.
- **PREVIOUS REPLACEMENTS.** Information provided to Miller - Dodson Associates regarding prior replacements is considered to be accurate and reliable. Our visual evaluation is not a project audit or quality inspection.
- **UPDATING.** In the first two or possibly three years after the completion of a Level One Replacement Reserve Study, we recommend the Association review and revise the Replacement Reserve Analysis and Inventory annually to take into account replacements which have occurred and known changes in replacement costs. This can frequently be handled as a Level Two or Level Three Study (as defined by the Community Associations Institute), unless the Association has completed major replacement projects. A full analysis (Level One) based on a comprehensive visual evaluation of the site should be accomplished every three to five years or after each major replacement project.
- **EXPERIENCE WITH FUTURE REPLACEMENTS.** The Calendar of Annual Projected Replacements, lists replacements we have projected to occur over the next thirty years, begins on Page C2. Actual experience in replacing the items may differ significantly from the cost estimates and time frames shown because of conditions beyond our control. These differences may be caused by maintenance practices, inflation, variations in pricing and market conditions, future technological developments, regulatory actions, acts of God, and luck. Some items may function normally during our visual evaluation and then fail without notice.
- **REVIEW OF THE REPLACEMENT RESERVE STUDY.** For this study to be effective, it should be reviewed by the Villas at Snowden Overlook II Board of Directors, those responsible for the management of the items included in the Replacement Reserve Inventory, and the accounting professionals employed by the Association.

**PROJECTED REPLACEMENTS - YEARS ONE TO FIFTEEN**

Item	2012	\$
No Scheduled Replacements		

Item	2013	\$
No Scheduled Replacements		

Item	2014	\$
1	Asphalt pavement, seal coat	\$13,280
Total Scheduled Replacements		\$13,280

Item	2015	\$
No Scheduled Replacements		

Item	2016	\$
51	Siding and window trim (0.5'	\$1,800
Total Scheduled Replacements		\$1,800

Item	2017	\$
3	Concrete flatwork (6%)	\$10,328
Total Scheduled Replacements		\$10,328

Item	2018	\$
No Scheduled Replacements		

Item	2019	\$
1	Asphalt pavement, seal coat	\$13,280
Total Scheduled Replacements		\$13,280

Item	2020	\$
No Scheduled Replacements		

Item	2021	\$
13	Concrete curb & gutter (6%)	\$10,590
51	Siding and window trim (0.5'	\$1,800
Total Scheduled Replacements		\$12,390

Item	2022	\$
No Scheduled Replacements		

Item	2023	\$
4	Concrete flatwork (6%)	\$10,328
Total Scheduled Replacements		\$10,328

Item	2024	\$
1	Asphalt pavement, seal coat	\$13,280
Total Scheduled Replacements		\$13,280

Item	2025	\$
23	Board fence (vinyl) (25%)	\$13,702
Total Scheduled Replacements		\$13,702

Item	2026	\$
51	Siding and window trim (0.5'	\$1,800
Total Scheduled Replacements		\$1,800

**PROJECTED REPLACEMENTS - YEARS SIXTEEN TO THIRTY**

Item	2027	\$
14	Concrete curb & gutter (6%)	\$10,590
24	Board fence (vinyl) (25%)	\$13,702
Total Scheduled Replacements		\$24,292

Item	2028	\$
58	Brick and stone tuckpointing	\$17,005
Total Scheduled Replacements		\$17,005

Item	2029	\$
1	Asphalt pavement, seal coat	\$13,280
2	Asphalt pavement, mill & ov	\$106,981
5	Concrete flatwork (6%)	\$10,328
25	Board fence (vinyl) (25%)	\$13,702
Total Scheduled Replacements		\$144,291

Item	2030	\$
27	Water laterals (10%)	\$11,500
Total Scheduled Replacements		\$11,500

Item	2031	\$
26	Board fence (vinyl) (25%)	\$13,634
51	Siding and window trim (0.5'	\$1,800
Total Scheduled Replacements		\$15,434

Item	2032	\$
32	Sewer laterals (10%)	\$18,500
Total Scheduled Replacements		\$18,500

Item	2033	\$
15	Concrete curb & gutter (6%)	\$10,590
Total Scheduled Replacements		\$10,590

Item	2034	\$
1	Asphalt pavement, seal coat	\$13,280
42	Shingle asphalt/fiberglass (3	\$336,139
48	Gutter & downspout, - (33.3	\$31,954
Total Scheduled Replacements		\$381,373

Item	2035	\$
6	Concrete flatwork (6%)	\$10,328
28	Water laterals (10%)	\$11,500
43	Shingle asphalt/fiberglass (3	\$336,139
49	Gutter & downspout, - (33.3	\$31,954
Total Scheduled Replacements		\$389,920

Item	2036	\$
44	Shingle asphalt/fiberglass (3	\$336,139
50	Gutter & downspout, - (33.3	\$31,954
51	Siding and window trim (0.5'	\$1,800
Total Scheduled Replacements		\$369,893

Item	2037	\$
33	Sewer laterals (10%)	\$18,500
Total Scheduled Replacements		\$18,500

Item	2038	\$
58	Brick and stone tuckpointing	\$17,005
Total Scheduled Replacements		\$17,005

Item	2039	\$
1	Asphalt pavement, seal coat	\$13,280
16	Concrete curb & gutter (6%)	\$10,590
Total Scheduled Replacements		\$23,870

Item	2040	\$
29	Water laterals (10%)	\$11,500
Total Scheduled Replacements		\$11,500

Item	2041	\$
7	Concrete flatwork (6%)	\$10,328
51	Siding and window trim (0.5'	\$1,800
Total Scheduled Replacements		\$12,128

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## CONDITION ASSESSMENT

**General Comments.** Miller - Dodson Associates conducted a Reserve Study at The Villas at Snowden Overlook II in August 2011. The Villas at Snowden Overlook II is in good condition for a condominium community constructed in 2007 - 2008. A review of the Replacement Reserve Inventory will show that we are anticipating most of the components achieving their normal economic lives.

The following comments pertain to the larger, more significant components in the Replacement Reserve Inventory and to those items that are unique or deserving of attention because of their condition or the manner in which they have been treated in the Replacement Reserve Analysis or Inventory.

### SITE IMPROVEMENTS

**Asphalt Pavement.** The site includes asphalt pavement for vehicle access and parking. In general, the asphalt pavement is in good condition with limited cracking, alligating, or deterioration. The Association maintains an inventory of 73,780 square feet of asphalt pavement, including the following streets and parking areas:

Vast Rose Drive	26,800 sf
Sage Brush Way	46,980 sf

As a rule of thumb, asphalt should be overlaid when approximately five percent of the surface area has become cracked or has failed. The normal service life of asphalt pavement is typically 18 to 20 years.



Typical asphalt surface



Asphalt pavement with water control boxes

In order to maintain the condition of the pavement throughout the community and to ensure the longest life of the asphalt, we recommend a systematic and comprehensive maintenance program that includes:

1. **Crack Sealing.** All cracks should be sealed with an appropriate sealing compound to prevent water infiltration through the asphalt compound into the base. This repair should be done annually. This is an entirely different process from the seal coating discussed below. Crack sealing is normally considered a maintenance activity and is not funded from Reserves. Areas of extensive cracking or deterioration that cannot be made watertight by crack sealing should be cut out and patched.
2. **Cleaning.** Long-term exposure to oil or gas breaks down asphalt. Because this asphalt pavement is generally not used for long term parking, it is unlikely that frequent cleaning will be necessary. When necessary, spill areas should be cleaned, or if deterioration has penetrated the

asphalt, patched. This is a maintenance activity, and we have assumed that it will not be funded from Reserves.

3. Seal Coating. The asphalt should be seal coated every three to five years. For this maintenance activity to be effective in extending the life of the asphalt, the crack sealing and cleaning of the asphalt as discussed above should be completed first.

Pricing used in the study is based on a two-inch overlay and reflects the current local market.

**Concrete Flatwork.** The concrete flatwork includes the community sidewalks and mailbox pads. The Association maintains an inventory of approximately 20,250 square feet of concrete flatwork. The overall condition of the concrete flatwork is good.

The standards we used for recommending replacement are as follows:

1. Trip hazard, 0.5 inch height difference.
2. Severe cracking.
3. Severe spalling
4. Uneven riser heights on steps.
5. Steps with risers in excess of 8.25 inches.



Typical sidewalk and gutter. Note: section of both have been replaced



Typical sidewalk and curb and gutter. Note: section of both have been replaced

Because it is highly unlikely that all of the community's concrete components will fail and require replacement in the period of the study, we have programmed funds for the replacement of 60% of the inventory and spread those funds over a 60-year timeframe to reflect the incremental nature of this work. This approach assumes a failure rate of 1% per year.

**Curb and Gutter.** The Association maintains an inventory of 5,880 linear feet of concrete curb and gutter. All components have been well maintained and are in excellent condition. Any problems noted are in the form of minor cracks, spalling or settlement that can be repaired by continued periodic replacement of broken sections.

Because it is highly unlikely that all of the community's concrete curb and gutter sections will fail and require replacement in the period of the study, we have programmed funds for the replacement of 60 percent of the inventory and spread those funds over a 60-year timeframe to reflect the incremental nature of this work. This approach assumes a failure rate of one percent per year.

**Vinyl Board Fencing.** The Association maintains an inventory of approximately 1610 linear feet of vinyl board fencing. The overall condition of the fencing is good with only minor, localized damage.



Typical vinyl fence at end-unit of building



Typical vinyl fence at mid-unit of building

We recommend that the Association inspect the fencing in the spring and in the fall. While vinyl fencing is low maintenance, it is vulnerable to extremes of heat and cold. Vinyl fences become brittle in cold weather, making them prone to damage. In hot weather, the temperature changes between day and night cause materials to expand and contract sufficiently to result in loose components.

**Water and Sewer Laterals.** The water and sewer laterals are those portions of the underground utility system that extend from the individual units to the water and sewer mains typically located under or along the street. In the absence of drawings, we have assumed 20 linear feet of water line and 50 feet of sewer line is required to serve each unit. This is the approximate average distance from the face of the building to the water or sewer main line.

**Storm Water System.** We have included the catch basins and underground piping portions of the storm water system in the Reserve Analysis. No engineering drawings were available to accurately determine distances, sizes of lines and materials used for underground components of the system. Accordingly, we have provided an estimate of the approximate replacement cost based on our experience with other communities of similar size and on our inspection of the visible components while on site. Inspection of the underground lines and structures is beyond the scope of work of this study.



Typical street drainage unit



Typical yard drainage unit

## BUILDING EXTERIORS

**Asphalt Shingle Roofing.** The asphalt shingle roofs are in good condition. We have estimated the remaining useful life of the roofs based on the conditions seen at the site as well as the age of the roofs. We have assumed that when the roofs eventually will require replacement, all roofs will be replaced with 25-year roofs. We have assumed that the gutters and downspouts will be replaced when the roofs are replaced.



Due to the large inventory and the varying rates at which the roofing materials will age and require replacement, we have divided the roof inventory into three equal components.

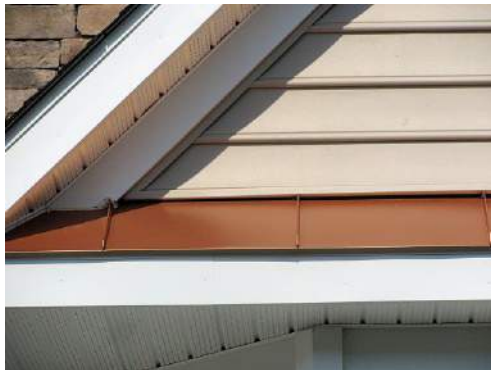


Asphalt shingle roofing



View of one story roofs and dormers

**Metal Roofing.** The Association maintains a small quantity of standing seam metal roofing along the fronts of several buildings. The roof appears to be in good condition with no obvious signs of disrepair or failure. We have estimated the remaining useful life of the roofs based on the conditions seen at the site as well as the age of the roofs. We have assumed that when the roofs eventually will require replacement, all roofs will be replaced with similar metal roofs. We recommend the periodic inspection of the roof by a professional roofing consultant to detect early signs of failure.



Metal roofing above garage and building entrance



Metal roofing above small building entrance roof

**Siding, Roof and Window Trim.** The Association maintains the composite exterior rake, fascia and exterior window / door trim. Engineered wood products, such as composite exterior house trim, are manufactured by physically and chemically bonding resins with wood under heat and pressure. They offer increased durability (they are harder and denser than some species of wood), are consistently straight, and are engineered to resist shrinking, checking, cupping and splitting. Unlike typical wood, composite exterior house trim is moisture resistant and treated with a wood preservative to resist wood-destroying termites and rot. Engineered wood composite trim looks and handles like wood exterior trim, and offers the durability and long-term performance benefits of PVC, yet costs much less.



Composite frieze and dentil molding at soffit area



Composite trim at soffits, rake and dormers

We recommend that the Association implemented a trim replacement program to coincide with the normal painting cycle. The recommended program project would encompass replacing failed sections of trim with pvc composite materials. Displaced and damaged sections of trim should be replaced as they are discovered during the painting activities, and caulk should be replaced when it cracks or separates from the substrates.

Painting and caulking are normally considered maintenance activities to be funded from the operating budget. However we have programmed funds to replace displaced and damaged' sections of the trim as it is discovered during the painting and caulking activities. Replacement of the exterior doors and windows has been reported as unit owner responsibility and therefore excluded from the inventory

**Vinyl Siding.** The vinyl siding on the buildings is in good overall condition. We have estimated the remaining useful life of the siding based on the conditions seen at the site as well as the age of the siding.

Due to the large inventory and the varying rates at which the siding materials will age and require replacement, we have divided the siding inventory into three equal components and spread their replacement over a three-year period.



Vinyl siding at rear and side elevation



Vinyl siding at front elevation

**Masonry Veneer.** Portions of the buildings are clad with brick and stone veneer. The brickwork and stonework on the buildings is in good condition. Brick and stone are usually considered to be a life of structure item and therefore excluded from reserve funding. Because weather and other conditions result in the slow deterioration of the mortar in the brick joints, we have included funding in the Reserve Analysis for tuckpointing. We have assumed that ten percent of the brickwork and stonework will require tuckpointing every ten years.



Stone veneer on front elevation



Brick veneer on front elevation

This Condition Assessment is based upon our visual survey of the property. The sole purpose of the visual survey was an evaluation of the common elements of the property to ascertain the remaining useful life and the replacement costs of these common elements. Our evaluation assumed that all components met building code requirements in force at the time of construction. Our visual survey was conducted with care by experienced persons, but no warranty or guarantee is expressed or implied.

End of Condition Assessment

## CASH FLOW METHOD ACCOUNTING SUMMARY

This Villas at Snowden Overlook II - Cash Flow Method Accounting Summary is an attachment to the Villas at Snowden Overlook II - Replacement Reserve Study dated August 14, 2011 and is for use by accounting and reserve professionals experienced in Association funding and accounting principles. This Summary consists of four reports, the 2012, 2013, and 2014 Cash Flow Method Category Funding Reports (3) and a Three-Year Replacement Funding Report.

- CASH FLOW METHOD CATEGORY FUNDING REPORT, 2012, 2013, and 2014. Each of the 58 Projected Replacements listed in the Villas at Snowden Overlook II Replacement Reserve Inventory has been assigned to one of 3 categories. The following information is summarized by category in each report:
  - Normal Economic Life and Remaining Economic Life of the Projected Replacements.
  - Cost of all Scheduled Replacements in each category.
  - Replacement Reserves on Deposit allocated to the category at the beginning and end of the report period.
  - Cost of Projected Replacements in the report period.
  - Recommended Replacement Reserve Funding allocated to the category during the report period as calculated by the Cash Flow Method.
- THREE-YEAR REPLACEMENT FUNDING REPORT. This report details the allocation of the \$119,713 Beginning Balance (at the start of the Study Year) and the \$176,057 of additional Replacement Reserve Funding in 2012 through 2014 (as calculated in the Replacement Reserve Analysis) to each of the 58 Projected Replacements listed in the Replacement Reserve Inventory. These allocations have been made using Chronological Allocation, a method developed by Miller Dodson Associates, Inc., and discussed below. The calculated data includes:
  - Identification and estimated cost of each Projected Replacement schedule in years 2012 through 2014.
  - Allocation of the \$119,713 Beginning Balance to the Projected Replacements by Chronological Allocation.
  - Allocation of the \$176,057 of additional Replacement Reserve Funding recommended in the Replacement Reserve Analysis in years 2012 through 2014, by Chronological Allocation.
- CHRONOLOGICAL ALLOCATION. Chronological Allocation assigns Replacement Reserves to Projected Replacements on a "first come, first serve" basis in keeping with the basic philosophy of the Cash Flow Method. The Chronological Allocation methodology is outlined below.
  - The first step is the allocation of the \$119,713 Beginning Balance to the Projected Replacements in the Study Year. Remaining unallocated funds are next allocated to the Projected Replacements in subsequent years in chronological order until the total of Projected Replacements in the next year is greater than the unallocated funds. Projected Replacements in this year are partially funded with each replacement receiving percentage funding. The percentage of funding is calculated by dividing the unallocated funds by the total of Projected Replacements in the partially funded year.

At Villas at Snowden Overlook II the Beginning Balance funds 30.8% of Scheduled Replacements in the Study Year through 2027 and provides partial funding(0%) of replacements scheduled in 2028.
  - The next step is the allocation of the \$58,686 of 2012 Cash Flow Method Reserve Funding calculated in the Replacement Reserve Analysis. These funds are first allocated to fund the partially funded" Projected Replacements and then to subsequent years in chronological order as outlined above.

At Villas at Snowden Overlook II the Beginning Balance and the 2012 Replacement Reserve Funding, funds replacements through 2028 and partial funds (32.5%) replacements in 2029.
  - Allocations of the 2013 and 2014 Reserve Funding are done using the same methodology.
  - The Three-Year Replacement Funding Report details component by component allocations made by Chronological Allocation.



### 2012 - CASH FLOW METHOD CATEGORY FUNDING REPORT

Each of the 58 Projected Replacements included in the Villas at Snowden Overlook II Replacement Reserve Inventory has been assigned to one of the 3 categories listed in TABLE CF-1 below. This calculated data is a summary of data provided in the Three-Year Replacement Funding Report and Replacement Reserve Inventory. The accuracy of this data is dependent upon many factors including the following critical financial data:

- A Beginning Balance of \$119,713 as of the first day of the Study Year, January 1, 2012.
- Total reserve funding (including the Beginning Balance) of \$178,399 in the Study Year.
- No expenditures from Replacement Reserves other than those specifically listed in the Replacement Reserve Inventory.

If any of these critical factors are inaccurate, do not use the data and please contact Miller Dodson Associates to arrange for an update of the Replacement Reserve Study.

2012 - CASH FLOW METHOD CATEGORY FUNDING - TABLE CF-1								
CATEGORY	NORMAL ECONOMIC LIFE	REMAINING ECONOMIC LIFE	ESTIMATED REPLACEMENT COST	2012 BEGINNING BALANCE	2012 RESERVE FUNDING	2012 PROJECTED REPLACEMENTS	2012 END OF YEAR BALANCE	
SITE COMPONENT	5 to 60 years	2 to 63 years	\$329,436	\$81,676	\$42,458		\$124,135	
SITE COMPONENT (cont.)	20 to 50 years	13 to 75 years	\$234,740	\$27,404	\$4,455		\$31,859	
BUILDING EXTERIOR	5 to 40 years	4 to 40 years	\$1,713,270	\$10,633	\$11,772		\$22,405	



**2013 - CASH FLOW METHOD CATEGORY FUNDING REPORT**

Each of the 58 Projected Replacements included in the Villas at Snowden Overlook II Replacement Reserve Inventory has been assigned to one of the 3 categories listed in TABLE CF-2 below. This calculated data is a summary of data provided in the Three-Year Replacement Funding Report and Replacement Reserve Inventory. The accuracy of this data is dependent upon many factors including the following critical financial data:

- Replacement Reserves on Deposit totaling \$178,399 on January 1, 2013.
- Total reserve funding (including the Beginning Balance) of \$237,084 in 2012 through 2013.
- No expenditures from Replacement Reserves other than those specifically listed in the Replacement Reserve Inventory.

If any of these critical factors are inaccurate, do not use the data and please contact Miller Dodson Associates to arrange for an update of the Replacement Reserve Study.

<b>2013 - CASH FLOW METHOD CATEGORY FUNDING - TABLE CF-2</b>								
CATEGORY	NORMAL ECONOMIC LIFE	REMAINING ECONOMIC LIFE	ESTIMATED REPLACEMENT COST	2013 BEGINNING BALANCE	2013 RESERVE FUNDING	2013 PROJECTED REPLACEMENTS	2013 END OF YEAR BALANCE	
SITE COMPONENT	5 to 60 years	1 to 62 years	\$329,436	\$124,135	\$53,113		\$177,248	
SITE COMPONENT (cont.)	20 to 50 years	12 to 74 years	\$234,740	\$31,859	\$5,573		\$37,432	
BUILDING EXTERIOR	5 to 40 years	3 to 39 years	\$1,713,270	\$22,405			\$22,405	

**2014 - CASH FLOW METHOD CATEGORY FUNDING REPORT**

Each of the 58 Projected Replacements included in the Villas at Snowden Overlook II Replacement Reserve Inventory has been assigned to one of the 3 categories listed in TABLE CF-3 below. This calculated data is a summary of data provided in the Three-Year Replacement Funding Report and Replacement Reserve Inventory. The accuracy of this data is dependent upon many factors including the following critical financial data:

- Replacement Reserves on Deposit totaling \$237,084 on January 1, 2014.
- Total Replacement Reserve funding (including the Beginning Balance) of \$295,770 in 2012 to 2014.
- No expenditures from Replacement Reserves other than those specifically listed in the Replacement Reserve Inventory.
- All Projected Replacements scheduled in the Replacement Reserve Inventory in 2014 being accomplished in 2014 at a cost of \$13,280.

If any of these critical factors are inaccurate, do not use the data and please contact Miller Dodson Associates to arrange for an update of the Replacement Reserve Study.

**2014 - CASH FLOW METHOD CATEGORY FUNDING - TABLE CF-3**

CATEGORY	NORMAL ECONOMIC LIFE	REMAINING ECONOMIC LIFE	ESTIMATED REPLACEMENT COST	2014 BEGINNING BALANCE	2014 RESERVE FUNDING	2014 PROJECTED REPLACEMENTS	2014 END OF YEAR BALANCE
SITE COMPONENT	5 to 60 years	0 to 61 years	\$329,436	\$177,248	\$35,017	(\$13,280)	\$198,985
SITE COMPONENT (cont.)	20 to 50 years	11 to 73 years	\$234,740	\$37,432	\$22,678		\$60,110
BUILDING EXTERIOR	5 to 40 years	2 to 38 years	\$1,713,270	\$22,405	\$991		\$23,396



**CASH FLOW METHOD - THREE-YEAR REPLACEMENT FUNDING - TABLE 4 cont'd**

Item #	Description of Projected Replacement	Estimated Replacement Costs	Allocation of Beginning Balance	2012 Reserve Funding	2012 Projected Replacements	2012 End of Year Balance	2013 Reserve Funding	2013 Projected Replacements	2013 End of Year Balance	2014 Reserve Funding	2014 Projected Replacements	2014 End of Year Balance
BUILDING EXTERIOR												
42	Shingle asphalt/fiberglass (33.3%)	336,139										
43	Shingle asphalt/fiberglass (33.3%)	336,139										
44	Shingle asphalt/fiberglass (33.3%)	336,139										
45	Roof - metal roofing (small roofs)	1,200										
46	Roof - metal roofing (small roofs)	1,200										
47	Roof - metal roofing (small roofs)	1,200										
48	Gutter & downspout, - (33.3%)	31,954										
49	Gutter & downspout, - (33.3%)	31,954										
50	Gutter & downspout, - (33.3%)	31,954										
51	Siding and window trim (0.5%)	1,800	5,400			5,400			5,400	991		6,391
52	Vinyl horizontal siding - (33.3%)	182,988										
53	Vinyl horizontal siding - (33.3%)	182,988										
54	Vinyl horizontal siding - (33.3%)	182,988										
55	Vinyl soffits - (33.3%)	12,541										
56	Vinyl soffits - (33.3%)	12,541										
57	Vinyl soffits - (33.3%)	12,541										
58	Brick and stone tuckpointing (10%)	17,005	5,233	11,772		17,005			17,005			17,005

## COMPONENT METHOD ACCOUNTING SUMMARY

This Villas at Snowden Overlook II - Component Method Accounting Summary is an attachment to the Villas at Snowden Overlook II - Replacement Reserve Study dated August 14, 2011 and is for use by accounting and reserve professionals experienced in Association funding and accounting principals. This Summary consists of four reports, the 2012, 2013, and 2014 Cash Flow Method Category Funding Reports (3) and a Three-Year Replacement Funding Report.

- COMPONENT METHOD CATEGORY FUNDING REPORT, 2012, 2013, and 2014. Each of the 58 Projected Replacements listed in the Villas at Snowden Overlook II Replacement Reserve Inventory has been assigned to one of 3 categories. The following information is summarized by category in each report:
  - Normal Economic Life and Remaining Economic Life of the Projected Replacements.
  - Cost of all Scheduled Replacements in each category.
  - Replacement Reserves on Deposit allocated to the category at the beginning and end of the report period.
  - Cost of Projected Replacements in the report period.
  - Recommended Replacement Reserve Funding allocated to the category during the report period as calculated by the Component Method.
- THREE-YEAR REPLACEMENT FUNDING REPORT. This report details the allocation of the \$119,713 Beginning Balance (at the start of the Study Year) and the \$251,308 of additional Replacement Reserve funding in 2012 through 2014 (as calculated in the Replacement Reserve Analysis) to each of the 58 Projected Replacements listed in the Replacement Reserve Inventory. These allocations have been made using the Component Method as outlined in the Replacement Reserve Analysis. The calculated data includes:
  - Identification and estimated cost of each Projected Replacement schedule in years 2012 through 2014.
  - Allocation of the \$119,713 Beginning Balance to the Projected Replacements by the Component Method.
  - Allocation of the \$251,308 of additional Replacement Reserve Funding recommended in the Replacement Reserve Analysis in years 2012 through 2014, by the Component Method.

### 2012 - COMPONENT METHOD CATEGORY FUNDING REPORT

Each of the 58 Projected Replacements included in the Villas at Snowden Overlook II Replacement Reserve Inventory has been assigned to one of the 3 categories listed in TABLE CM-1 below. This calculated data is a summary of data provided in the Three-Year Replacement Funding Report and Replacement Reserve Inventory. The accuracy of this data is dependent upon many factors including the following critical financial data:

- A Beginning Balance of \$119,713 as of the first day of the Study Year, January 1, 2012.
- Total reserve funding (including the Beginning Balance) of \$203,482 in the Study Year.
- No expenditures from Replacement Reserves other than those specifically listed in the Replacement Reserve Inventory.

If any of these critical factors are inaccurate, do not use the data and please contact Miller Dodson Associates to arrange for an update of the Replacement Reserve Study.

2012 - COMPONENT METHOD CATEGORY FUNDING - TABLE CM-1								
CATEGORY	NORMAL ECONOMIC LIFE	REMAINING ECONOMIC LIFE	ESTIMATED REPLACEMENT COST	2012 BEGINNING BALANCE	2012 RESERVE FUNDING	2012 PROJECTED REPLACEMENTS	2012 END OF YEAR BALANCE	
SITE COMPONENT	5 to 60 years	2 to 63 years	\$329,436	\$66,126	\$14,336		\$80,462	
SITE COMPONENT (cont.)	20 to 50 years	13 to 75 years	\$234,740	\$12,909	\$8,389		\$21,298	
BUILDING EXTERIOR	5 to 40 years	4 to 40 years	\$1,713,270	\$40,678	\$61,044		\$101,722	

### 2013 - COMPONENT METHOD CATEGORY FUNDING REPORT

Each of the 58 Projected Replacements included in the Villas at Snowden Overlook II Replacement Reserve Inventory has been assigned to one of the 3 categories listed in TABLE CM-2 below. This calculated data is a summary of data provided in the Three-Year Replacement Funding Report and Replacement Reserve Inventory. The accuracy of this data is dependent upon many factors including the following critical financial data:

- Replacement Reserves on Deposit totaling \$203,482 on January 1, 2013.
- Total reserve funding (including the Beginning Balance) of \$287,251 in 2012 through 2013.
- No expenditures from Replacement Reserves other than those specifically listed in the Replacement Reserve Inventory.

If any of these critical factors are inaccurate, do not use the data and please contact Miller Dodson Associates to arrange for an update of the Replacement Reserve Study.

2013 - COMPONENT METHOD CATEGORY FUNDING - TABLE CM-2								
CATEGORY	NORMAL ECONOMIC LIFE	REMAINING ECONOMIC LIFE	ESTIMATED REPLACEMENT COST	2013 BEGINNING BALANCE	2013 RESERVE FUNDING	2013 PROJECTED REPLACEMENTS	2013 END OF YEAR BALANCE	
SITE COMPONENT	5 to 60 years	1 to 62 years	\$329,436	\$80,462	\$14,336		\$94,798	
SITE COMPONENT (cont.)	20 to 50 years	12 to 74 years	\$234,740	\$21,298	\$8,389		\$29,687	
BUILDING EXTERIOR	5 to 40 years	3 to 39 years	\$1,713,270	\$101,722	\$61,044		\$162,766	

### 2014 - COMPONENT METHOD CATEGORY FUNDING REPORT

Each of the 58 Projected Replacements included in the Villas at Snowden Overlook II Replacement Reserve Inventory has been assigned to one of the 3 categories listed in TABLE CM-3 below. This calculated data is a summary of data provided in the Three-Year Replacement Funding Report and Replacement Reserve Inventory. The accuracy of this data is dependent upon many factors including the following critical financial data:

- Replacement Reserves on Deposit totaling \$287,251 on January 1, 2014.
- Total Replacement Reserve funding (including the Beginning Balance) of \$371,020 in 2012 to 2014.
- No expenditures from Replacement Reserves other than those specifically listed in the Replacement Reserve Inventory.
- All Projected Replacements scheduled in the Replacement Reserve Inventory in 2014 being accomplished in 2014 at a cost of \$13,280.

If any of these critical factors are inaccurate, do not use the data and please contact Miller Dodson Associates to arrange for an update of the Replacement Reserve Study.

**2014 - COMPONENT METHOD CATEGORY FUNDING - TABLE CM-3**

CATEGORY	NORMAL ECONOMIC LIFE	REMAINING ECONOMIC LIFE	ESTIMATED REPLACEMENT COST	2014 BEGINNING BALANCE	2014 RESERVE FUNDING	2014 PROJECTED REPLACEMENTS	2014 END OF YEAR BALANCE
SITE COMPONENT	5 to 60 years	0 to 61 years	\$329,436	\$94,798	\$14,336	\$13,280	\$95,854
SITE COMPONENT (cont.)	20 to 50 years	11 to 73 years	\$234,740	\$29,687	\$8,389		\$38,077
BUILDING EXTERIOR	5 to 40 years	2 to 38 years	\$1,713,270	\$162,766	\$61,044		\$223,809



### COMPONENT METHOD - THREE-YEAR REPLACEMENT FUNDING REPORT

TABLE CM-4 below details the allocation of the \$119,713 Beginning Balance, as reported by the Association and the \$251,308 of Replacement Reserve Funding calculated by the Cash Flow Method in 2012 to 2014, to the 58 Projected Replacements listed in the Replacement Reserve Inventory. These allocations have been made by Chronological Allocation, a method developed by Miller Dodson Associates, Inc., and outlined on Page CF-1. The accuracy of the allocations is dependent upon many factors including the following critical financial data:

- Replacement Reserves on Deposit totaling \$119,713 on January 1, 2012.
- Replacement Reserves on Deposit totaling \$203,482 on January 1, 2013.
- Replacement Reserves on Deposit totaling \$287,251 on January 1, 2014.
- Total Replacement Reserve funding (including the Beginning Balance) of \$371,020 in 2012 to 2014.
- No expenditures from Replacement Reserves other than those specifically listed in the Replacement Reserve Inventory.
- All Projected Replacements scheduled in the Replacement Reserve Inventory in 2012 to 2014 being accomplished as scheduled in the Replacement Reserve Inventory at a cost of \$13,280.

If any of these critical factors are inaccurate, do not use the data and please contact Miller Dodson Associates, Inc., to arrange for an update of the Replacement Reserve Study.

#### COMPONENT METHOD - THREE-YEAR REPLACEMENT FUNDING - TABLE CM-4

Item #	Description of Projected Replacement	Estimated Replacement Costs	Allocation of Beginning Balance	2012 Reserve Funding	2012 Projected Replacements	2012 End of Year Balance	2013 Reserve Funding	2013 Projected Replacements	2013 End of Year Balance	2014 Reserve Funding	2014 Projected Replacements	2014 End of Year Balance
SITE COMPONENT												
1	Asphalt pavement, seal coat	13,280	3,385	3,299		6,683	3,299		9,982	3,299	(13,280)	
2	Asphalt pavement, mill & overlay	106,981	6,816	5,565		12,381	5,565		17,946	5,565		23,510
3	Concrete flatwork (6%)	10,328	5,922	734		6,656	734		7,391	734		8,125
4	Concrete flatwork (6%)	10,328	5,264	422		5,686	422		6,108	422		6,530
5	Concrete flatwork (6%)	10,328	4,606	318		4,924	318		5,242	318		5,560
6	Concrete flatwork (6%)	10,328	3,948	266		4,214	266		4,480	266		4,746
7	Concrete flatwork (6%)	10,328	3,290	235		3,525	235		3,759	235		3,994
8	Concrete flatwork (6%)	10,328	2,632	214		2,846	214		3,060	214		3,273
9	Concrete flatwork (6%)	10,328	1,974	199		2,173	199		2,372	199		2,571
10	Concrete flatwork (6%)	10,328	1,316	188		1,504	188		1,692	188		1,879
11	Concrete flatwork (6%)	10,328	658	179		837	179		1,016	179		1,195
12	Concrete flatwork (6%)	10,328		172		172	172		344	172		516
13	Concrete curb & gutter (6%)	10,590	5,623	497		6,120	497		6,616	497		7,113
14	Concrete curb & gutter (6%)	10,590	4,948	353		5,301	353		5,653	353		6,006
15	Concrete curb & gutter (6%)	10,590	4,273	287		4,560	287		4,848	287		5,135
16	Concrete curb & gutter (6%)	10,590	3,599	250		3,848	250		4,098	250		4,348
17	Concrete curb & gutter (6%)	10,590	2,924	225		3,149	225		3,375	225		3,600
18	Concrete curb & gutter (6%)	10,590	2,249	209		2,458	209		2,666	209		2,875
19	Concrete curb & gutter (6%)	10,590	1,574	196		1,770	196		1,966	196		2,162
20	Concrete curb & gutter (6%)	10,590	900	186		1,086	186		1,272	186		1,459
21	Concrete curb & gutter (6%)	10,590	225	179		404	179		582	179		761
22	Concrete curb & gutter (6%)	10,590		165		165	165		331	165		496
SITE COMPONENT (cont.)												
23	Board fence (vinyl) (25%)	13,702	3,841	704		4,546	704		5,250	704		5,954
24	Board fence (vinyl) (25%)	13,702	3,143	660		3,803	660		4,463	660		5,123
25	Board fence (vinyl) (25%)	13,702	2,444	625		3,070	625		3,695	625		4,321
26	Board fence (vinyl) (25%)	13,634	1,737	595		2,332	595		2,927	595		3,522
27	Water laterals (10%)	11,500	366	586		952	586		1,538	586		2,124
28	Water laterals (10%)	11,500		479		479	479		958	479		1,438
29	Water laterals (10%)	11,500		397		397	397		793	397		1,190
30	Water laterals (10%)	11,500		348		348	348		697	348		1,045
31	Water laterals (10%)	11,500		303		303	303		605	303		908
32	Sewer laterals (10%)	18,500		881		881	881		1,762	881		2,643
33	Sewer laterals (10%)	18,500		712		712	712		1,423	712		2,135
34	Sewer laterals (10%)	18,500		597		597	597		1,194	597		1,790
35	Sewer laterals (10%)	18,500		514		514	514		1,028	514		1,542
36	Sewer laterals (10%)	18,500		451		451	451		902	451		1,354
37	Stormwater structures and piping (5%)	6,000	1,070	137		1,207	137		1,344	137		1,481
38	Stormwater structures and piping (5%)	6,000	306	124		430	124		553	124		677
39	Stormwater structures and piping (5%)	6,000		107		107	107		214	107		321
40	Stormwater structures and piping (5%)	6,000		91		91	91		182	91		273
41	Stormwater structures and piping (5%)	6,000		79		79	79		158	79		237

**COMPONENT METHOD - THREE-YEAR REPLACEMENT FUNDING - TABLE CM-4 cont'd**

Item #	Description of Projected Replacement	Estimated Replacement Costs	Allocation of Beginning Balance	2012 Reserve Funding	2012 Projected Replacements	2012 End of Year Balance	2013 Reserve Funding	2013 Projected Replacements	2013 End of Year Balance	2014 Reserve Funding	2014 Projected Replacements	2014 End of Year Balance
BUILDING EXTERIOR												
42	Shingle asphalt/fiberglass (33.3%)	336,139	17,134	13,870		31,003	13,870		44,873	13,870		58,743
43	Shingle asphalt/fiberglass (33.3%)	336,139	8,567	13,649		22,216	13,649		35,864	13,649		49,513
44	Shingle asphalt/fiberglass (33.3%)	336,139		13,446		13,446	13,446		26,891	13,446		40,337
45	Roof - metal roofing (small roofs)	1,200	57	31		88	31		119	31		150
46	Roof - metal roofing (small roofs)	1,200	19	30		49	30		80	30		110
47	Roof - metal roofing (small roofs)	1,200		29		29	29		59	29		88
48	Gutter & downspout, - (33.3%)	31,954	1,629	1,318		2,947	1,318		4,266	1,318		5,584
49	Gutter & downspout, - (33.3%)	31,954	814	1,297		2,112	1,297		3,409	1,297		4,707
50	Gutter & downspout, - (33.3%)	31,954		1,278		1,278	1,278		2,556	1,278		3,834
51	Siding and window trim (0.5%)	1,800		360		360	360		720	360		1,080
52	Vinyl horizontal siding - (33.3%)	182,988	8,744	4,709		13,454	4,709		18,163	4,709		22,872
53	Vinyl horizontal siding - (33.3%)	182,988	2,915	4,617		7,532	4,617		12,149	4,617		16,767
54	Vinyl horizontal siding - (33.3%)	182,988		4,463		4,463	4,463		8,926	4,463		13,389
55	Vinyl soffits - (33.3%)	12,541	599	323		922	323		1,245	323		1,568
56	Vinyl soffits - (33.3%)	12,541	200	316		516	316		833	316		1,149
57	Vinyl soffits - (33.3%)	12,541		306		306	306		612	306		918
58	Brick and stone tuckpointing (10%)	17,005		1,000		1,000	1,000		2,001	1,000		3,001

## 1. COMMON INTEREST DEVELOPMENTS - AN OVERVIEW

Over the past 40 years, the responsibility for community facilities and infrastructure around many of our homes has shifted from the local government to Community Associations. Thirty years ago, a typical new town house abutted a public street on the front and a public alley on the rear. Open space was provided by a nearby public park and recreational facilities were purchased ala carte from privately owned country clubs, swim clubs, tennis clubs, and gymnasiums. Today, 60% of all new residential construction, i.e. townhouses, single family homes, condominiums, and cooperatives, is in Common Interest Developments (CID). In a CID, a home owner is bound to a Community Association that owns, maintains, and is responsible for periodic replacements of various components that may include the roads, curbs, sidewalks, playgrounds, street lights, recreational facilities, and other community facilities and infrastructure.

The growth of Community Associations has been explosive. In 1965 there were only 500 Community Associations in the United States. According to the U.S. Census, there were 130,000 Community Associations in 1990. Community Associations Institute (CAI), a national trade association, estimates there were more than 200,000 Community Associations in the year 2000, and that the number of Community Associations will continue to multiply.

The shift of responsibility for billions of dollars of community facilities and infrastructure from the local government and private sector to Community Associations has generated new and unanticipated problems. Although Community Associations have succeeded in solving many short term problems, many Associations have failed to properly plan for the tremendous expenses of replacing community facilities and infrastructure components. When inadequate replacement reserve funding results in less than timely replacements of failing components, home owners are exposed to the burden of special assessments, major increases in Association fees, and a decline in property values.

## 2. REPLACEMENT RESERVE STUDY

The purpose of a Replacement Reserve Study is to provide the Association with an inventory of the common community facilities and infrastructure components that require periodic replacement, a general view of the condition of these components, and an effective financial plan to fund projected periodic replacements. The Replacement Reserve Study consists of the following:

- Replacement Reserve Study Introduction. The introduction provides a description of the property, reviews the intent of the Replacement Reserve Study, and lists documents and site evaluations upon which the Replacement Reserve Study is based.
- Section A Replacement Reserve Analysis. Many components owned by the Association have a limited life and require periodic replacement. Therefore it is essential the Association have a financial plan that provides funding for the timely replacement of these components in order to protect the safety, appearance, and value of the community. In conformance with American Institute of Certified Public Accountant guidelines, Section A Replacement Reserve Analysis evaluates the current funding of Replacement Reserves as reported by the Association and recommends annual funding of Replacement Reserves by two generally accepted accounting methods; the Cash Flow Method and the Component Method. Section A Replacement Reserve Analysis includes graphic and tabular presentations of these methods and current Association funding.
- Section B Replacement Reserve Inventory. The Replacement Reserve Inventory lists the commonly-owned components within the community that require periodic replacement using funding from Replacement Reserves. The Replacement Reserve Inventory also provides information about components excluded from the Replacement Reserve Inventory whose replacement is not scheduled for funding from Replacement Reserves.  
  
Replacement Reserve Inventory includes estimates of the normal economic life and the remaining economic life for those components whose replacement is scheduled for funding from Replacement Reserves.
- Section C Projected Annual Replacements. The Calendar of Projected Annual Replacements provides a year-by-year listing of the Projected Replacements based on the data in the Replacement Reserve Inventory.
- Section D Condition Assessment. Several of the items listed in the Replacement Reserve Inventory are discussed in more detail. The Condition Assessment includes a narrative and photographs that document conditions at the property observed during our visual evaluation.
- Section E Attachments. The Appendix is provided as an attachment to the Replacement Reserve Study. Additional attachments may include supplemental photographs to document conditions at the property and additional information specific to the property cited in the Conditions Assessment (i.e. Consumer Product Safety Commission, Handbook for Public Playground Safety, information on segmental retaining walls, manufacturer recommendations for asphalt shingles or siding, etc).

### 3. METHODS OF ANALYSIS

The Replacement Reserve industry generally recognizes two different methods of accounting for Replacement Reserve Analysis. Due to the difference in accounting methodologies, these methods lead to different calculated values for the Minimum Annual Contribution to the Reserves. The results of both methods are presented in this report. The Association should obtain the advice of its accounting professional as to which method is more appropriate for the Association. The two methods are:

- **Component Method.** This method is a time tested mathematical model developed by HUD in the early 1980s. It treats each item in the replacement schedule as an individual line item budget. Generally, the Minimum Annual Contribution to Reserves is higher when calculated by the Component Method. The mathematical model for this method works as follows:

First, the total Current Objective is calculated, which is the reserve amount that would have accumulated had all of the items on the schedule been funded from initial construction at their current replacement costs. Next, the Reserves Currently on Deposit (as reported by the Association) are distributed to the components in the schedule in proportion to the Current Objective. The Minimum Annual Deposit for each component is equal to the Estimated Replacement Cost, minus the Reserves on Hand, divided by the years of life remaining.

- **Cash Flow Method.** The Cash Flow Method is sometimes referred to as the "Pooling Method." It calculates the minimum constant annual contribution to reserves (Minimum Annual Deposit) required to meet projected expenditures without allowing total reserves on hand to fall below the specified minimum level in any year. This method usually results in a calculated requirement for annual contribution somewhat less than that arrived at by the Component Method of analysis.

First, the Minimum Recommended Reserve Level to be Held on Account is determined based on the age, condition, and replacement cost of the individual components. The mathematical model then allocates the estimated replacement costs to the future years in which they are projected to occur. Based on these expenditures, it then calculates the minimum constant yearly contribution (Minimum Annual Deposit) to the reserves necessary to keep the reserve balance at the end of each year above the Minimum Recommended Reserve Level to be Held on Account. The Cash Flow Analysis assumes that the Association will have authority to use all of the reserves on hand for replacements as the need occurs. This method usually results in a Minimum Annual Deposit which is less than that arrived at by the Component Method.

- **Adjusted Cash Flow Analysis.** This program has the ability to modify the Cash Flow Method to take into account forecasted inflation and interest rates, thereby producing an Adjusted Cash Flow Analysis. Attempting to forecast future inflation and interest rates and the impact of changing technology is highly tenuous. Therefore, in most cases it is preferable to make a new schedule periodically rather than attempt to project far into the future. We will provide more information on this type of analysis upon request.

### 4. REPLACEMENT RESERVE STUDY DATA

- **Identification of Reserve Components.** The Reserve Analyst has only two methods of identifying Reserve Components; 1) information provided by the Association and 2) observations made at the site. It is important that the Reserve Analyst be provided with all available information detailing the components owned by the Association. It is our policy to request such information prior to bidding on a project and to meet with the individuals responsible for maintaining the community after acceptance of our proposal. After completion of the Study, the Study should be reviewed by the Board of Directors, individuals responsible for maintaining the community, and the Association's accounting professionals. We are dependent upon the Association for correct information, documentation, and drawings.

- **Unit Costs.** Unit costs are developed using nationally published standards and estimating guides and are adjusted by state or region. In some instances, recent data received in the course of our work is used to modify these figures.

Contractor proposals or actual cost experience may be available as part of the Association records. This is useful information which should be incorporated into your report. Please bring any such available data to our attention, preferably before the report is commenced.

- **Replacement vs. Repair and Maintenance.** A Replacement Reserve Study addresses the required funding for Capital Replacement Expenditures. This should not be confused with operational costs or cost of repairs or maintenance.

## 5. DEFINITIONS

**Adjusted Cash Flow Analysis.** Cash flow analysis adjusted to take into account annual cost increases due to inflation and interest earned on invested reserves. In this method, the annual contribution is assumed to grow annually at the inflation rate.

**Annual Deposit if Reserves Were Fully Funded.** Shown on the Summary Sheet A1 in the Component Method summary, this would be the amount of the Annual Deposit needed if the Reserves Currently on Deposit were equal to the Total Current Objective.

**Cash Flow Analysis.** See Cash Flow Method, above.

**Component Analysis.** See Component Method, above.

**Contingency.** An allowance for unexpected requirements. Roughly the same as the Minimum Recommended Reserve Level to be Held on Account used in the Cash Flow Method of analysis.

**Critical Year.** In the Cash Flow Method, a year in which the reserves on hand are projected to fall to the established minimum level. See Minimum Recommended Reserve Level to be Held on Account.

**Current Objective.** This is the reserve amount that would have accumulated had the item been funded from initial construction at its current replacement cost. It is equal to the estimated replacement cost divided by the estimated economic life, times the number of years expended (the difference between the Estimated Economic Life and the Estimated Life Left). The Total Current Objective can be thought of as the amount of reserves the Association should now have on hand based on the sum of all of the Current Objectives.

**Cyclic Replacement Item.** A component item that typically begins to fail after an initial period (Estimated Initial Replacement), but which will be replaced in increments over a number of years (the Estimated Replacement Cycle). The Reserve Analysis program divides the number of years in the Estimated Replacement Cycle into five equal increments. It then allocates the Estimated Replacement Cost equally over those five increments. (As distinguished from Normal Replacement Items, see below)

**Estimated Economic Life.** Used in the Normal Replacement Schedules. This represents the industry average number of years that a new item should be expected to last until it has to be replaced. This figure is sometimes modified by climate, region, or original construction conditions.

**Estimated Economic Life Left.** Used in the Normal Replacement Schedules. Number of years until the item is expected to need replacement. Normally, this number would be considered to be the difference between the Estimated Economic Life and the age of the item. However, this number must be modified to reflect maintenance practice, climate, original construction and quality, or other conditions. For the purpose of this report, this number is determined by the Reserve Analyst based on the present condition of the item relative to the actual age.

**Estimated Initial Replacement.** For a Cyclic Replacement Item (see above), the number of years until the replacement cycle is expected to begin.

**Estimated Replacement Cycle.** For a Cyclic Replacement Item, the number of years over which the remainder of the component's replacement occurs.

**Minimum Annual Deposit.** Shown on the Summary Sheet A1. The calculated requirement for annual contribution to reserves as calculated by the Cash Flow Method (see above).

**Minimum Deposit in the Study Year.** Shown on the Summary Sheet A1. The calculated requirement for contribution to reserves in the study year as calculated by the Component Method (see above).

**Minimum Recommended Reserve Level to be Held on Account.** Shown on the Summary Sheet A1, this number is used in the Cash Flow Method only. This is the prescribed level below which the reserves will not be allowed to fall in any year. This amount is determined based on the age, condition, and replacement cost of the individual components. This number is normally given as a percentage of the total Estimated Replacement Cost of all reserve components.

**Normal Replacement Item.** A component of the property that, after an expected economic life, is replaced in its entirety. (As distinguished from Cyclic Replacement Items, see above.)

**Normal Replacement Schedules.** The list of Normal Replacement Items by category or location. These items appear on pages designated.

**Number of Years of the Study.** The number of years into the future for which expenditures are projected and reserve levels calculated. This number should be large enough to include the projected replacement of every item on the schedule, at least once. This study covers a 40-year period.

One Time Deposit Required to Fully Fund Reserves. Shown on the Summary Sheet A1 in the Component Method summary, this is the difference between the Total Current Objective and the Reserves Currently on Deposit.

Reserves Currently on Deposit. Shown on the Summary Sheet A1, this is the amount of accumulated reserves as reported by the Association in the current year.

Reserves on Hand. Shown in the Cyclic Replacement and Normal Replacement Schedules, this is the amount of reserves allocated to each component item in the Cyclic or Normal Replacement schedules. This figure is based on the ratio of Reserves Currently on Deposit divided by the total Current Objective.

Replacement Reserve Study. An analysis of all of the components of the common property of the Association for which a need for replacement should be anticipated within the economic life of the property as a whole. The analysis involves estimation for each component of its estimated Replacement Cost, Estimated Economic Life, and Estimated Life Left. The objective of the study is to calculate a recommended annual contribution to the Association's Replacement Reserve Fund.

Total Replacement Cost. Shown on the Summary Sheet A1, this is total of the Estimated Replacement Costs for all items on the schedule if they were to be replaced once.

Unit Replacement Cost. Estimated replacement cost for a single unit of a given item on the schedule.

Unit (of Measure). Non-standard abbreviations are defined on the page of the Replacement Reserve Inventory where the item appears. The following standard abbreviations are used in this report:

EA: each    FT: feet    LS: lump sum    PR: pair    SF: square feet    SY: square yard

#### 6. LIST OF RECOMMENDED REPAIRS - PROCEDURES

A List of Recommended Repairs is offered as a supplemental report to the Replacement Reserve Study (at an additional fee) to assist the Association in understanding the financial implications of all items owned by the Association, not just the items included for funding by Replacement Reserves listed in the Replacement Reserve Inventory. The following information relates to the List of Recommended Repairs:

- Repair costs. Cost range estimates given in the repair list assume that all work by a given trade will be done together as a single project. If repairs are done piece-meal, the costs would be significantly higher. The costs of any repairs to be funded out of the Reserve Fund should be subtracted from the Reserves Currently on Deposit figure. The Board or Property Manager should coordinate this decision with the Reserve Analyst as part of the revision process.
- Completion of repairs. The Replacement Reserve Analysis assumes that all repairs cited in the Repair List will be completed within a twelve-month period of time. Estimated Life Left in the Replacement Reserve Study has been factored under this assumption. Any deletions or delays of the projects included in the List of Recommended Repairs may result in major inaccuracies in the Replacement Reserve Analysis.
- Safety issues. If safety issues have been cited, they should be given the highest priority and should be done immediately upon receipt of this report. The Board must recognize that from a liability standpoint, they have been made aware of the existence of these unsafe conditions, if any, once the report is delivered for their review.
- Unit costs. Nationally published standards and standard estimating manuals have been used in the development of this report. Contractor proposals or actual cost experience may be available as part of the Association records. We will adjust our figures to conform to your experience if the material or information is disclosed to us and/or made available for our use.